

360iResearch

Co-Packaged Optics Market

Global Forecast 2026-2032

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1. Preface

1.1. Objectives of the Study

- Establish the distinct commercial roles of optical engines, integrated assemblies, light sources, dedicated enabling components, and specialized CPO services within the global study.
- Determine who specifies, qualifies, purchases, incorporates, and operates CPO offerings, including the budget, approval, and deployment conditions governing each purchasing role.
- Assess how photonic platform, host-package integration, electrical interface, signal processing, and customization requirements affect qualification, design reuse, and supplier switching.
- Evaluate supported replacement boundaries, maintenance obligations, interface compatibility, and system responsibilities that distinguish CPO sourcing choices from adjacent optical architectures.
- Compare supplier capabilities at equivalent value-chain layers, identifying access barriers, dependency relationships, and corporate overlaps without equating ecosystem participation with competitive strength.
- Investigate application and geographic differences in customer requirements, distinguishing design and manufacturing footprints from purchasing and ultimate deployment locations.
- Assess the commercial conditions under which AI-related requirements, sustainability considerations, regulation, and sourcing alternatives change adoption or investment decisions.

1.2. Market Definition

The global Co-Packaged Optics (CPO) study covers package-integrated optical data-interconnect offerings, their dedicated enabling components, and specialized services. The integrated-hardware reference boundary places optical data-conversion functionality with a host switching, computing, or communications device within the host's first-level package. It includes substrate-based and interposer-based integration, logic-photonics stacking, and monolithic logic-photonics integration.

Included offerings are Optical Engines, Co-Packaged Optical Assemblies, Optical Light Sources, Dedicated Enabling Components, and Specialized CPO Services. Components encompass photonic circuits, electronic interface and control ICs, optical coupling and connectivity, and package substrates and interposers. Services encompass design and integration engineering, semiconductor foundry work, packaging and optical assembly, and qualification and test. External illumination remains included even when the laser source is housed at the system faceplate; a pluggable source is not thereby a front-panel data transceiver.

The hardware boundary distinguishes qualifying package-integrated optics from secondary-carrier arrangements using a separately packaged host, board-mounted optics, conventional front-panel data transceivers, and copper-only interconnects. General-purpose upstream materials and equipment and downstream infrastructure services remain value-chain context rather than becoming CPO offerings solely through supplier participation. Whole computing or networking systems are relevant deployment contexts, not automatically equivalent to their CPO content.

Sources & Evidence

1. Implementation Agreement for a 3.2Tb/s Co-Packaged (CPO) Module - OIF-Co-Packaging-3.2T-Module-01.0
   · The agreement includes optical and copper-attach variants and both packaged-host and bare-host layouts, supporting configuration-based comparison with the study boundary. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-Co-Packaging-xx.xx.2T-Module-xx.xx.pdf))
2. External Laser Small Form Factor Pluggable Implementation Agreement - OIF-ELSFP-02.0
   · ELSFP supplies continuous-wave illumination to co-packaged optical engines and can occupy the faceplate; it is an external laser source rather than the data-transceiver function. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-ELSFP-xx.xx-xx.xx.pdf))

1.3. Market Segmentation & Coverage

Offering separates optical conversion building blocks, integrated host-package assemblies, illumination, dedicated constituent components, and specialized services. These categories identify different deliverables and purchasing relationships, including separately supplied components and contracted services rather than only finished CPO hardware.

Photonic Platform covers Silicon and Germanium-Silicon Photonics, III-V Laser and Modulator Photonics, MicroLED Photonics, Thin-Film Lithium Niobate and Tantalate Photonics, Barium Titanate Photonics, Electro-Optic Polymer Photonics, and Graphene Photonics. Package Integration distinguishes 2D Substrate Integration, xx.xx.5D Interposer Integration, 3D Logic-Photonics Stacking, and Monolithic Logic-Photonics Integration. Light Source Integration separates engine-integrated from external illumination. These lenses identify different engineering and supply responsibilities without asserting equal readiness.

Fiber Mode distinguishes single-mode and multimode links. Wavelength Multiplexing separates single-wavelength from wavelength-multiplexed payload channels. Host Interface distinguishes serial SerDes from wide parallel die-to-die interfaces, while Signal Processing separates unretimed, fully retimed, and half-retimed configurations. These axes support compatibility comparisons rather than serving as interchangeable descriptions of one architecture.

Application includes Scale-Out Networking, Scale-Up Compute Connectivity, Memory and I/O Disaggregation, and Telecommunications Connectivity. Their constituent uses include switch fabrics and endpoint access; accelerator and processor interconnects; memory, storage, and peripheral disaggregation; and radio-access, fixed, and core networking. Buyer Type identifies the purchasing role, whereas End User identifies the ultimate operator, including cloud and internet platforms, hosting and colocation, enterprise, government and research, and telecommunications.

Customization Model distinguishes Standard Designs, Platform-Adapted Designs, and Custom Designs. Serviceability Model distinguishes Optical Engine Replacement, Light Source Replacement, and Host-Package Replacement as separate supported maintenance boundaries. Sales Channel distinguishes Direct Sales from Intermediated Sales. These commercial lenses examine design commitments, maintenance responsibilities, and the route of supply.

Optical Engine Capacity compares individual-engine configurations rather than complete systems. Interface Standardization distinguishes Standardized Interfaces, Partially Standardized Interfaces, and Proprietary Interfaces across relevant electrical, mechanical, and management domains. Optical Detection separates Direct Detection from Coherent Detection. All segmentation roots are independent comparison lenses, not additive opportunity pools; category inclusion does not establish a particular supplier's implementation, interoperability, or customer adoption.

Table 1. Global Co-Packaged Optics Market Segmentation & Coverage

Segmentation	Coverage
Application	• Scale-Out Networking o Switch-to-Switch Fabrics o Endpoint Network Access • Scale-Up Compute Connectivity o Accelerator Interconnects o Processor Interconnects • Memory and I/O Disaggregation o Memory Disaggregation o Storage and Peripheral I/O Disaggregation • Telecommunications Connectivity o Radio Access Connectivity o Fixed and Core Network Connectivity
Buyer Type	• Semiconductor and Optical-Subsystem Developers • Equipment OEMs and ODMs • Component and Package Manufacturers • Research and Development Organizations • Distributors and Resellers • System Integrators • Infrastructure Operators
Customization Model	• Standard Designs • Custom Designs • Platform-Adapted Designs
End User	• Cloud, Internet, and Data Center Service Providers o Public Cloud Providers o Internet Platform Operators o Hosting and Colocation Network Operators • Government and Research Institutions • Enterprise Operators • Telecommunications Operators

Table 1 - continued

Segmentation	Coverage
Fiber Mode	• Single-Mode Fiber • Multimode Fiber
Host Interface	• Serial SerDes Interfaces • Wide Parallel Die-to-Die Interfaces
Interface Standardization	• Partially Standardized Interfaces • Proprietary Interfaces • Standardized Interfaces
Light Source Integration	• External Light Sources • Engine-Integrated Light Sources
Offering	• Specialized CPO Services o Design and Integration Engineering o Packaging and Optical Assembly Services o Semiconductor Foundry Services o Qualification and Test Services • Co-Packaged Optical Assemblies • Optical Engines • Dedicated Enabling Components o Optical Coupling and Connectivity Components o Electronic Interface and Control ICs o Package Substrates and Interposers o Photonic Integrated Circuits • Optical Light Sources
Optical Detection	• Direct Detection • Coherent Detection
Optical Engine Capacity	• Intermediate Terabit Capacity • Lower Terabit Capacity • Sub-Terabit Capacity • Higher Terabit Capacity
Package Integration	• 2D Substrate Integration • xx.xx.5D Interposer Integration • 3D Logic-Photonics Stacking • Monolithic Logic-Photonics Integration
Photonic Platform	• Silicon and Germanium-Silicon Photonics • III-V Laser and Modulator Photonics • Thin-Film Lithium Niobate and Tantalate Photonics • Graphene Photonics • MicroLED Photonics • Barium Titanate Photonics • Electro-Optic Polymer Photonics

Table 1 - continued

Segmentation	Coverage
Sales Channel	• Direct Sales • Intermediated Sales
Serviceability Model	• Host-Package Replacement • Light Source Replacement • Optical Engine Replacement
Signal Processing	• Fully Retimed • Unretimed • Half-Retimed
Wavelength Multiplexing	• Wavelength-Multiplexed Channels • Single-Wavelength Channels

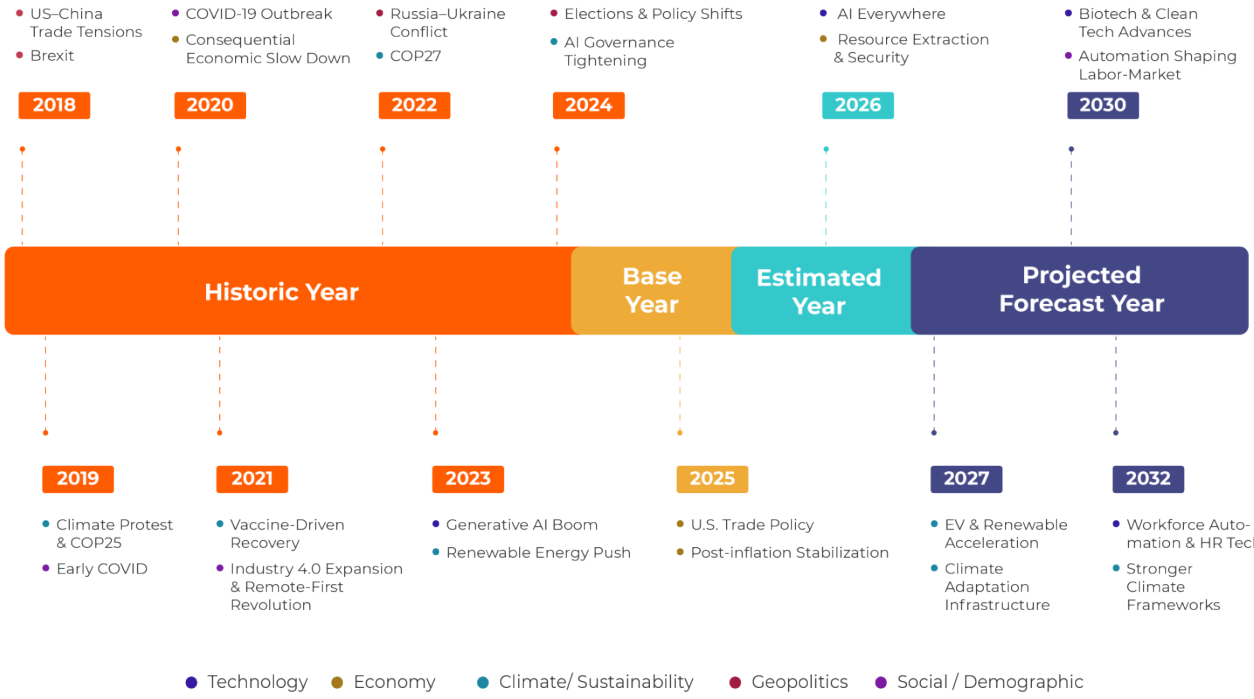
Sources & Evidence

1. Implementation Agreement for a 3.2Tb/s Co-Packaged (CPO) Module - OIF-Co-Packaging-3.2T-Module-01.0
   · The agreement distinguishes module and switch capacity and addresses electrical, mechanical, and management interfaces separately. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-Co-Packaging-xx.xx.2T-Module-xx.xx.pdf))
2. External Laser Small Form Factor Pluggable Implementation Agreement - OIF-ELSFP-02.0
   · The agreement describes external illumination for engines without integrated lasers and field replacement of the laser module, supporting separate source-integration and serviceability comparisons. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-ELSFP-xx.xx-xx.xx.pdf))

1.4. Years Considered for the Study

The study uses 2024 as the historical year, 2025 as the base year, 2026 as the estimated year, and 2032 as the forecast horizon.

Figure 1. Global Co-Packaged Optics Market, Years Considered for the Study



1.5. Currency Considered for the Study

Monetary market values are expressed in U.S. dollars (USD) on an absolute-value basis.

1.6. Language Considered for the Study

The study is published in US English.

1.7. Key Stakeholders

- Semiconductor and optical-subsystem developers evaluate host architecture, photonic integration, interface dependencies, design reuse, and customer qualification commitments.
- Component suppliers, foundries, and package manufacturers assess CPO-specific delivery responsibilities, integration capabilities, customer approvals, and dependence on complementary suppliers.
- Equipment OEMs, ODMs, and system integrators evaluate incorporation of CPO into supported systems, allocation of performance obligations, and customer-facing maintenance responsibilities.
- Cloud, internet-platform, hosting, enterprise, government, research, and telecommunications operators evaluate application suitability, operational compatibility, qualification, and replacement implications.
- Distributors and resellers assess product authorization, technical-support obligations, customer access, and the distinction between original supply and intermediated resale.

- Research organizations and specialized engineering and test providers evaluate development readiness, integration requirements, and the evidence needed to distinguish demonstrations from commercial capabilities.
- Standards organizations and public authorities examine interface definitions, product conformity, trade conditions, and applicable responsibilities across the CPO value chain.
- Investors and corporate strategy teams evaluate capability gaps, commercial dependencies, ownership relationships, and the prerequisites for defensible investment or acquisition decisions.

2. Research Methodology

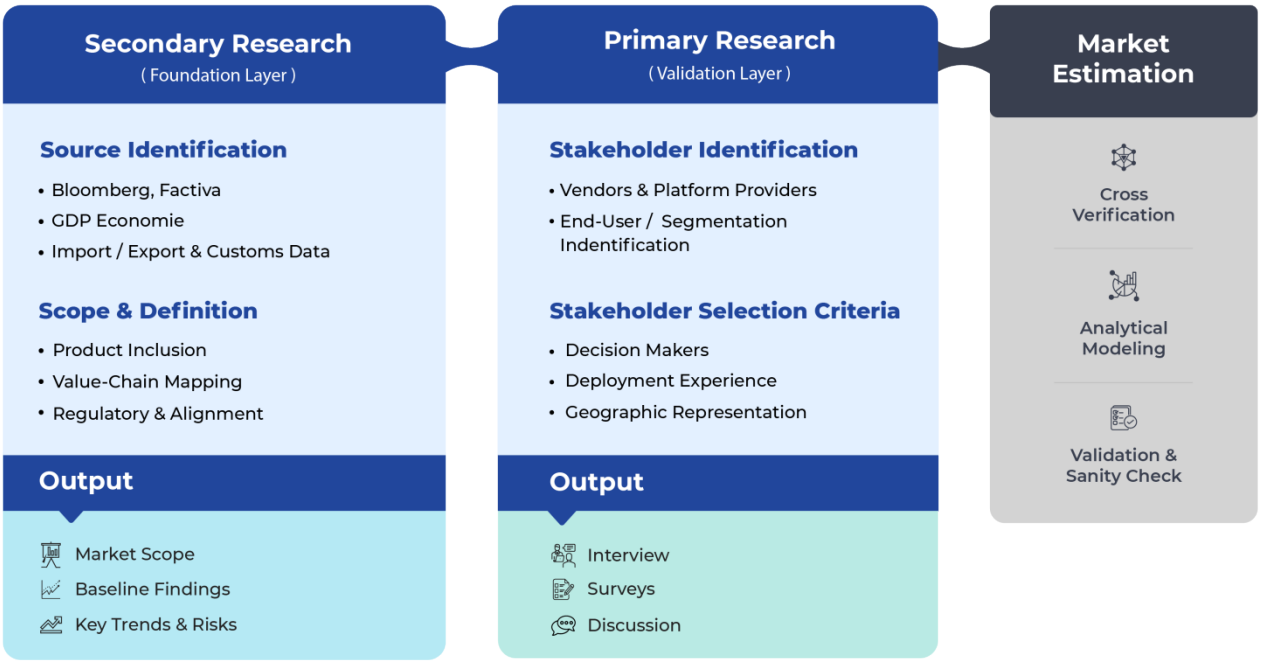
2.1. Introduction

The Co-Packaged Optics study examines the commercial relationship between package-level optical integration and the organizations that develop, manufacture, purchase, incorporate, and operate the included offerings. Its approach combines evidence-grounded classification with qualitative examination of adoption conditions and independently supported economic interpretation. Engineering potential, commercial availability, and customer adoption are distinct subjects rather than interchangeable indicators.

2.2. Research Design

The research design separates configuration evidence, commercial evidence, and analytical interpretation. Product documentation establishes what an offering is; contracts, filings, and dated operating disclosures establish the commercial facts they directly support. Coverage follows the included offerings, application contexts, supplier identities, and global geography without assuming uniform commercialization. Design location, manufacturing location, purchasing location, and ultimate deployment location remain distinct geographic questions.

Figure 2. Global Co-Packaged Optics Market, Research Design



2.2.1. Primary Research

The analyst team conducted primary research as a qualitative challenge layer for market definition, segmentation, demand conditions, adoption barriers, and competitive interpretation. This work tested analytical assumptions and sharpened explanations of market mechanisms without serving as standalone support for numerical estimates.

The qualitative challenge layer is evaluated alongside secondary evidence within the accepted market scope. It informs conditional market explanations and hypotheses for subsequent quantitative analysis. Numerical estimates require their own supporting evidence, and a forecast derived from a qualitative assumption does not independently validate that assumption. Final interpretation must reconcile the qualitative findings with the completed quantitative results.

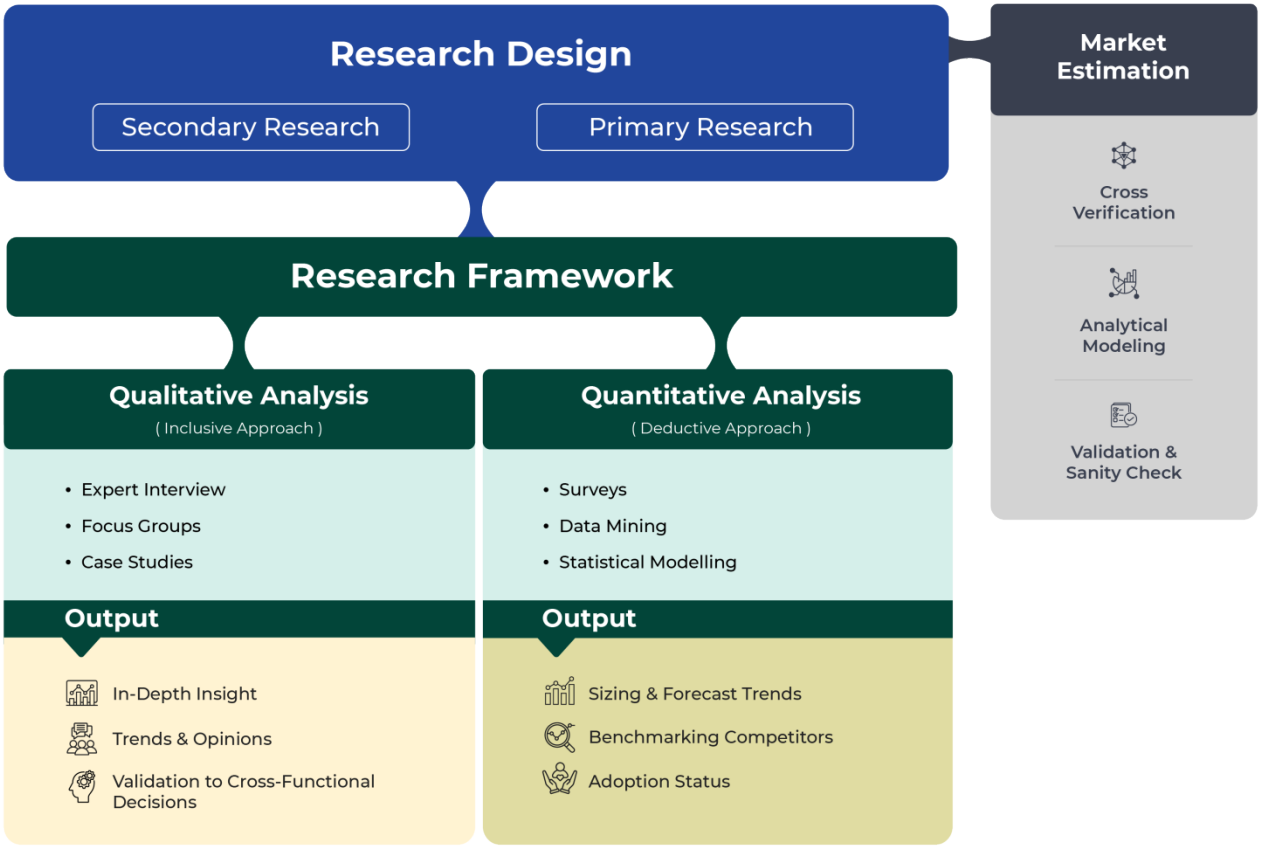
2.2.2. Secondary Research

The secondary-evidence framework assigns standards and technical documentation to product classification and interface interpretation; mandatory filings and official registries to operating and ownership facts; and official company materials to that company's own offerings and dated activities. Government and intergovernmental publications inform geographic and policy conditions, while academic research explains documented architectural distinctions. Consulting research may inform commercial interpretation. Proposed architectures, announced availability, qualification activity, and completed commercialization remain separate evidence categories.

2.3. Research Framework

The framework connects the CPO hardware boundary to the offering hierarchy, then links each offering to its host configuration, application, purchasing role, ultimate operator, and supplier responsibility. Competitive interpretation compares capabilities at equivalent value-chain layers rather than treating optical-engine developers, foundries, packaging providers, and equipment integrators as interchangeable businesses. Business choices are assessed against the requirements of the relevant customer program, not inferred from a supplier's presence in the ecosystem.

Figure 3. Global Co-Packaged Optics Market, Research Framework



2.3.1. Qualitative Analysis

Qualitative analysis examines who specifies the host architecture, who approves optical integration, who purchases the relevant offering, and who bears maintenance and system-performance obligations. Comparison variables include customer qualification, design reuse, interface compatibility, integration responsibility, switching constraints, and supported replacement boundaries. AI-related workload requirements, sustainability claims, and regulatory exposure are examined as commercial conditions to substantiate, rather than assumed benefits of placing optics closer to compute or switching silicon.

2.3.2. Quantitative Analysis

Quantitative interpretation requires alignment of offering scope, product configuration, economic supplier, purchasing role, geographic attribution, and study period. Technical capacity comparisons distinguish the individual optical engine from a multi-engine assembly or complete switching system and keep transmission direction explicit. Monetary comparisons require equivalent deliverable boundaries; technical specifications, supplier participation, and qualitative adoption hypotheses do not independently establish economic activity.

Sources & Evidence

1. Implementation Agreement for a 3.2Tb/s Co-Packaged (CPO) Module - OIF-Co-Packaging-3.2T-Module-01.0
   · The optical module is a building block of a larger switch; transmit and receive configurations are specified separately.
   ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-Co-Packaging-xx.xx.2T-Module-xx.xx.pdf))

2.4. Market Size Estimation

The estimation boundary includes the defined hardware, dedicated enabling components, and specialized CPO services. Category inclusion does not make all supply-chain contributions additive. A defensible monetary perimeter requires consistent attribution of CPO content in bundled packages and systems and reconciliation of contributions already embedded in another deliverable. Broad semiconductor, optical-networking, or AI-infrastructure activity cannot substitute for evidence tied to the included CPO offerings.

2.4.1. Top-Down Approach

A top-down perspective serves as a boundary check on broader semiconductor, optical-interconnect, or networking evidence. A broader aggregate is relevant only when its package architecture, optical content, period, and economic coverage are compatible with the CPO study. Infrastructure investment intentions and general demand for faster connectivity cannot be translated into CPO activity without substantiating the applicable offering and purchasing relationship.

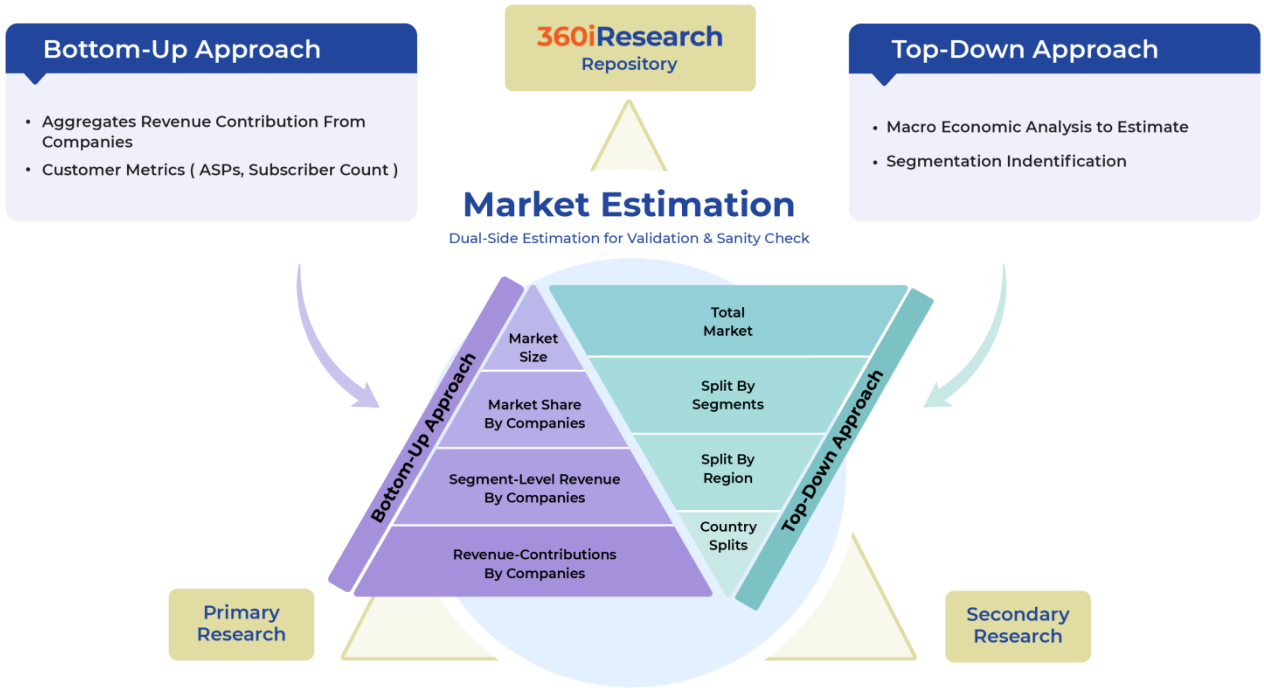
2.4.2. Bottom-Up Approach

A bottom-up perspective evaluates evidence attributable to identifiable CPO offerings or specialized service deliverables. Its usefulness depends on resolving the supplying entity, the customer's purchasing role, and whether a contribution is separately contracted or embedded in another offering. Announcements, evaluation platforms, and development partnerships identify commercial subjects to investigate; they are not interchangeable with evidence of completed customer transactions. Original supply, subcontracting, assembly incorporation, and resale require consistent treatment.

2.5. Data Triangulation

Triangulation evaluates whether architectural, supplier, customer, and geographic evidence describe the same commercial subject. Apparent disagreements require examination of configuration, offering layer, corporate perimeter, and period rather than automatic averaging. Sources that repeat the same underlying assertion are not independent corroboration. Qualitative explanations can identify conditions to investigate, but numerical conclusions require evidence that directly supports the corresponding economic boundary.

Figure 4. Global Co-Packaged Optics Market, Data Triangulation



2.6. Research Outcomes

The study is designed to help infrastructure buyers evaluate qualification and switching requirements, help developers distinguish reusable CPO platforms from customer-specific integration commitments, and help manufacturing and channel participants assess their delivery responsibilities. Its intended decision support identifies capability requirements, commercial dependencies, alternatives, and conditions that would invalidate an investment or sourcing rationale without presuming that every included technology or application is equally mature.

2.7. Research Assumptions

- Product comparisons assume that architectural documentation applies to the configuration under review; evidence for a related near-packaged or pluggable variant cannot automatically establish the CPO configuration.
- Offering comparisons require equivalent deliverable scope. Embedded components, contracted services, and finished assemblies cannot be treated as independent economic contributions without reconciling their relationships.
- Buyer Type and End User describe different commercial roles. A component purchaser's identity does not establish the ultimate infrastructure operator or deployment purpose.
- Supplier comparisons require a consistent economic reporting perimeter; brand names, operating companies, subsidiaries, and consolidated groups are not presumed independent.

- Conditional adoption assessments depend on customer qualification, compatible host integration, and supportable maintenance arrangements; inclusion of a technology or application does not establish those prerequisites.

2.8. Research Limitations

- Some offering descriptions cover both packaged-host and bare-host arrangements. Configuration-specific architecture is necessary before assigning the host-to-optics package class.
- A prototype, evaluation platform, development agreement, or announced introduction can establish a particular milestone without establishing customer qualification or commercial deployment.
- Published interface profiles and replaceable external-source form factors do not establish complete product interchangeability or optical-engine maintenance rights; contractual versions and supported repair boundaries affect switching-risk comparisons.
- Bundled optical and electronic content and linked component, assembly, service, and resale transactions can obscure comparable CPO attribution; cross-layer economic comparisons require nonduplicative scope.
- Overlapping brand, operating-company, joint-venture, and parent-group representations can complicate supplier independence; ownership and supplying responsibility must be reconciled before aggregate competitive comparisons.
- An intermediary purchase or a supplier's geographic presence does not establish the ultimate operator, deployment purpose, or deployment country; demand conclusions require the relevant customer and application linkage.

Sources & Evidence

1. Implementation Agreement for a 3.2Tb/s Co-Packaged (CPO) Module - OIF-Co-Packaging-3.2T-Module-01.0
· Figure xx.xx presents packaged-host and bare-host implementation options, supporting the need to identify the configuration before package-class assignment.
([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-Co-Packaging-xx.xx.2T-Module-xx.xx.pdf))
2. External Laser Small Form Factor Pluggable Implementation Agreement - OIF-ELSFP-02.0
· The specified field-replacement function applies to the external laser module. Inferring optical-engine replacement rights from that source-level feature would exceed its stated scope.
([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-ELSFP-xx.xx-xx.xx.pdf))

3. Executive Summary

3.1. Introduction

The global Co-Packaged Optics market is organized around accepted host architectures rather than automatic replacement of front-panel transceivers. Bringing optical conversion into the host package can address binding electrical-path, connectivity, or power constraints, but the benefit depends on the complete configuration and its thermal and maintenance obligations. Optical engines, assemblies, light sources, dedicated components, and specialized services occupy different purchasing layers; their participation does not imply equivalent readiness or independently additive commercial outcomes.

The decisive business choice is between supported networking equipment, reusable optical building blocks, and a funded custom-host program. Micas' finished-switch offering and Marvell's custom-accelerator architecture illustrate different procurement routes, while Cisco's linear-pluggable offering remains a relevant alternative where it meets the same requirement. Architecture approval, customer qualification, restoration support, and installation readiness must align before deployment commitments are justified.

Sources & Evidence

1. Micas Networks Announces Industry's First 51.2T Co-Packaged Optics Network Switch System Now in Volume Production
   · Micas reports an orderable Bailly-based CPO Ethernet switch, establishing a finished-equipment procurement example. ([micasnetworks.com](https://www.micasnetworks.com/company/news/xx.xx))
2. Marvell Announces Breakthrough Co-Packaged Optics Architecture for Custom AI Accelerators
   · Marvell offers package-integrated optics for customer-specific accelerator designs, establishing a development route distinct from finished-switch procurement. ([marvell.com](https://www.marvell.com/company/newsroom/marvell-co-packaged-optics-architecture-custom-ai-accelerators.html))
3. External vs. Integrated Light Sources for Intra-Data Center Co-Packaged Optical Interfaces
   · The architectural study links shorter electrical paths with potential power benefits while identifying thermal, illumination, and reliability counterforces. ([ee.stanford.edu](https://ee.stanford.edu/~jmk/pubs/ext.vs.integ.light.sources.jlt.xx.xx-xx.xx.pdf))
4. Cisco Announces New Silicon One G300, Advanced Systems and Optics to Power and Scale AI Data Centers for the Agentic Era
   · Cisco announced linear pluggable optics and supporting systems for AI networks, providing an adjacent architecture rather than a CPO implementation. ([newsroom.cisco.com](https://newsroom.cisco.com/c/r/newsroom/en/us/a/y2026/m02/cisco-announces-new-silicon-one-g300.html))
5. Data centre electricity use surged in 2025, even with tightening bottlenecks driving a scramble for solutions
   · The IEA identifies grid connections, planning approvals, and energy-equipment bottlenecks; transmission to CPO installation timing is an analytical inference. ([iea.org](https://www.iea.org/news/data-centre-electricity-use-surged-in-2025-even-with-tightening-bottlenecks-driving-a-scramble-for-solutions))

3.2. CXO Perspective

For infrastructure executives, capital approval should follow a credible complete-system benefit and an acceptable fault-restoration boundary. Operators without chip-level integration

authority should first evaluate a supported equipment configuration; design sponsors should reserve custom optical integration for requirements that standard or adapted options cannot satisfy. Procurement must establish the authorized replacement unit, diagnostics, spares, and restoration owner: replaceable illumination or detachable fiber does not establish individual-engine replacement rights. Retaining an adequate existing architecture is preferable when the additional obligations cannot be supported.

For supplier leadership, the defensible investment commitment is a funded, customer-approved incorporation task rather than broad AI interest. Entrants can use an ASIC-package or assembly partner to close a defined capability gap, but retain responsibility for their contribution and cannot obtain host approval from the partnership alone. Incumbents can differentiate through configuration continuity and accountable support. Outsourcing limits capability ownership while adding partner dependence; dedicated capability investment becomes more defensible when acceptance, continuation commitments, design rights, and manufacturing handoff are clear.

Sources & Evidence

1. Micas Networks Announces Industry's First 51.2T Co-Packaged Optics Network Switch System Now in Volume Production
   · Finished-switch procurement consolidates constituent incorporation; its appeal to operators lacking package-design authority is an analytical inference. ([micasnetworks.com](https://www.micasnetworks.com/company/news/xx.xx))
2. Marvell Announces Breakthrough Co-Packaged Optics Architecture for Custom AI Accelerators
   · The custom-accelerator architecture combines compute, memory, chiplets, and optical engines; requirement-specific commitment remains an analytical recommendation, not demonstrated universal benefit. ([marvell.com](https://www.marvell.com/company/newsroom/marvell-co-packaged-optics-architecture-custom-ai-accelerators.html))
3. How Industry Collaboration Fosters NVIDIA Co-Packaged Optics
   · NVIDIA distinguishes maintainable socketed optical subassemblies, soldered engines with detachable connectivity, and replaceable external illumination. These features do not establish individual-engine maintenance entitlement. ([developer.nvidia.com](https://developer.nvidia.com/blog/how-industry-collaboration-fosters-nvidia-co-packaged-optics))
4. Datacom / CPO - PHIX Photonics Assembly
   · PHIX offers early CPO co-design, optical attachment, heterogeneous integration, and manufacturing support, establishing capabilities a developer can contract rather than own. ([phix.com](https://www.phix.com/markets/datacom-cpo/))
5. AIM Photonics Test, Assembly and Packaging Services
   · AIM Photonics offers assembly and testing for customer-provided devices, providing service access distinct from immediate ownership of enabling capabilities. ([aimphotonics.com](https://www.aimphotonics.com/tap))
6. External vs. Integrated Light Sources for Intra-Data Center Co-Packaged Optical Interfaces
   · External and integrated illumination are modeled with interacting optical losses and temperature-sensitive behavior, supporting complete-configuration assessment rather than a universal financial advantage. ([ee.stanford.edu](https://ee.stanford.edu/~jmk/pubs/ext.vs.integ.light.sources.jlt.xx.xx-xx.xx.pdf))

7. Cisco Announces New Silicon One G300, Advanced Systems and Optics to Power and Scale AI Data Centers for the Agentic Era
   · The announced pluggable route supports evaluating an existing architectural alternative when it satisfies the buyer's requirement; universal superiority is not established. ([newsroom.cisco.com](https://newsroom.cisco.com/c/r/newsroom/en/us/a/y2026/m02/cisco-announces-new-silicon-one-g300.html))
8. Amkor Technology, Inc. - 2025 Form 10-K
   · Amkor identifies CPO co-development and broader packaging exposure to fixed commitments, customer cancellation, qualification, and facility reapproval. Applying these mechanisms to dedicated CPO investment is conditional. ([sec.gov](https://www.sec.gov/Archives/edgar/data/xx.xx/xx.xx/amkr-xx.xx.htm))
9. Lightmatter and GUC Partner to Produce Co-Packaged Optics (CPO) Solutions for AI Hyperscalers
   · The GUC-Lightmatter collaboration combines ASIC design and advanced packaging with Passage, establishing a defined coordination route rather than automatic customer approval. ([guc-asic.com](https://www.guc-asic.com/en/news/PressRelease/PR_ENG_20260128))
10. External Laser Small Form Factor Pluggable Implementation Agreement - OIF-ELSFP-02.0
    · OIF defines field-replaceable external illumination and thermal separation from the host; the replacement function concerns the source, not optical-engine rights. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-ELSFP-xx.xx.pdf))

3.3. New Revenue Opportunities

Assessed revenue routes include CPO-enabled scale-out equipment for operators with unmet fabric requirements; design, packaging, and qualification services for funded host developers and manufacturers; accepted external illumination where source maintenance or thermal separation is the need; and selective custom scale-up engineering for compute sponsors. These are conditional participation routes, not assured deployments or profits. The Opportunity Mapping section assesses buyer access and suitability in detail.

Sources & Evidence

1. Micas Networks Announces Industry’s First 51.2T Co-Packaged Optics Network Switch System Now in Volume Production
   · The finished-switch offer supports the assessed scale-out equipment route; installation suitability remains buyer-specific. ([micasnetworks.com](https://www.micasnetworks.com/company/news/xx.xx))
2. Marvell Announces Breakthrough Co-Packaged Optics Architecture for Custom AI Accelerators
   · The custom-XPU architecture and reported evaluation support selective scale-up development engagement, not completed customer qualification. Externally attributed market estimates are excluded. ([marvell.com](https://www.marvell.com/company/newsroom/marvell-co-packaged-optics-architecture-custom-ai-accelerators.html))
3. Datacom / CPO - PHIX Photonics Assembly
   · PHIX's CPO integration and assembly services support the assessed specialist-service route, without independently granting customer approval. ([phix.com](https://www.phix.com/markets/datacom-cpo/))
4. Photon 100
   · Photon xx.xx declares wafer, optical-engine, and co-packaged-module coverage, supporting distinct verification responsibilities rather than completed customer qualification. ([teradyne.com](https://www.teradyne.com/products/photon-xx.xx/))
5. External Laser Small Form Factor Pluggable Implementation Agreement - OIF-ELSFP-02.0
   · The external-source specification supports an illumination route addressing source maintenance or thermal separation, subject to the accepted source-engine configuration. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-ELSFP-xx.xx.pdf))

3.4. Next-Generation Business Models

CPO supports several purchasing models rather than a single equipment transaction. AIM Photonics offers project-based and collaborative services for customer-provided devices, while PHIX provides CPO co-design and assembly support. These engagement structures provide options for contracting development work separately from recurring hardware obligations. Buyers should distinguish engineering deliverables, reuse rights, change responsibility, and included lifecycle support instead of treating a development engagement as a supply commitment.

Coherent's PhotonLink launch adds a coordinated optical-assembly proposition alongside constituent sourcing. Bundling may reduce separately managed interfaces, while specialist services preserve greater architecture and sourcing discretion. The choice is conditional on the integration scope the customer can retain; an optical-assembly contract does not automatically include host-chip supply or installed-equipment support. These are marketed engagement options, not evidence of universal adoption or transferable customer qualification.

Sources & Evidence

1. Datacom / CPO - PHIX Photonics Assembly
   · CPO co-design and assembly support establish a specialist-service option; its comparison with bundled assemblies depends on retained customer responsibilities.
   ([phix.com](https://www.phix.com/markets/datacom-cpo/))
2. AIM Photonics Test, Assembly and Packaging Services
   · Project-based and collaborative arrangements support alternative service-contract structures for customer-provided chips and wafers, not universal CPO contract terms.
   ([aimphotonics.com](https://www.aimphotonics.com/tap))
3. Coherent Launches PhotonLink Integrated Optics Platform for AI Infrastructure
   · PhotonLink combines optical technologies with assembly and test, offering constituents and optical assemblies tailored to customer architectures. This establishes a bundling proposition, not buyer-specific package acceptance.
   ([ir.coherent.com](https://ir.coherent.com/news-releases/news-release-details/coherent-launches-photonlinktm-integrated-optics-platform-ai))

3.5. Industry Roadmap

For 2026-2027, the practical milestone is converting equipment and enabling-capability access into accepted customer configurations, approved manufacturing assignments, and executable restoration commitments. Installation readiness remains a separate gate: optical qualification cannot remove grid-connection or permitting delays. For 2028-2029, progression depends on reuse of accepted blocks across host programs, with changed interfaces and renewed qualification responsibilities explicitly identified. GlobalFoundries SCALE and the GUC-Lightmatter collaboration establish platform engagement options, not automatic cross-host interchangeability.

For 2030-2032, preserving architecture choice is more defensible than assuming convergence on one photonic platform. Thin-film lithium niobate manufacturing access and microLED connectivity change different integration dependencies and should be evaluated against

consequential unmet requirements. Extension into memory and I/O disaggregation or telecommunications remains a separate verification decision: switching readiness does not establish useful resource access, carrier-environment acceptance, or commercial release. Application-specific operating evidence and a supported delivery offer, rather than the calendar alone, should trigger deployment commitments.

Sources & Evidence

1. Micas Networks Announces Industry's First 51.2T Co-Packaged Optics Network Switch System Now in Volume Production
   · Order acceptance establishes equipment access, not completion of the roadmap's subsequent customer-acceptance milestone. ([micasnetworks.com](https://www.micasnetworks.com/company/news/xx.xx))
2. GlobalFoundries accelerates adoption of co-packaged optics for advanced AI data centers with SCALE optical module solution
   · SCALE combines photonic devices, electronic integration, detachable fibers, and known-good-die testability. Platform capability does not independently establish acceptance across customer host programs. ([gf.com](https://gf.com/news-and-events/news/globalfoundries-accelerates-adoption-of-co-packaged-optics-for-advanced-ai-data-centers-with-scale-optical-module-solution/))
3. Photon 100
   · Marketed verification capability provides enabling access; acceptance of the customer's devices and assembled configuration is a subsequent program-specific milestone. ([teradyne.com](https://www.teradyne.com/products/photon-xx.xx/))
4. Data centre electricity use surged in 2025, even with tightening bottlenecks driving a scramble for solutions
   · Infrastructure bottlenecks support a separate installation-readiness gate; the source does not establish delay in a named CPO project. ([iea.org](https://www.iea.org/news/data-centre-electricity-use-surged-in-2025-even-with-tightening-bottlenecks-driving-a-scramble-for-solutions))
5. HyperLight, UMC, and Wavetek Announce Strategic Partnership for High-Volume Foundry Production of TFLN Chiplet Platform
   · HyperLight supplies the TFLN platform architecture and UMC-Wavetek supply foundry infrastructure for applications including CPO; constituent manufacturing access is distinct from complete-package acceptance. ([umc.com](https://www.umc.com/en/News/press_release/Content/corporate/xx.xx))
6. Efficient Intra-Rack Resource Disaggregation for HPC Using Co-Packaged DWDM Photonics
   · The IEEE Cluster 2023 study evaluates photonic resource disaggregation against workload requirements. Modeled results do not establish release or acceptance of a delivered customer implementation. ([arxiv.org](https://arxiv.org/abs/xx.xx))
7. Lightmatter and GUC Partner to Produce Co-Packaged Optics (CPO) Solutions for AI Hyperscalers
   · The collaboration establishes platform engagement; cross-host reuse and acceptance of a customer's changed configuration remain separate requirements. ([guc-asic.com](https://www.guc-asic.com/en/news/PressRelease/PR_ENG_20260128))
8. Technology - Avicena
   · LightBundle uses parallel microLED arrays, multicore fiber bundles, and silicon detectors, establishing different endpoint and connectivity dependencies rather than an interchangeable constituent replacement. ([avicena.tech](https://avicena.tech/technology-2024-xx.xx/))
9. New features make co-packaged optics suitable for future radio networks
   · Ericsson describes dedicated radio-access development addressing environmental, fiber, and safety requirements. Its demonstration does not establish a commercial release determination for a proposed carrier configuration. ([ericsson.com](https://www.ericsson.com/en/blog/2024/xx.xx/new-features-make-co-packaged-optics-suitable-for-future-radio-networks))

4. Market Overview

4.1. Introduction

Co-Packaged Optics is an architecture-dependent interconnect market, not simply a replacement market for front-panel transceivers. ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ The integrated-hardware boundary places optical data conversion within the host's first-level package, while separately supplied illumination, dedicated components, and specialized services perform distinct included roles.

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Figure 5. Global Co-Packaged Optics Market Size, 2017-2032

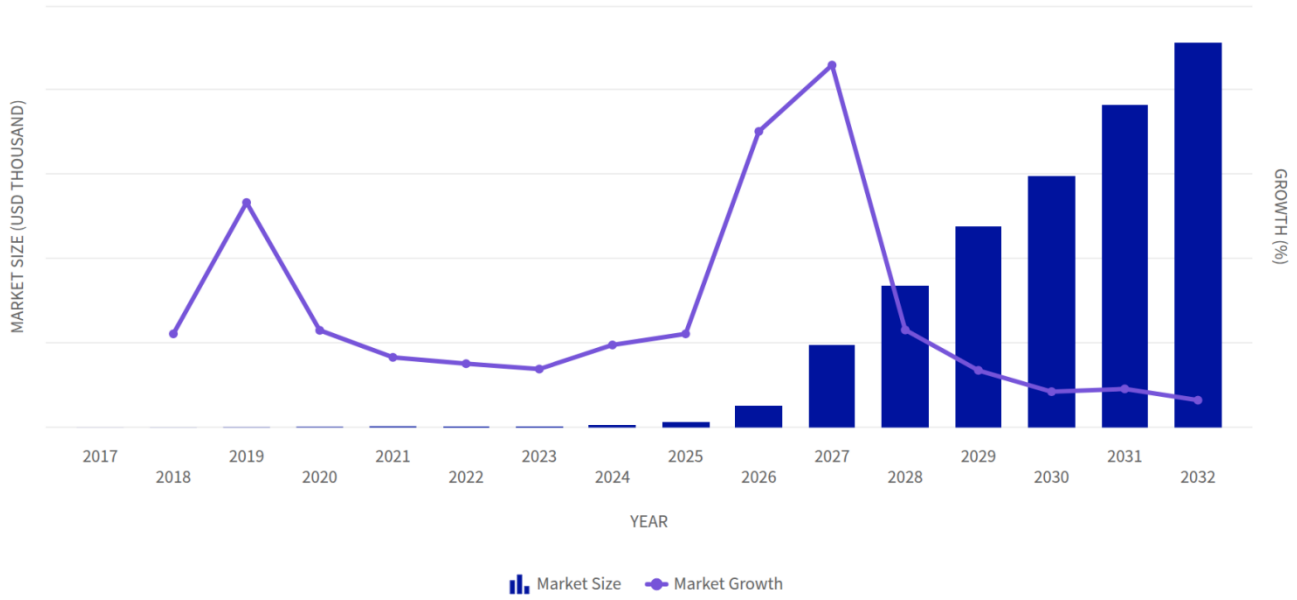


Table 2. Global Co-Packaged Optics Market Size, 2017-2032 (USD Thousand)

World	2023	2024	2025	2026	2027	2032	CAGR (%)
Global	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Sources & Evidence

1. Micas Networks Announces Industry's First 51.2T Co-Packaged Optics Network Switch System Now in Volume Production
   · The March xx.xx 2025 company announcement reports global availability of its CPO switch and acceptance of orders, supporting an equipment-availability milestone. ([micasnetworks.com](https://www.micasnetworks.com/company/news/xx.xx))
2. Intel Demonstrates First Fully Integrated Optical I/O Chiplet
   · Intel's 2024 disclosure explicitly describes its demonstrated OCI chiplet as a prototype and reports work with selected customers on co-packaging. It does not establish subsequent commercialization. ([intel.com](https://www.intel.com/content/www/us/en/newsroom/news/intel-unveils-first-integrated-optical-io-chiplet.html))
3. Marvell Announces Breakthrough Co-Packaged Optics Architecture for Custom AI Accelerators
   · Marvell's January xx.xx 2025 announcement offers its architecture for next-generation customer XPU designs and reports evaluation activity. Only Marvell's own disclosures are used. ([marvell.com](https://www.marvell.com/company/newsroom/marvell-co-packaged-optics-architecture-custom-ai-accelerators.html))

4.2. Key Growth Contribution

Binding host-I/O and power constraints create a specific adoption rationale for CPO: moving optical conversion into the host package can reduce the burden of the electrical path and support the required connectivity. Serving that need requires coordinated photonic, electronic, packaging, illumination, and acceptance capabilities, not an optical engine alone. The mechanism remains conditional on the workload and topology; thermal and maintenance obligations can offset the benefit, and an adequate electrical or linear-pluggable configuration can avoid the package-integration commitment.

Figure 6. Global Co-Packaged Optics Market, Key Growth contribution, 2025-2032

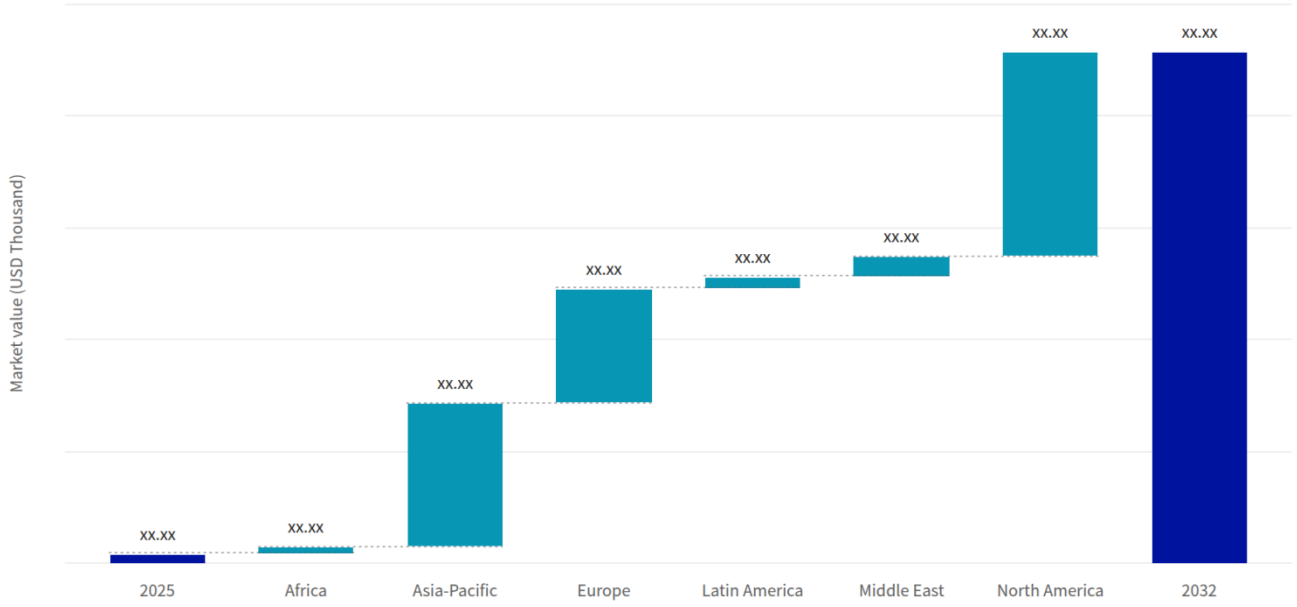


Table 3. Global Co-Packaged Optics Market, Key Growth Contribution, 2025-2032

Scope	Leading category	Added value (USD Thousand)	Growth share (%)	CAGR (%)
Global - Application	xx.xx	xx.xx	xx.xx	xx.xx
Global - Buyer Type	xx.xx	xx.xx	xx.xx	xx.xx
Global - Country	xx.xx	xx.xx	xx.xx	xx.xx
Global - Customization Model	xx.xx	xx.xx	xx.xx	xx.xx
Global - End User	xx.xx	xx.xx	xx.xx	xx.xx
Global - Fiber Mode	xx.xx	xx.xx	xx.xx	xx.xx
Global - Host Interface	xx.xx	xx.xx	xx.xx	xx.xx
Global - Interface Standardization	xx.xx	xx.xx	xx.xx	xx.xx
Global - Light Source Integration	xx.xx	xx.xx	xx.xx	xx.xx
Global - Offering	xx.xx	xx.xx	xx.xx	xx.xx
Global - Optical Detection	xx.xx	xx.xx	xx.xx	xx.xx
Global - Optical Engine Capacity	xx.xx	xx.xx	xx.xx	xx.xx
Global - Package Integration	xx.xx	xx.xx	xx.xx	xx.xx
Global - Photonic Platform	xx.xx	xx.xx	xx.xx	xx.xx
Global - Region	xx.xx	xx.xx	xx.xx	xx.xx
Global - Sales Channel	xx.xx	xx.xx	xx.xx	xx.xx
Global - Serviceability Model	xx.xx	xx.xx	xx.xx	xx.xx
Global - Signal Processing	xx.xx	xx.xx	xx.xx	xx.xx
Global - Wavelength Multiplexing	xx.xx	xx.xx	xx.xx	xx.xx

Sources & Evidence

1. Marvell Announces Breakthrough Co-Packaged Optics Architecture for Custom AI Accelerators
   · Marvell offers customer-specific XPU integration combining compute, memory, chiplets, and optical engines on a common substrate. This supports an application-specific adoption mechanism, not universal deployment. ([marvell.com](https://www.marvell.com/company/newsroom/marvell-co-packaged-optics-architecture-custom-ai-accelerators.html))
2. External vs. Integrated Light Sources for Intra-Data Center Co-Packaged Optical Interfaces
   · The peer-reviewed study examines shorter electrical paths alongside optical loss, source temperature, and reliability. Its results are architectural modeling rather than commercial operating comparisons. ([ee.stanford.edu](https://ee.stanford.edu/~jmk/pubs/ext.vs.integ.light.sources.jlt.xx.xx-xx.xx.pdf))

3. Cisco Announces New Silicon One G300, Advanced Systems and Optics to Power and Scale AI Data Centers for the Agentic Era
   · Cisco's February xx.xx 2026 announcement includes linear pluggable optics and supporting systems, establishing an adjacent architecture rather than a CPO implementation. ([newsroom.cisco.com](https://newsroom.cisco.com/c/r/newsroom/en/us/a/y2026/m02/cisco-announces-new-silicon-one-g300.html))

4.3. Industry Ecosystem & Value Chain Analysis

Value is created by delivering an accepted optical path through a compatible host package, not by supplying photonic silicon in isolation. Photonic and electronic circuits depend on illumination, optical coupling, package substrates or interposers, and coordinated assembly and test. ■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■ ■■■■■■■■ ■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■ ■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■ ■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■ ■ ■■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■■■

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Sources & Evidence

1. How Industry Collaboration Fosters NVIDIA Co-Packaged Optics
   · NVIDIA describes coordination of foundry, photonic and electronic ICs, fiber, packaging, connectors, and lasers in its own CPO platform. ([developer.nvidia.com](https://developer.nvidia.com/blog/how-industry-collaboration-fosters-nvidia-co-packaged-optics))
2. Datacom / CPO - PHIX Photonics Assembly
   · PHIX offers CPO system-level co-design, fiber coupling, electronic-photonic integration, source assembly, and manufacturing support. ([phix.com](https://www.phix.com/markets/datacom-cpo/))
3. AIM Photonics Test, Assembly and Packaging Services
   · AIM Photonics offers assembly and optoelectronic testing for customer-provided wafers and chips, establishing separately contracted service roles without proving a CPO-specific contract. ([aimphotonics.com](https://www.aimphotonics.com/tap))

4.3.1. Supply-Side Analysis

Deliverable readiness requires compatible capabilities across fabrication, optical attachment, electronic-photonic integration, and test. GlobalFoundries' May 2026 SCALE introduction explicitly connects its CPO platform to detachable fibers and known-good-die testability. ■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■ ■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■ ■■■■■■■■ ■■■■ ■■■ ■ ■■■■■■■ ■■■■■■■■■■■■ ■■ ■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■ ■■ ■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■

For buyers and manufacturing partners, the consequential sourcing question is which fabrication, packaging, connectivity, and test combination has been accepted for the intended host configuration. An alternative process or assembly provider may offer useful capability without being a transferable replacement. ■■■■■■ ■■■■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■■■■ ■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■ ■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■ ■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■

Sources & Evidence

1. Datacom / CPO - PHIX Photonics Assembly
   · Its service descriptions connect heterogeneous integration and optical attachment with packaging responsibilities, supporting assessment of the combined supply arrangement. ([phix.com](https://www.phix.com/markets/datacom-cpo/))
2. GlobalFoundries accelerates adoption of co-packaged optics for advanced AI data centers with SCALE optical module solution
   · GlobalFoundries introduced SCALE on May xx.xx 2026 and describes detachable fiber interfaces and known-good-die testability within the platform. These are platform capabilities, not customer qualification evidence. ([gf.com](https://gf.com/news-and-events/news/globalfoundries-accelerates-adoption-of-co-packaged-optics-for-advanced-ai-data-centers-with-scale-optical-module-solution/))
3. TRITON™ High-Volume Silicon Photonics Production Test Cell System
   · TRITON combines optical and electrical wafer testing and identifies FormFactor, Advantest, and Tokyo Electron as developers for applications including CPO. ([formfactor.com](https://www.formfactor.com/product/probe-systems/high-volume-manufacturing/triton/))
4. Optical interconnect research program
   · Imec's precompetitive optical-interconnect program spans material suppliers, foundries, assembly/test businesses, device developers, and system companies, with proof-of-concept and reliability activities. ([imec-int.com](https://www.imec-int.com/en/expertise/cmos-advanced/connect/optical-interconnects))

4.3.2. Demand-Side Analysis

End-user requirements and the purchasing transaction are different control points. Microsoft and Facebook's March 2019 collaboration established customer-led requirements covering interfaces, management, reliability, and complete packaging proposals. ■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■ ■■■ ■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■ ■■ ■ ■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■

A defensible demand assessment identifies the deliverable and the party funding it. ■■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■ ■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■ ■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■ ■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ Qualification of one building block does not settle acceptance of the assembled system, and a complete-system customer should not automatically be treated as the purchaser of its embedded engines.

Sources & Evidence

1. Micas Networks Announces Industry's First 51.2T Co-Packaged Optics Network Switch System Now in Volume Production
   · The described switch incorporates Broadcom's CPO device and is offered as finished equipment, illustrating equipment procurement distinct from embedded constituent supply. ([micasnetworks.com](https://www.micasnetworks.com/company/news/xx.xx))
2. Marvell Announces Breakthrough Co-Packaged Optics Architecture for Custom AI Accelerators
   · The offering combines compute, memory, chiplets, and optical engines on a common substrate for custom customer designs, supporting design-program demand context. ([marvell.com](https://www.marvell.com/company/newsroom/marvell-co-packaged-optics-architecture-custom-ai-accelerators.html))
3. AIM Photonics Test, Assembly and Packaging Services
   · Customer-provided-device services support distinguishing the engineering or service customer from the purchaser of a finished system. ([aimphotonics.com](https://www.aimphotonics.com/tap))
4. Microsoft and Facebook announce formation of the Co-Packaged Optics Collaboration under the Joint Development Foundation
   · Microsoft's March xx.xx 2019 announcement establishes customer-led requirements covering interfaces, management, reliability, and complete packaging proposals. Commercial-analyst commentary is not used. ([prnewswire.com](https://www.prnewswire.com/news-releases/microsoft-and-facebook-announce-formation-of-the-co-packaged-optics-collaboration-under-the-joint-development-foundation-xx.xx.html))

4.3.3. Stakeholder Analysis

[redacted] Device developers define the host-facing optical integration; foundry and packaging participants contribute manufacturing capabilities; equipment providers combine these into a supported system; operators bear the consequences of network interruption. These roles can overlap within one organization, but the OIF module agreement's allocation of system-level thermal responsibility illustrates why a constituent specification does not settle every system obligation.

[redacted] A buyer may prefer a single accountable equipment supplier to reduce coordination burden, while a design owner may retain more control through separately contracted contributors. The trade-off is accountability versus architectural and sourcing discretion, subject to the actual maintenance and acceptance agreement.

Sources & Evidence

1. Implementation Agreement for a 3.2Tb/s Co-Packaged (CPO) Module - OIF-Co-Packaging-3.2T-Module-01.0
   · The module agreement assigns system-level thermal responsibility to the system integrator. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-Co-Packaging-xx.xx.2T-Module-xx.xx.pdf))
2. How Industry Collaboration Fosters NVIDIA Co-Packaged Optics
   · Its documented designs distinguish socket-based maintainable optical subassemblies, soldered engines with detachable optical connectivity, and field-replaceable external sources. ([developer.nvidia.com](https://developer.nvidia.com/blog/how-industry-collaboration-fosters-nvidia-co-packaged-optics))

4.4. Market Dynamics

CPO adoption is governed by interacting architecture, qualification, and deployment conditions. ■■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■■ ■■■■■■■■■■■■■ ■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■ ■■■■■■■■ ■■ ■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■ The commercial implication is selective adoption by configuration rather than a uniform migration across all included applications.

Infrastructure readiness is a separate condition. ■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■ ■■■ ■■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■ ■■■■■■■■■ ■■■■ ■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■ ■ ■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ Progress in one condition should not be interpreted as completion of the others.

Sources & Evidence

1. Co-packaged optics for high-performance computing and artificial intelligence
   · The inspectable abstract identifies electrical constraints and thermal, manufacturability, and standardization challenges, supporting selective rather than automatic adoption. ([nature.com](https://www.nature.com/articles/s41928-xx.xx-xx.xx-xx.xx))
2. Cisco Announces New Silicon One G300, Advanced Systems and Optics to Power and Scale AI Data Centers for the Agentic Era
   · Cisco's February xx.xx 2026 announcement includes LPO and supporting systems, providing a concrete alternative to package-integrated optics. No comparative numerical performance claim is adopted. ([newsroom.cisco.com](https://newsroom.cisco.com/c/r/newsroom/en/us/a/y2026/m02/cisco-announces-new-silicon-one-g300.html))
3. Data centre electricity use surged in 2025, even with tightening bottlenecks driving a scramble for solutions
   · The April xx.xx 2026 IEA release identifies grid-connection, planning, approval, and energy-equipment constraints on data-center deployment. The transmission to CPO installation timing is an analytical inference. ([iea.org](https://www.iea.org/news/data-centre-electricity-use-surged-in-2025-even-with-tightening-bottlenecks-driving-a-scramble-for-solutions))

4.4.1. Key Drivers

4.4.1.1. Host-package I/O requirements create application-specific adoption pressure

High-performance computing and AI workloads expose electrical-interconnect constraints in bandwidth, latency, energy, and reach. Bringing optical conversion into the host package shortens the electrical path and can support connectivity beyond the limits of a particular electrical implementation. ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■ ■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■ ■■ ■■ ■■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■ ■■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■ ■■ ■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■

Sources & Evidence

1. Marvell Announces Breakthrough Co-Packaged Optics Architecture for Custom AI Accelerators
   · Marvell describes shorter electrical paths and longer-reach optical XPU connectivity as capabilities of its custom architecture, not proof of completed deployment. ([marvell.com](https://www.marvell.com/company/newsroom/marvell-co-packaged-optics-architecture-custom-ai-accelerators.html))
2. Co-packaged optics for high-performance computing and artificial intelligence
   · The review identifies bandwidth, latency, and energy constraints in electrical interconnects for HPC and AI. ([nature.com](https://www.nature.com/articles/s41928-xx.xx-xx.xx-xx.xx))

4.4.1.2. System power budgets increase the value of efficient data movement

Power-constrained infrastructure creates a reason to evaluate interconnect architectures that reduce electrical losses and processing overhead. CPO can address that burden, but the relevant result is the complete configuration, including illumination, controls, and cooling. ■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■ ■■■■ ■■ ■■■ ■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■ ■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■ ■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■ ■■■■■■■■■■■■ ■■■■■■■■■■■ ■■ ■■■■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■ ■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■

Sources & Evidence

1. External vs. Integrated Light Sources for Intra-Data Center Co-Packaged Optical Interfaces
   · The architectural study treats optical losses, illumination, and temperature-sensitive performance as interdependent considerations rather than an engine-only efficiency outcome. ([ee.stanford.edu](https://ee.stanford.edu/~jmk/pubs/ext.vs.integ.light.sources.jlt.xx.xx-xx.xx.pdf))
2. Co-packaged optics for high-performance computing and artificial intelligence
   · It evaluates system-level electrical, conversion, and optical-network contributions to performance, supporting a complete-configuration comparison. ([nature.com](https://www.nature.com/articles/s41928-xx.xx-xx.xx-xx.xx))
3. Cisco Announces New Silicon One G300, Advanced Systems and Optics to Power and Scale AI Data Centers for the Agentic Era
   · The announced LPO offering targets optical efficiency through a different integration boundary, supporting its inclusion as a comparison alternative. ([newsroom.cisco.com](https://newsroom.cisco.com/c/r/newsroom/en/us/a/y2026/m02/cisco-announces-new-silicon-one-g300.html))

4.4.1.3. Replaceable illumination can reduce a specific acceptance barrier

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Sources & Evidence

1. External Laser Small Form Factor Pluggable Implementation Agreement - OIF-ELSFP-02.0
   · ELSFP provides field-replaceable external illumination and separates the laser thermal environment from the co-packaged host. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-ELSFP-xx.xx-xx.xx.pdf))

2. External vs. Integrated Light Sources for Intra-Data Center Co-Packaged Optical Interfaces
   · Its modeled comparison identifies additional fiber attachments, optical loss, and complexity as counterforces to external-source benefits.
   ([ee.stanford.edu](https://ee.stanford.edu/~jmk/pubs/ext.vs.integ.light.sources.jlt.xx.xx-xx.xx.pdf))

4.4.2. Key Restraints

4.4.2.1. Qualified package dependencies constrain supplier switching

[illegible] Buyers should distinguish an available supplier from a qualified alternative and establish which changes require renewed acceptance. Standardized interfaces can reduce coordination work, but do not eliminate configuration-specific integration obligations.

Sources & Evidence

1. Implementation Agreement for a 3.2Tb/s Co-Packaged (CPO) Module - OIF-Co-Packaging-3.2T-Module-01.0
   · It defines electrical, mechanical, and management requirements while leaving optical connector choices outside the agreement, supporting configuration-specific compatibility assessment.
   ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-Co-Packaging-xx.xx.2T-Module-xx.xx.pdf))
2. Datacom / CPO - PHIX Photonics Assembly
   · PHIX describes system-level integration engagement rather than an automatically interchangeable constituent offering; switching implications are analytical inferences.
   ([phix.com](https://www.phix.com/markets/datacom-cpo/))

4.4.2.2. Replacement boundaries can suppress operational acceptance

[illegible] Counterexamples matter: NVIDIA describes a socket-based optical subassembly supporting field maintainability, so CPO should not be characterized as universally unserviceable. Buyers need the actual permitted replacement unit and support entitlement before accepting a package-level failure exposure; detachable connectivity alone does not answer that question.

Sources & Evidence

1. External Laser Small Form Factor Pluggable Implementation Agreement - OIF-ELSFP-02.0
   · The replacement function applies to the external laser module, not an independently established optical-engine maintenance entitlement.
   ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-ELSFP-xx.xx-xx.xx.pdf))
2. How Industry Collaboration Fosters NVIDIA Co-Packaged Optics
   · The socket-based subassembly is described as supporting field maintainability, countering a universal-unserviceability assertion without establishing individual-engine maintenance rights.
   ([developer.nvidia.com](https://developer.nvidia.com/blog/how-industry-collaboration-fosters-nvidia-co-packaged-optics))

3. External vs. Integrated Light Sources for Intra-Data Center Co-Packaged Optical Interfaces
   · The study explains coupling between integrated optical-component failures and network reliability, without establishing product-specific replacement policy.
   ([ee.stanford.edu](https://ee.stanford.edu/~jmk/pubs/ext.vs.integ.light.sources.jlt.xx.xx-xx.xx.pdf))

4.4.2.3. Infrastructure readiness can delay deployment independently of optical readiness

[redacted] Suppliers should link deployment-dependent commitments to customer installation milestones, while preserving separately justified engineering activity. The restraint weakens when the intended facility has secured the required infrastructure and approvals.

Sources & Evidence

1. Data centre electricity use surged in 2025, even with tightening bottlenecks driving a scramble for solutions
   · The identified infrastructure constraints support site-readiness gating, not a claim that any named CPO customer project is delayed. ([iea.org](https://www.iea.org/news/data-centre-electricity-use-surged-in-2025-even-with-tightening-bottlenecks-driving-a-scramble-for-solutions))

4.4.3. Key Opportunities

4.4.3.1. Customer-approved integration access for capability-constrained developers

Developers lacking optical-package coordination can source a defined integration engagement rather than own every enabling capability. [redacted] Capture requires host compatibility, customer approval, and explicit integration-risk ownership; outsourcing reduces retained engineering scope but increases dependence on the supported partner combination.

Sources & Evidence

1. Datacom / CPO - PHIX Photonics Assembly
   · PHIX markets CPO co-design, optical attachment, electronic-photonic integration, light-source assembly, and manufacturing support. These establish complementary services, not automatic customer approval.
   ([phix.com](https://www.phix.com/markets/datacom-cpo/))
2. Lightmatter and GUC Partner to Produce Co-Packaged Optics (CPO) Solutions for AI Hyperscalers
   · The January xx.xx 2026 GUC-Lightmatter partnership combines ASIC design and advanced packaging with Passage. It establishes a coordinated integration program rather than customer-qualified delivery.
   ([guc-asic.com](https://www.guc-asic.com/en/news/PressRelease/PR_ENG_20260128))

4.4.3.2. Accepted illumination with an independent source-maintenance boundary

Separately supplied illumination can address source-level maintenance and thermal separation requirements. The opportunity belongs to an accepted source-engine pairing, not merely an ELSFP label. [redacted]

RESEARCH SAMPLE REPORT

[redacted]

Sources & Evidence

1. External vs. Integrated Light Sources for Intra-Data Center Co-Packaged Optical Interfaces
   · External illumination introduces optical attachments and loss while separating the source environment; these are counterforces to an unconditional source-location preference. ([ee.stanford.edu](https://ee.stanford.edu/~jmk/pubs/ext.vs.integ.light.sources.jlt.xx.xx-xx.xx.pdf))
2. External Laser Small Form Factor Pluggable Implementation Agreement - OIF-ELSFP-02.0
   · OIF-ELSFP-xx.xx defines field-replaceable external illumination and thermal separation from the co-packaged host. The function concerns the source, not optical-engine replacement. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-ELSFP-xx.xx.pdf))

4.4.3.3. Verification coordination across constituent and assembled-package handoffs

[redacted] Coordinated test offerings establish enabling capabilities at different boundaries. A qualification or integration provider can address an unassigned handoff only with customer-approved coverage and cross-supplier fault responsibility; equipment access alone is not qualification of the delivered package.

Sources & Evidence

1. TRITON™ High-Volume Silicon Photonics Production Test Cell System
   · TRITON combines optical and electrical wafer testing through FormFactor, Advantest, and Tokyo Electron contributions. Wafer-level capability is distinct from assembled-package acceptance. ([formfactor.com](https://www.formfactor.com/product/probe-systems/high-volume-manufacturing/triton/))
2. Photon 100
   · Photon xx.xx declares wafer, engine, and co-packaged-module coverage while permitting surrounding test-cell partners. These layers create distinct integration responsibilities. ([teradyne.com](https://www.teradyne.com/products/photon-xx.xx/))

4.4.4. Key Challenges

4.4.4.1. Verification must remain coherent across the integration hierarchy

CPO qualification spans more than a standalone optical engine. [redacted] Otherwise, a defect detected after integration can create disputed responsibility and expose otherwise usable host content.

Sources & Evidence

1. TRITON™ High-Volume Silicon Photonics Production Test Cell System
   · The offered coordinated wafer-level verification capability supports distinguishing constituent verification from subsequent package acceptance. ([formfactor.com](https://www.formfactor.com/product/probe-systems/high-volume-manufacturing/triton/))

2. Photon 100
   · Photon xx.xx supports wafer, optical-engine, and co-packaged-module verification applications. Equipment capability does not establish acceptance of a specific customer program. ([teradyne.com](https://www.teradyne.com/products/photon-xx.xx/))

4.4.4.2. Thermal benefits and optical reliability require joint qualification

Moving optics close to high-power electronics creates thermal compatibility and reliability challenges alongside the intended electrical benefit. ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ Developers should require evidence applicable to the intended package and cooling architecture; results from an isolated component or a different package cannot automatically settle system acceptance.

Sources & Evidence

1. How Industry Collaboration Fosters NVIDIA Co-Packaged Optics
   · NVIDIA reports collaboration addressing modulator thermal sensitivity in its own platform. ([developer.nvidia.com](https://developer.nvidia.com/blog/how-industry-collaboration-fosters-nvidia-co-packaged-optics))
2. External vs. Integrated Light Sources for Intra-Data Center Co-Packaged Optical Interfaces
   · Temperature-sensitive optical reliability is an architectural consideration; modeled outcomes are not operating-lifetime guarantees. ([ee.stanford.edu](https://ee.stanford.edu/~jmk/pubs/ext.vs.integ.light.sources.jlt.xx.xx-xx.xx.pdf))
3. Co-packaged optics for high-performance computing and artificial intelligence
   · Thermal management is explicitly identified as a challenge for optical compute interconnects. ([nature.com](https://www.nature.com/articles/s41928-xx.xx-xx.xx-xx.xx))
4. Co-packaged optics can supercharge generative AI computing
   · IBM's December xx.xx 2024 disclosure describes reliability-development work on its CPO prototypes and continuing customer and supplier engagement. It does not establish universal qualification or lifetime. ([research.ibm.com](https://research.ibm.com/blog/co-packaged-optics-to-supercharge-generative-ai-computing))

4.4.4.3. Diagnostic coverage must support commercial fault ownership

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Sources & Evidence

1. Implementation Agreement for a 3.2Tb/s Co-Packaged (CPO) Module - OIF-Co-Packaging-3.2T-Module-01.0
   · The management chapter defines diagnostics and includes optional alarm behavior and vendor-specific choices, supporting verification of actual diagnostic coverage. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-Co-Packaging-xx.xx.2T-Module-xx.xx.pdf))

4.5. Porter’s Five Forces Analysis

[redacted] Cisco's February 2026 announcement of linear pluggable optics provides a concrete counterforce to an inevitable-CPO replacement thesis. Electrical links and pluggable alternatives remain relevant comparisons wherever they satisfy the application's reach, power, and service requirements; supplier prominence alone does not establish architectural superiority.

Supplier leverage can arise from a qualified combination of photonics, electronics, packaging, connectivity, and illumination rather than from a standalone component. [redacted] The bargaining balance therefore depends on the design stage and the availability of an accepted alternative, not merely on the number of named suppliers.

[redacted] A component or service entrant must establish precisely which approved dependency it can satisfy; attempting to supply an entire platform entails additional integration and support obligations. Neither route is demonstrably attractive without the relevant customer and delivery conditions.

Sources & Evidence

1. External Laser Small Form Factor Pluggable Implementation Agreement - OIF-ELSFP-02.0
   · The patent notice supports treating public standards and implementation rights as separate entry considerations. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-ELSFP-xx.xx-xx.xx.pdf))
2. How Industry Collaboration Fosters NVIDIA Co-Packaged Optics
   · The platform's coordinated complementary capabilities support the analytical interpretation of qualification-dependent supplier leverage, not a measured bargaining-power claim. ([developer.nvidia.com](https://developer.nvidia.com/blog/how-industry-collaboration-fosters-nvidia-co-packaged-optics))
3. AIM Photonics Test, Assembly and Packaging Services
   · Accessible packaging and test services provide an alternative to owning every enabling capability; customer qualification remains a separate question. ([aimphotonics.com](https://www.aimphotonics.com/tap))
4. Optical interconnect research program
   · Program access supports collaborative development, not an established customer-approved commercial insertion point. ([imec-int.com](https://www.imec-int.com/en/expertise/cmos-advanced/connect/optical-interconnects))

5. Microsoft and Facebook announce formation of the Co-Packaged Optics Collaboration under the Joint Development Foundation

   · The collaboration illustrates customer influence over design requirements, not proof of purchasing contracts or adoption.
   ([prnewswire.com](https://www.prnewswire.com/news-releases/microsoft-and-facebook-announce-formation-of-the-co-packaged-optics-collaboration-under-the-joint-development-foundation-xx.xx.html))

6. Cisco Announces New Silicon One G300, Advanced Systems and Optics to Power and Scale AI Data Centers for the Agentic Era

   · The announcement counters a universal CPO replacement thesis without establishing superiority for every workload or configuration.
   ([newsroom.cisco.com](https://newsroom.cisco.com/c/r/newsroom/en/us/a/y2026/m02/cisco-announces-new-silicon-one-g300.html))

4.6. PESTLE Analysis

[redacted] Neither measure establishes uniform treatment of optical engines, light sources, assemblies, or services. Suppliers should assess the actual product, host-chip dependency, destination, and intended use before making cross-border delivery commitments.

Macroeconomic and social conditions influence when infrastructure requirements become executable projects. The IEA identifies capital-market dependence, financing conditions, and community opposition as constraints on data-center development. [redacted]

Technology standardization can improve coordination without eliminating intellectual-property or implementation risk. [redacted] Design owners need configuration-specific interface and rights assessments; manufacturing participants need cross-disciplinary electronic, photonic, packaging, and reliability capabilities rather than assuming that conventional semiconductor expertise transfers unchanged.

[redacted] A CPO design that reduces interconnect energy may improve an infrastructure power budget, but that does not independently establish its emissions outcome or offset continued expansion of

computing demand. Buyers should separate optical-efficiency evidence from site-energy and broader sustainability claims.

Sources & Evidence

1. Implementation Agreement for a 3.2Tb/s Co-Packaged (CPO) Module - OIF-Co-Packaging-3.2T-Module-01.0
   · Public interface requirements support coordination without independently demonstrating interchangeability between marketed implementations. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-Co-Packaging-xx.xx.2T-Module-xx.xx.pdf))
2. External Laser Small Form Factor Pluggable Implementation Agreement - OIF-ELSFP-02.0
   · OIF warns that implementation may require third-party patent rights and does not guarantee noninfringement or license availability. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-ELSFP-xx.xx-xx.xx.pdf))
3. Optical interconnect research program
   · The program integrates electronic design, photonics, heterogeneous packaging, testing, and reliability, supporting the cross-disciplinary capability requirement. ([imec-int.com](https://www.imec-int.com/en/expertise/cmos-advanced/connect/optical-interconnects))
4. Executive summary - Key Questions on Energy and AI
   · The IEA identifies capital-market dependence, macroeconomic financing sensitivity, and community opposition in data-center development. Their effect on CPO program commitments is conditional interpretation. ([iea.org](https://www.iea.org/reports/key-questions-on-energy-and-ai/executive-summary))
5. Energy supply for AI - Energy and AI
   · The IEA distinguishes electricity physically consumed at data centers from operators' contractual energy mix, supporting site-specific environmental interpretation rather than automatic emissions claims. ([iea.org](https://www.iea.org/reports/energy-and-ai/energy-supply-for-ai))
6. Adjusting Imports of Semiconductors, Semiconductor Manufacturing Equipment, and Their Derivative Products into the United States
   · The January xx.xx 2026 proclamation addresses specified semiconductor products and includes exceptions for qualifying U.S. data-center and other uses. It does not establish uniform CPO-product treatment. ([whitehouse.gov](https://www.whitehouse.gov/presidential-actions/2026/xx.xx/adjusting-imports-of-semiconductors-semiconductor-manufacturing-equipment-and-their-derivative-products-into-the-united-states/))
7. Department of Commerce Revises License Review Policy for Semiconductors Exported to China
   · The January xx.xx 2026 BIS announcement describes conditional case-by-case license review for specified advanced computing chips exported to China. This is host-computing policy context, not a blanket CPO restriction. ([media.bis.gov](https://media.bis.gov/sites/default/files/documents/DoC%20Revises%20License%20Review%20Policy%20for%20Semiconductors%20Exports.pdf))

4.7. Market Outlook

The global CPO outlook depends on conversion of architectural need into an accepted and supportable configuration, rather than an inevitable replacement of existing optics. Custom compute integration and finished networking equipment address different commitments. ■■■■■■■■ ■■■■■■■■■ ■■■■■ ■■ ■■■■■■■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■ ■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■ ■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■

The outlook is sensitive to competing architectures and installation readiness. ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■ ■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■

[redacted] The horizons below describe conditional strategic choices, not predetermined adoption outcomes.

Sources & Evidence

1. Marvell Announces Breakthrough Co-Packaged Optics Architecture for Custom AI Accelerators
   · The custom-XPU architecture establishes a development route distinct from finished-switch procurement. Its adoption implications depend on the customer's host requirements.
   ([marvell.com](https://www.marvell.com/company/newsroom/marvell-co-packaged-optics-architecture-custom-ai-accelerators.html))
2. GlobalFoundries accelerates adoption of co-packaged optics for advanced AI data centers with SCALE optical module solution
   · GlobalFoundries SCALE combines photonic devices, electronic integration, detachable fibers, and known-good-die testability. Platform capability remains distinct from acceptance of the assembled customer host.
   ([gf.com](https://gf.com/news-and-events/news/globalfoundries-accelerates-adoption-of-co-packaged-optics-for-advanced-ai-data-centers-with-scale-optical-module-solution/))
3. Cisco Announces New Silicon One G300, Advanced Systems and Optics to Power and Scale AI Data Centers for the Agentic Era
   · The announced pluggable route counters an inevitable package-integration thesis; suitability must be assessed against the actual requirement.
   ([newsroom.cisco.com](https://newsroom.cisco.com/c/r/newsroom/en/us/a/y2026/m02/cisco-announces-new-silicon-one-g300.html))
4. Data centre electricity use surged in 2025, even with tightening bottlenecks driving a scramble for solutions
   · The IEA identifies grid-connection, planning, approval, and energy-equipment bottlenecks. Transmission to CPO installation timing is an analytical inference, not evidence of a named project delay.
   ([iea.org](https://www.iea.org/news/data-centre-electricity-use-surged-in-2025-even-with-tightening-bottlenecks-driving-a-scramble-for-solutions))

4.7.1. Near-Term Market Outlook (0-2 Years)

[redacted] Micas' finished-switch offer provides an equipment path, while coordinated wafer-test offerings provide manufacturing support. Operators should assess the nominated configuration's topology, software, cooling fit, and restoration agreement; manufacturers should settle complete-cell acceptance rather than infer package qualification from instrument availability.

External-source replacement provides a specific maintenance boundary that can be incorporated into acceptance, but does not resolve every engine fault. [redacted] Observable indicators are released customer configurations, approved manufacturing assignments, and executable restoration commitments-not demonstrations alone.

Sources & Evidence

1. Micas Networks Announces Industry's First 51.2T Co-Packaged Optics Network Switch System Now in Volume Production
   · Micas' March xx.xx 2025 announcement reports order acceptance for a Bailly-based finished CPO switch and support for operating systems including SONiC. This is manufacturer-reported equipment access. ([micasnetworks.com](https://www.micasnetworks.com/company/news/xx.xx))
2. TRITON™ High-Volume Silicon Photonics Production Test Cell System
   · The marketed coordinated test cell supports a near-term verification-integration option without proving a customer's qualification outcome. ([formfactor.com](https://www.formfactor.com/product/probe-systems/high-volume-manufacturing/triton/))
3. Cisco Announces New Silicon One G300, Advanced Systems and Optics to Power and Scale AI Data Centers for the Agentic Era
   · Pluggable equipment provides an alternative for the near-term configuration decision without requiring the same host-package optical boundary. ([newsroom.cisco.com](https://newsroom.cisco.com/c/r/newsroom/en/us/a/y2026/m02/cisco-announces-new-silicon-one-g300.html))
4. Data centre electricity use surged in 2025, even with tightening bottlenecks driving a scramble for solutions
   · Infrastructure constraints establish a separate installation gate for the 2026-2027 decision horizon. ([iea.org](https://www.iea.org/news/data-centre-electricity-use-surged-in-2025-even-with-tightening-bottlenecks-driving-a-scramble-for-solutions))
5. External Laser Small Form Factor Pluggable Implementation Agreement - OIF-ELSFP-02.0
   · The agreement supplies a defined source-maintenance boundary that can be specified in near-term equipment acceptance. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-ELSFP-xx.xx.pdf))

4.7.2. Medium-Term Market Outlook (3-5 Years)

For 2028-2029, the strategic issue is whether accepted integration combinations can be reused across host programs without reopening an excessive development task. ■■■■■■■■■■■■■■■ ■■■■■ ■■■ ■■■ ■■■■■■■■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■ A calendar milestone is not sufficient grounds to assume transferable qualification.

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Sources & Evidence

1. GlobalFoundries accelerates adoption of co-packaged optics for advanced AI data centers with SCALE optical module solution
   · SCALE provides a concrete reusable platform engagement; whether reuse survives host and package changes remains a configuration-specific question. ([gf.com](https://gf.com/news-and-events/news/globalfoundries-accelerates-adoption-of-co-packaged-optics-for-advanced-ai-data-centers-with-scale-optical-module-solution/))

2. Lightmatter and GUC Partner to Produce Co-Packaged Optics (CPO) Solutions for AI Hyperscalers
   · The partnership provides a specific integration route whose applicability depends on host fit and acceptance, supporting conditional reuse in the 2028-2029 outlook. ([guc-asic.com](https://www.guc-asic.com/en/news/PressRelease/PR_ENG_20260128))
3. Industry Leaders Formally Launch CPO System Architecture Initiative Within the Open Compute Project
   · Lightmatter's August xx.xx 2026 announcement establishes an OCP workstream and published architectural vision for subsequent shared development. It does not establish interchangeable released engines. ([lightmatter.co](https://lightmatter.co/press-release/industry-leaders-formally-launch-cpo-system-architecture-initiative-within-the-open-compute-project/))
4. Coherent Launches PhotonLink Integrated Optics Platform for AI Infrastructure
   · Coherent's September xx.xx 2026 PhotonLink launch combines photonic constituents with assembly and test for customer architectures across CPO and adjacent formats. It establishes a bundling proposition, not buyer-specific acceptance. ([ir.coherent.com](https://ir.coherent.com/news-releases/news-release-details/coherent-launches-photonlinktm-integrated-optics-platform-ai))
5. CMIS Interoperability Demo - OFC 2025
   · OIF's CMIS material separates application-specific management supplements and their interaction with hardware specifications. Management coordination is distinct from qualification of a complete host-engine configuration. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF_Demo_OFC_CMIS_2025_final.pdf))

4.7.3. Long-Term Market Outlook (5-10 Years)

[redacted] Developers should retain interface documentation, design rights, and responsibility for qualification changes while evaluating an alternative only against a consequential unmet requirement. Manufacturing access strengthens an option, but does not make it a transferable replacement for an accepted package.

Application extension is a separate long-term question. Memory and I/O disaggregation must demonstrate useful resource access for the workload, while carrier implementations must satisfy their actual environment, network function, and maintenance model. [redacted]

Sources & Evidence

1. HyperLight, UMC, and Wavetek Announce Strategic Partnership for High-Volume Foundry Production of TFLN Chiplet Platform
   · The HyperLight-UMC-Wavetek partnership supplies a TFLN architecture and foundry route covering CPO and adjacent applications. Constituent manufacturing readiness does not establish qualification of every host package. ([umc.com](https://www.umc.com/en/News/press_release/Content/corporate/xx.xx))

2. Efficient Intra-Rack Resource Disaggregation for HPC Using Co-Packaged DWDM Photonics
   · The IEEE Cluster 2023 research examines photonic resource disaggregation against workload bandwidth and latency requirements. Its evaluations do not establish operating results from a delivered customer system. ([arxiv.org](https://arxiv.org/abs/xx.xx))
3. Technology - Avicena
   · Avicena describes LightBundle as microLED arrays connected through multicore fiber bundles to silicon detectors. This changes endpoints and connectivity, not merely the photonic material. Supplier comparative claims are excluded. ([avicena.tech](https://avicena.tech/technology-2024-xx.xx/))
4. New features make co-packaged optics suitable for future radio networks
   · Ericsson's September 2024 account describes dedicated RAN development addressing the radio environment, existing fiber, and eye safety while recognizing pluggable operational flexibility. It is demonstration evidence, not a present product-release determination. ([ericsson.com](https://www.ericsson.com/en/blog/2024/xx.xx/new-features-make-co-packaged-optics-suitable-for-future-radio-networks))

4.8. Go-to-Market Strategy

[illegible] The entrant retains obligations for its contribution, interfaces, changes, and agreed delivery. Direct package-owner engagement is preferable when an accepted integration route already exists; another coordinator would otherwise add dependence without resolving a need.

Incumbent equipment suppliers should position a supported configuration and accountable restoration proposition, while developers offering custom integration should contract engineering and release milestones separately. Project-based service structures, illustrated by AIM Photonics, permit narrower engagements than a broad platform commitment. [illegible]

[illegible] Use direct manufacturer engagement for unresolved architecture questions and intermediation where local commercial access is the need. Cross-border expansion also requires transaction-specific assessment of hardware, software, and technology; distribution geography alone does not settle permissible access.

Sources & Evidence

1. Datacom / CPO - PHIX Photonics Assembly
   · PHIX's early co-design and integration services support a defined package-engagement route when the purchaser lacks those capabilities. ([phix.com](https://www.phix.com/markets/datacom-cpo/))
2. AIM Photonics Test, Assembly and Packaging Services
   · AIM Photonics offers packaging and testing for customer-provided chips and wafers, with hourly, project-based, and collaborative engagement structures. ([aimphotonics.com](https://www.aimphotonics.com/tap))
3. Amkor Technology, Inc. - 2025 Form 10-K
   · Amkor identifies CPO co-development and broader packaging practices requiring customer qualification and renewed approval after facility changes. These are not a universal CPO timetable. ([sec.gov](https://www.sec.gov/Archives/edgar/data/xx.xx/xx.xx/amkr-xx.xx.htm))
4. Micas Networks Inc. Signs First Distributor Agreement in Japan with SB C&S Corp. to Enter Japanese Market
   · The February xx.xx 2026 Micas-SB C&S agreement establishes Japanese distribution for a portfolio discussing CPO switches. It does not settle every model's availability or restoration entitlement. ([micasnetworks.com](https://www.micasnetworks.com/company/news/sbcs20260226))
5. Classify your item
   · BIS classification guidance distinguishes commodities, software, and technology and explains that EAR99 treatment does not remove every end-user, end-use, or destination restriction. No classification of a named CPO product is inferred. ([bis.gov](https://www.bis.gov/licensing/classify-your-item))
6. Lightmatter and GUC Partner to Produce Co-Packaged Optics (CPO) Solutions for AI Hyperscalers
   · GUC contributes ASIC and package coordination to the selected optical platform. Customer approval and contract allocation remain separate prerequisites. ([guc-asic.com](https://www.guc-asic.com/en/news/PressRelease/PR_ENG_20260128))

5. Market Insights

5.1. Consumer Insights & End-User Perspective

[redacted] Suppliers should identify separately who funds engineering, approves the host design, signs the purchasing commitment, and accepts the installed equipment. These roles may overlap, but requirements influence alone does not establish purchasing authority.

Public customer engagement illustrates that distinction. Microsoft and Facebook's March 2019 collaboration articulated operator-led requirements, whereas Marvell's January 2025 custom-XPU announcement offered an architecture for customer designs and reported evaluation activity. [redacted]

The appropriate buying trigger is a requirement that the proposed host configuration must satisfy, together with an acceptable integration and support arrangement. Developers should resolve approved alternatives before freezing interfaces; operators should establish the restoration owner before committing to equipment. [redacted]

Sources & Evidence

1. Marvell Announces Breakthrough Co-Packaged Optics Architecture for Custom AI Accelerators
   · Marvell's January xx.xx 2025 announcement makes its CPO architecture available for customers' next-generation custom-XPU designs and reports customer evaluation. This establishes a design-engagement milestone, not completed system acceptance.
   ([marvell.com](https://www.marvell.com/company/newsroom/marvell-co-packaged-optics-architecture-custom-ai-accelerators.html))
2. Microsoft and Facebook announce formation of the Co-Packaged Optics Collaboration under the Joint Development Foundation
   · Microsoft's March xx.xx 2019 announcement documents operator-led CPO requirements covering interfaces, management, reliability, and complete packaging proposals. Only the companies' collaboration facts are used.
   ([prnewswire.com](https://www.prnewswire.com/news-releases/microsoft-and-facebook-announce-formation-of-the-co-packaged-optics-collaboration-under-the-joint-development-foundation-xx.xx.html))

3. Amkor Technology, Inc. - 2025 Form 10-K
   · Amkor's 2025 Form xx.xx-K identifies CPO development and describes customer qualification requirements for its broader packaging-and-test services. The filing does not establish a CPO-specific qualification outcome. ([sec.gov](https://www.sec.gov/Archives/edgar/data/xx.xx/xx.xx/amkr-xx.xx.htm))

5.2. Consumer Experience Benchmarking

[illegible] These are meaningful architectural differences, but a detachable connector or replaceable laser does not establish individual-engine replacement rights. Operators should compare the authorized replacement unit, diagnostic access, spare-part obligations, and restoration ownership for the offered configuration.

[illegible] Buyers should therefore compare complete configurations serving the same workload and connectivity requirement, including illumination and cooling, rather than importing an isolated component advantage into a system conclusion. CPO is unsuitable for an operational preference alone when the alternative already satisfies the binding requirement.

Diagnostic usability is another acceptance dimension. [illegible] Equipment buyers should require configuration-specific descriptions of accessible telemetry and escalation responsibility, and distinguish supplier architectural claims from independently demonstrated operating performance.

Sources & Evidence

1. Implementation Agreement for a 3.2Tb/s Co-Packaged (CPO) Module - OIF-Co-Packaging-3.2T-Module-01.0
   · The OIF module agreement provides management and diagnostic requirements but makes some alarm behavior optional or vendor-specific. Buyers therefore need the implemented diagnostic profile, not a general management-interface claim. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-Co-Packaging-xx.xx.2T-Module-xx.xx.pdf))
2. External Laser Small Form Factor Pluggable Implementation Agreement - OIF-ELSFP-02.0
   · The January xx.xx 2025 ELSFP agreement defines a field-replaceable external laser-source form factor. Source replacement is distinct from replacement of the host's optical engines. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-ELSFP-xx.xx-xx.xx.pdf))

3. How Industry Collaboration Fosters NVIDIA Co-Packaged Optics
   · NVIDIA describes socket-based Quantum-X optical subassemblies supporting field maintainability, soldered Spectrum-X engines with detachable optical connectors, and field-replaceable external laser sources. These descriptions establish architectural differences, not individual-engine replacement entitlements. ([developer.nvidia.com](https://developer.nvidia.com/blog/how-industry-collaboration-fosters-nvidia-co-packaged-optics))
4. External vs. Integrated Light Sources for Intra-Data Center Co-Packaged Optical Interfaces
   · The peer-reviewed architectural study compares external and integrated illumination while accounting for optical losses, temperature-sensitive performance, and reliability. Its modeled comparisons are not operating results for commercial products. ([ee.stanford.edu](https://ee.stanford.edu/~jmk/pubs/ext.vs.integ.light.sources.jlt.xx.xx-xx.xx.pdf))
5. Cisco Announces New Silicon One G300, Advanced Systems and Optics to Power and Scale AI Data Centers for the Agentic Era
   · Cisco's February xx.xx 2026 announcement includes linear pluggable optics and supporting systems for AI networks, establishing a concrete adjacent architecture for comparison without adopting its numerical performance claims. ([newsroom.cisco.com](https://newsroom.cisco.com/c/r/newsroom/en/us/a/y2026/m02/cisco-announces-new-silicon-one-g300.html))

5.3. Opportunity Mapping

Supported scale-out networking equipment is a more accessible procurement route than sponsoring a new compute-package design for an operator that lacks chip-level integration authority. Micas' reported order acceptance establishes a concrete equipment path. ■■■ ■■■■■■■■ ■■■■■ ■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■ ■■■■ ■■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■ ■■ ■■■■ ■■■■■■■■■■ ■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■ ■■ ■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■■■■■■■■■■ ■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■ ■■■■■■ ■■ ■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■ ■ ■■■■■■■■■■■■■ ■ ■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■ ■■■■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■ ■■■■■■■■■ ■■■■■■■■■ ■■■■ ■■■ ■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■ ■ ■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■

Component and service entrants have a different access problem: their contribution must fit a customer-approved architecture. PHIX packaging services and AIM Photonics' U.S. customer-device services provide ways to obtain complementary capabilities without owning them all. ■■■ ■■■■■■ ■■■■■■ ■■ ■ ■■■■■■ ■■■■■■■■■ ■■ ■■■■■■■■■■■■ ■■■■ ■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■■■■■ ■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■ ■■■■■■ ■■ ■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■ ■ ■■■■■■■■■■■■■ ■ ■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■ ■■■■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■ ■■■■■■■■■ ■■■■■■■■■ ■■■■ ■■■ ■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■ ■ ■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■

External illumination offers a narrower participation route when source maintenance or thermal separation is the binding requirement. The accessible purchaser is the engine or equipment developer accepting the complete illumination path; operator preference can influence that choice without authorizing constituent procurement. ■■■■■■■■■■■■■ ■■■ ■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■ ■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■ ■■■■■■■■ ■■■■ ■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■

[redacted] Delegating package coordination can reduce retained engineering duties but ties the sponsor to the selected platform. Direct constituent sourcing remains preferable when the sponsor already controls an accepted integration arrangement.

Memory and I/O disaggregation and telecommunications require separate commercial verification. [redacted] Geographic service access and category inclusion do not remove these gates, and the independent segmentation lenses do not create additive opportunity pools.

Sources & Evidence

1. Micas Networks Announces Industry's First 51.2T Co-Packaged Optics Network Switch System Now in Volume Production
   · The finished-switch offering supports an equipment route for operators that do not intend to coordinate embedded optical constituents themselves. Customer-specific suitability remains separate. ([micasnetworks.com](https://www.micasnetworks.com/company/news/xx.xx))
2. Marvell Announces Breakthrough Co-Packaged Optics Architecture for Custom AI Accelerators
   · Customer-specific compute-package integration creates a different commitment from selecting a predefined optical building block. ([marvell.com](https://www.marvell.com/company/newsroom/marvell-co-packaged-optics-architecture-custom-ai-accelerators.html))
3. Datacom / CPO - PHIX Photonics Assembly
   · Specialized packaging access can complement customer-owned devices while leaving host approval and broader acceptance responsibilities to be allocated. ([phix.com](https://www.phix.com/markets/datacom-cpo/))
4. AIM Photonics Test, Assembly and Packaging Services
   · Its U.S. specialist-service access supports a narrower commitment than owning every enabling capability, while leaving the customer's full integration obligations separate. ([aimphotonics.com](https://www.aimphotonics.com/tap))
5. TRITON™ High-Volume Silicon Photonics Production Test Cell System
   · TRITON's combined wafer-test scope provides a defined enabling-equipment route; complete acceptance and support responsibilities require separate agreement. ([formfactor.com](https://www.formfactor.com/product/probe-systems/high-volume-manufacturing/triton/))

6. Photon 100
   · The platform's declared multi-stage coverage supports assessing verification gaps and accountability rather than treating an instrument purchase as customer qualification. ([teradyne.com](https://www.teradyne.com/products/photon-xx.xx/))
7. Cisco Announces New Silicon One G300, Advanced Systems and Optics to Power and Scale AI Data Centers for the Agentic Era
   · Cisco's own announced architecture supports examining whether a pluggable alternative already satisfies the buyer's need. No comparative performance figures are adopted. ([newsroom.cisco.com](https://newsroom.cisco.com/c/r/newsroom/en/us/a/y2026/m02/cisco-announces-new-silicon-one-g300.html))
8. Efficient Intra-Rack Resource Disaggregation for HPC Using Co-Packaged DWDM Photonics
   · The research supports a resource-specific acceptance question rather than assuming that an optical link establishes commercially useful memory or I/O access. ([arxiv.org](https://arxiv.org/abs/xx.xx))
9. Lightmatter and GUC Partner to Produce Co-Packaged Optics (CPO) Solutions for AI Hyperscalers
   · The named collaboration supports evaluating coordinated custom-host development rather than inferring access from generic ecosystem participation. ([guc-asic.com](https://www.guc-asic.com/en/news/PressRelease/PR_ENG_20260128))
10. New features make co-packaged optics suitable for future radio networks
    · The RAN-specific development case supports separate carrier acceptance requirements instead of transferring data-center switching readiness. ([ericsson.com](https://www.ericsson.com/en/blog/2024/xx.xx/new-features-make-co-packaged-optics-suitable-for-future-radio-networks))
11. Coherent Launches PhotonLink Integrated Optics Platform for AI Infrastructure
    · The integrated optical-assembly proposition provides a competitive alternative to separately purchased components and services. Its effect on an entrant's access is conditional on the customer's retained integration scope. ([ir.coherent.com](https://ir.coherent.com/news-releases/news-release-details/coherent-launches-photonlinktm-integrated-optics-platform-ai))
12. External Laser Small Form Factor Pluggable Implementation Agreement - OIF-ELSFP-02.0
    · A separately supplied source can address illumination maintenance, subject to accepted optical, mechanical, and management compatibility. A form-factor label alone does not establish the entire system's support rights. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-ELSFP-xx.xx.pdf))

5.4. Distribution Channel Analysis

[illegible] These routes suit design owners purchasing integration access or specialized services; they are not interchangeable with acquiring supported equipment. Direct engagement preserves access to architectural decisions but leaves the customer responsible for coordinating obligations not included in the supplier's deliverable.

[illegible] Buyers should verify the authorized configuration, supplying entity, operating-software support, installation responsibilities, and maintenance

entitlement through that channel. A local sales network does not itself qualify an optical engine or authorize changes to the host package.

Channel selection should follow the service requirement. [illegible] A direct route remains preferable when unresolved architecture questions require manufacturer authority rather than local commercial coverage.

Sources & Evidence

1. AIM Photonics Test, Assembly and Packaging Services
   · AIM Photonics offers assembly, packaging, and testing for customer-provided chips and wafers, establishing direct service procurement distinct from finished-equipment resale. ([aimphotonics.com](https://www.aimphotonics.com/tap))
2. Passage M1000 EVK - 3D Photonic Interconnect for AI Infrastructure
   · Lightmatter's Passage M1000 evaluation-platform page directs prospective customers to its sales team for integration discussions, documenting a direct manufacturer-engagement route. ([lightmatter.co](https://lightmatter.co/products/passage-m1000-evk/))
3. Micas Networks Inc. Signs First Distributor Agreement in Japan with SB C&S Corp. to Enter Japanese Market
   · The February xx.xx 2026 announcement establishes Micas Networks' distributor agreement with SB C&S in Japan and describes a portfolio including CPO-enabled switches. It establishes a channel arrangement, not completed purchases of every discussed configuration. ([micasnetworks.com](https://www.micasnetworks.com/company/news/sbcs20260226))

5.5. Pricing Trend Analysis

[illegible] These broader practices support distinguishing development funding from recurring hardware supply, but do not establish identical terms for every CPO program. Buyers should specify design deliverables, acceptance milestones, reuse rights, and responsibility for customer-requested changes before committing engineering funds.

[illegible] Buyers obtain greater budget predictability through fixed-scope commitments, while more flexible engineering

arrangements leave them exposed to additional work. Neither arrangement is preferable when acceptance criteria remain ambiguous.

[illegible] CPO buyers should compare whether illumination, optical attachment, integration support, qualification, and maintenance obligations are included or separately contracted. Suppliers should not exchange engineering or warranty commitments for a discount without defining the associated scope; procurement savings can otherwise shift unresolved integration obligations back to the buyer.

Sources & Evidence

1. AIM Photonics Test, Assembly and Packaging Services
   · AIM Photonics offers hourly, project-based, and collaborative service arrangements. This supports alternative contractual forms for specialized photonics services without establishing universal CPO terms. ([aimphotonics.com](https://www.aimphotonics.com/tap))
2. Amkor Technology, Inc. - 2025 Form 10-K
   · Amkor states that contracts and market conditions can limit recovery of input-cost increases. Its packaging-and-test business also faces fixed-cost, equipment-utilization, and warranty exposure; these are commercial proxies rather than CPO-specific margin results. ([sec.gov](https://www.sec.gov/Archives/edgar/data/xx.xx/xx.xx/amkr-xx.xx.htm))
3. Marvell Technology, Inc. - 2026 Proxy Statement and Annual Report
   · Marvell identifies CPO within its custom-semiconductor platform, discloses risks in recovering nonrecurring engineering costs, and describes distributor agreements involving discounts, rebates, price protection, and stock rotation. These are company-level commercial practices, not established terms for every CPO contract. ([sec.gov](https://www.sec.gov/Archives/edgar/data/xx.xx/xx.xx/tm261486d6_ars.pdf))

5.6. Regulatory Compliance & Standards Framework

CPO market access requires separate assessment of product safety, material restrictions, cross-border controls, and contractual interface requirements. [illegible] Equipment and source suppliers should identify the responsible manufacturer and applicable product treatment before a delivery commitment.

[illegible] A new photonic material, package construction, or supplier declaration should not be treated as automatic permission to place finished equipment on the market. Material changes can consequently affect qualification and sourcing decisions.

U.S. export requirements depend on jurisdiction, classification, destination, end user, and end use rather than the CPO label. ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ Suppliers and channel partners should verify the particular engine, assembly, source, software, or technology transfer before promising cross-border delivery; commercial routing through a distributor does not settle legal access.

OIF's March xx.xx 2023 CPO module agreement and January xx.xx 2025 ELSFP agreement are industry specifications, not statutory approvals. ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ Design owners should assess implementation rights separately from interface conformity, avoiding commitments based solely on standards participation.

Facility-level sustainability rules create a different obligation from product conformity. EU/2024/xx.xx supports existing data-center energy-performance reporting. ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪ ▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪

Sources & Evidence

1. Implementation Agreement for a 3.2Tb/s Co-Packaged (CPO) Module - OIF-Co-Packaging-3.2T-Module-01.0
   · The agreement was published on March xx.xx 2023 and covers electrical, mechanical, and management interfaces. Its nonbinding and patent notices distinguish public specifications from legal clearance or guaranteed interchangeability. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-Co-Packaging-xx.xx.2T-Module-xx.xx.pdf))
2. External Laser Small Form Factor Pluggable Implementation Agreement - OIF-ELSFP-02.0
   · OIF identifies the ELSFP agreement as nonbinding on its members and warns that implementation may involve third-party patent rights. Its safety-oriented interface objectives do not constitute regulatory approval. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-ELSFP-xx.xx-xx.xx.pdf))
3. Getting a Radiation Emitting Product to Market: Frequently Asked Questions
   · FDA explains that applicable electronic-radiation-product certification is the manufacturer's responsibility and that an acknowledgement or accession number does not constitute product approval. Reporting obligations depend on the product and applicable rules. ([fda.gov](https://www.fda.gov/radiation-emitting-products/electronic-product-radiation-control-program/getting-radiation-emitting-product-market-frequently-asked-questions))
4. Laser Products - Conformance with IEC 60825-1 Ed. 3 and IEC 60601-2-22 Ed. 3.1 (Laser Notice No. 56)
   · FDA's February 2023 Laser Notice No. xx.xx describes enforcement discretion for identified IEC laser-safety provisions comparable to specified U.S. performance requirements. It is guidance, not blanket recognition of all IEC provisions. ([fda.gov](https://www.fda.gov/regulatory-information/search-fda-guidance-documents/laser-products-conformance-iec-xx.xx-xx.xx-ed-xx.xx-and-iec-xx.xx-xx.xx-xx.xx-ed-xx.xx-laser-notice-no-xx.xx))

5. Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS)
   · The European Commission describes RoHS restrictions for electrical and electronic equipment unless specifically excluded, identifies the directive's July xx.xx 2011 entry into force, and lists amendments and exemptions. Configuration-specific material and exemption verification is a commercial recommendation. ([environment.ec.europa.eu](https://environment.ec.europa.eu/topics/waste-and-recycling/rohs-directive_en?prefLang=fr))
6. Classify your item
   · BIS requires identification of the classification of commodities, software, and technology subject to the EAR. EAR99 does not eliminate potential licensing requirements arising from restricted destinations, end users, or end uses. ([bis.gov](https://www.bis.gov/licensing/classify-your-item))
7. Guidance on reexports, exports from abroad, and transfers (in-country) of U.S.-origin items or foreign-made items subject to the EAR
   · BIS explains that exports, reexports, and in-country transfers of items subject to the EAR require assessment of classification, destination, end user, and end use. Subsequent resale does not automatically remove applicable restrictions. ([bis.gov](https://www.bis.gov/learn-support/guidance-reexports-exports-abroad-transfers-country-u.s.-origin-items-or-foreign-made-items-subject-ear))
8. Energy performance of data centres
   · The European Commission identifies existing data-center energy-performance reporting under EU/2024/xx.xx. It separately describes the September xx.xx 2026 consultation on prospective minimum performance standards, with a legislative proposal planned for 2027; consultation is not an adopted minimum-performance requirement. ([energy.ec.europa.eu](https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficiency-targets-directive-and-rules/energy-efficiency-directive/energy-performance-data-centres_en))

5.7. ESG & Sustainability Analysis

CPO's sustainability proposition must connect equipment efficiency to the deployment's actual environmental boundary. ■■■■■■■■ ■■■■■■■■ ■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■ ■■■ ■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■■ ■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■■■■■ ■■■■■■■■■ ■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■ ■■■■■■ ■ ■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ Suppliers should keep architectural efficiency claims separate from broader carbon claims.

Repairability introduces a lifecycle trade-off alongside operating energy. PHIX describes CPO serviceability work using detachable fiber interfaces and highlights the risk of discarding larger subsystems when constituent faults cannot be repaired. ■■■■■■ ■■■■■■ ■■■■■■■ ■■■ ■■■■■■ ■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■■ ■ ■■■■■■ ■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■ ■ ■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■ ■■■■ ■■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■ ■■■■ ■■■ ■■■■■■■■■ ■■■■ ■■■■■ ■■■■■■■ ■■■■■ ■■■ ■■ ■■■■■■■■ ■■■■■■■■■■■■■■ ■■ ■■■ ■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■ ■■■ ■■■ ■■■■■■■■■■■■■■ ■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■

Social and governance requirements can reach CPO suppliers through packaging relationships. ■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■ ■■■■■■■■■ ■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■ ■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■ ■■■■■

RESEARCH SAMPLE REPORT

[redacted] Policy acknowledgment alone should not be treated as verified facility compliance.

Sources & Evidence

1. Datacom / CPO - PHIX Photonics Assembly
   · PHIX describes its CPO serviceability work through detachable fiber interfaces and identifies the risk of discarding larger subsystems when constituent faults cannot be isolated or repaired. No quantified environmental benefit or universal replacement policy is established. ([phix.com](https://www.phix.com/markets/datacom-cpo/))
2. External vs. Integrated Light Sources for Intra-Data Center Co-Packaged Optical Interfaces
   · The study establishes that illumination and the thermal environment affect CPO performance and reliability, supporting a complete-system rather than optical-engine-only sustainability boundary. ([ee.stanford.edu](https://ee.stanford.edu/~jmk/pubs/ext.vs.integ.light.sources.jlt.xx.xx-xx.xx.pdf))
3. Energy supply for AI - Energy and AI
   · The IEA distinguishes the electricity physically consumed at data centers from operators' contractual energy mix. This supports keeping equipment-efficiency evidence separate from site-specific emissions interpretation. ([iea.org](https://www.iea.org/reports/energy-and-ai/energy-supply-for-ai))
4. Amkor Technology, Inc. - Conflict Minerals Report for the Year Ended December 31, 2025
   · Amkor's Conflict Minerals Report for 2025 documents direct-supplier due-diligence requirements, supplier surveys, review of responses, risk-management plans, and coordination among procurement, legal, and sustainability functions. These are company-level practices, not CPO-specific audit outcomes. ([sec.gov](https://www.sec.gov/Archives/edgar/data/xx.xx/xx.xx/amkrsdmay2026exhibit101.htm))
5. RBA Commitment - Amkor Technology
   · Amkor's RBA commitment addresses labor and wages, health and safety, environmental compliance, and ethics, and requires critical-component suppliers to acknowledge and implement the code. Policy commitment is not proof of compliance at every supplying facility. ([amkor.com](https://amkor.com/corporate-responsibility/rba/))

5.8. Disruption & Risk Scenarios

An architecture-substitution scenario begins if a supported electrical or pluggable alternative satisfies the requirement that originally justified CPO. Cisco's linear-pluggable route establishes a credible alternative architecture, not proof that substitution has occurred. [redacted]

A restoration scenario begins if an optical fault cannot be resolved through the replacement unit anticipated in the commercial case. [redacted] Contracted diagnostics access, compatible spares responsibility, and a named

restoration owner mitigate exposure; a supported alternative is preferable when the remaining boundary is unacceptable.

An installation or access scenario begins if site approvals slip or transaction-specific export requirements prevent the intended delivery. The IEA identifies infrastructure bottlenecks, while BIS guidance establishes product-, destination-, end-user-, and end-use-dependent assessment. [illegible]

Sources & Evidence

1. How Industry Collaboration Fosters NVIDIA Co-Packaged Optics
   · NVIDIA distinguishes field-maintainable socketed Quantum-X subassemblies, soldered Spectrum-X engines with detachable optical connectivity, and field-replaceable external sources. These are different replacement boundaries.
   ([developer.nvidia.com](https://developer.nvidia.com/blog/how-industry-collaboration-fosters-nvidia-co-packaged-optics))
2. Cisco Announces New Silicon One G300, Advanced Systems and Optics to Power and Scale AI Data Centers for the Agentic Era
   · An alternative meeting the same requirement could weaken the rationale for additional CPO engineering. That substitution effect is a conditional scenario, not an observed purchasing outcome.
   ([newsroom.cisco.com](https://newsroom.cisco.com/c/r/newsroom/en/us/a/y2026/m02/cisco-announces-new-silicon-one-g300.html))
3. Data centre electricity use surged in 2025, even with tightening bottlenecks driving a scramble for solutions
   · A hypothetical customer delay can transmit infrastructure bottlenecks into equipment delivery and dedicated supplier commitments even if optical qualification progresses.
   ([iea.org](https://www.iea.org/news/data-centre-electricity-use-surged-in-2025-even-with-tightening-bottlenecks-driving-a-scramble-for-solutions))
4. Amkor Technology, Inc. - 2025 Form 10-K
   · The filing describes packaging defects, acceptance risk, and facility qualification requirements. These support contract-specific quality and transfer exposure, not a named CPO failure event.
   ([sec.gov](https://www.sec.gov/Archives/edgar/data/xx.xx/xx.xx/amkr-xx.xx.htm))
5. Classify your item
   · Transaction-specific export requirements can affect an intended delivery route. A future restriction or authorization delay is a scenario condition, not an asserted new CPO prohibition.
   ([bis.gov](https://www.bis.gov/licensing/classify-your-item))

5.9. Return on Investment & Cost-Benefit Analysis

For an infrastructure operator, the investment case is whether the accepted CPO configuration improves useful connectivity within the installation's power and operating constraints after integration and restoration obligations are included. Potential benefits arise from reduced electrical-path burden and an architecture that supports the required topology. [illegible]

[redacted]

Maintenance can reverse an apparently favorable case. Independent source replacement can preserve other hardware during an illumination fault, whereas a nonreplaceable engine can expose a larger assembly. [redacted]

For a component or service supplier, investment should follow the funded incorporation task rather than broad end-market interest. Amkor's wider packaging disclosures establish fixed-cost, cancellation, and qualification exposure; these are relevant mechanisms, not CPO-specific returns. [redacted]

Sources & Evidence

1. How Industry Collaboration Fosters NVIDIA Co-Packaged Optics
   · The documented maintenance differences support configuration-specific replacement-exposure analysis rather than universal CPO unserviceability or independent-engine repair rights. ([developer.nvidia.com](https://developer.nvidia.com/blog/how-industry-collaboration-fosters-nvidia-co-packaged-optics))
2. Datacom / CPO - PHIX Photonics Assembly
   · PHIX identifies serviceability exposure in non-detachable assemblies. Avoiding larger replacement exposure depends on the actual supported repair arrangement. ([phix.com](https://www.phix.com/markets/datacom-cpo/))
3. AIM Photonics Test, Assembly and Packaging Services
   · Separately contracted services provide an alternative to immediate infrastructure ownership. The investment implication depends on the actual service scope and retained capabilities. ([aimphotonics.com](https://www.aimphotonics.com/tap))
4. External vs. Integrated Light Sources for Intra-Data Center Co-Packaged Optical Interfaces
   · Complete illumination, cooling, and optical-path effects must be considered when assessing an interconnect benefit. Modeled reliability results do not establish a product-specific financial return. ([ee.stanford.edu](https://ee.stanford.edu/~jmk/pubs/ext.vs.integ.light.sources.jlt.xx.xx-xx.xx.pdf))
5. Amkor Technology, Inc. - 2025 Form 10-K
   · Amkor's broader packaging business faces fixed-cost commitments, customer cancellations or delays, and qualification obligations. Applying these mechanisms to dedicated CPO investment is conditional. ([sec.gov](https://www.sec.gov/Archives/edgar/data/xx.xx/xx.xx/amkr-xx.xx.htm))

6. Engineering Solutions | Jabil

- Jabil's broader engineering offering includes prototyping, new-product introduction, and sustaining engineering connected with manufacturing. Applicability to a particular CPO engagement must be contracted. ([jabil.com](https://www.jabil.com/solutions/engineering.html))

6. Cumulative Impact of Artificial Intelligence 2026

AI changes the CPO buying question through the communication requirements of the intended workload, not through an AI label alone. ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ A workload or system-design change that relieves that requirement weakens the original CPO rationale even if the installation continues to serve AI applications.

AI-enabled engineering is also becoming a marketed capability within the CPO toolchain. ▪▪▪ ▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ Design owners can evaluate such tools where existing models, interface authority, and engineering acceptance remain compatible, while checking whether suggested design choices survive the program's established review.

Supply-chain qualification applications remain at differing commercial stages. Lightium, MPI, and Axiomatic_AI announced an August xx.xx 2025 memorandum of understanding to develop AI-assisted photonic-device qualification software. ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪ ▪▪ ▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪

Implementation depends on access rights to proprietary design and qualification information, traceable model changes, compatible software integration, and accountable engineering oversight. NIST's voluntary AI risk-management framework provides a useful governance reference but is not product certification. ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪

Sources & Evidence

1. Marvell Announces Breakthrough Co-Packaged Optics Architecture for Custom AI Accelerators
   - Marvell describes package-integrated optical connectivity for custom AI accelerators and scale-up connections. Workload-dependent purchasing implications are analytical inferences; commercial-analyst forecasts embedded in the announcement are excluded. ([marvell.com](https://www.marvell.com/company/newsroom/marvell-co-packaged-optics-architecture-custom-ai-accelerators.html))

2. Cisco Announces New Silicon One G300, Advanced Systems and Optics to Power and Scale AI Data Centers for the Agentic Era

   · Cisco markets an alternative pluggable architecture for AI infrastructure. This counters treating AI participation alone as sufficient justification for package-integrated optics. ([newsroom.cisco.com](https://newsroom.cisco.com/c/r/newsroom/en/us/a/y2026/m02/cisco-announces-new-silicon-one-g300.html))

3. Ansys Co-packaged Optics Multiphysics Platform

   · The Ansys CPO platform markets electronic-photonic and multiphysics design capabilities, APIs, automation, AI optimization, and AI-enabled multi-die analysis. This establishes marketed capabilities, not independently measured CPO qualification or productivity outcomes. ([ansys.synopsys.com](https://ansys.synopsys.com/applications/co-packaged-optics-solutions))

4. Lightium, MPI Corporation, and Axiomatic_AI Announce Strategic Partnership to Revolutionize Photonic Integrated Circuit Device Testing with AI-Driven Solutions

   · Lightium, MPI, and Axiomatic_AI announced an August xx.xx 2025 memorandum of understanding to jointly develop AI-assisted photonic-device qualification software, planned as an add-on for MPI systems. The announcement establishes development intent, not a verified CPO production implementation. ([lightium.com](https://lightium.com/ai-driven-test-platform-for-photonic-chips-by-lightium-mpi-axiomatic/))

5. Artificial Intelligence Risk Management Framework (AI RMF 1.0)

   · NIST's AI RMF xx.xx is voluntary and addresses contextual validity, human oversight, practitioner proficiency, third-party risks, proprietary information, and data provenance. Applying these principles to CPO engineering procurement is an analytical recommendation, not mandatory certification. ([nvlpubs.nist.gov](https://nvlpubs.nist.gov/nistpubs/ai/NIST.AI.xx.xx-xx.xx.pdf))

7. Co-Packaged Optics Market, by Offering

[illegible] Optical Light Sources perform a different function: external illumination can be supplied separately, including through a faceplate-pluggable source, without becoming a front-panel data transceiver. Procurement comparisons should therefore identify the actual deliverable rather than treat an engine, illumination module, and integrated assembly as equivalent products.

Dedicated Enabling Components create narrower sourcing choices within that assembly. [illegible] A packaging partner can contribute optical attachment and electronic-photonic integration, but cannot independently grant the customer's host-design approval.

Specialized CPO Services offer a different way to assemble the required capabilities. [illegible] Embedded components and subcontracted services remain contributions to the delivered assembly, not automatically additive commercial outcomes.

Figure 7. Global Co-Packaged Optics Market, by Offering: Market share evolution, 2025-2032

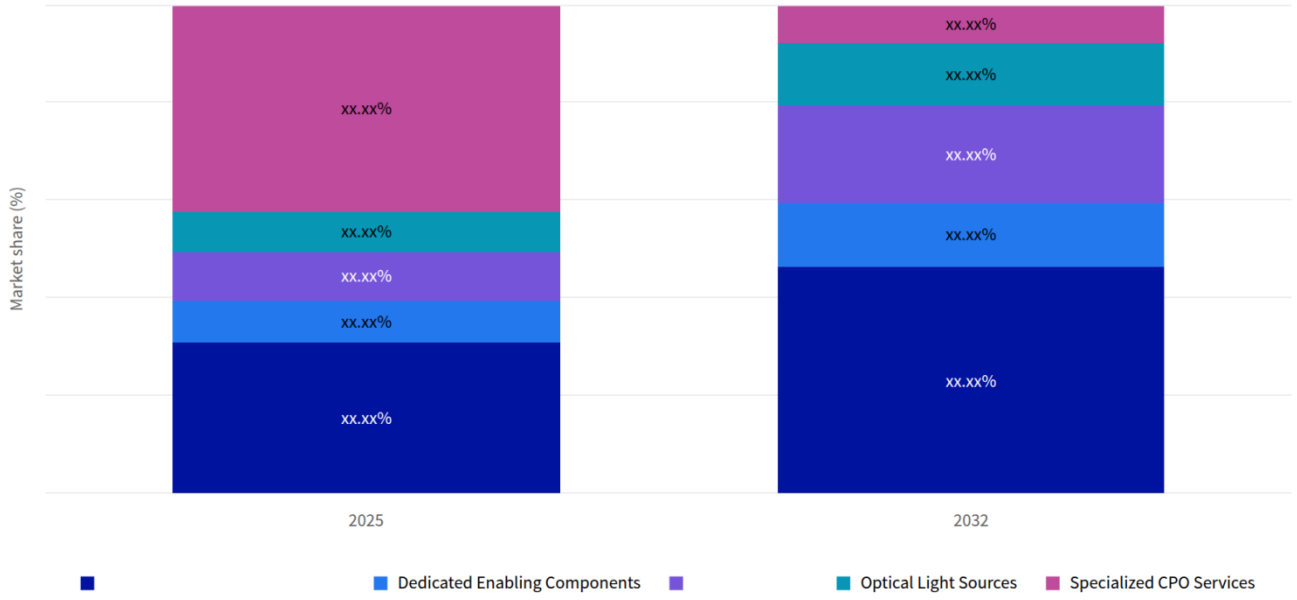


Figure 8. Global Co-Packaged Optics Market, by Offering: Market size by category, 2025

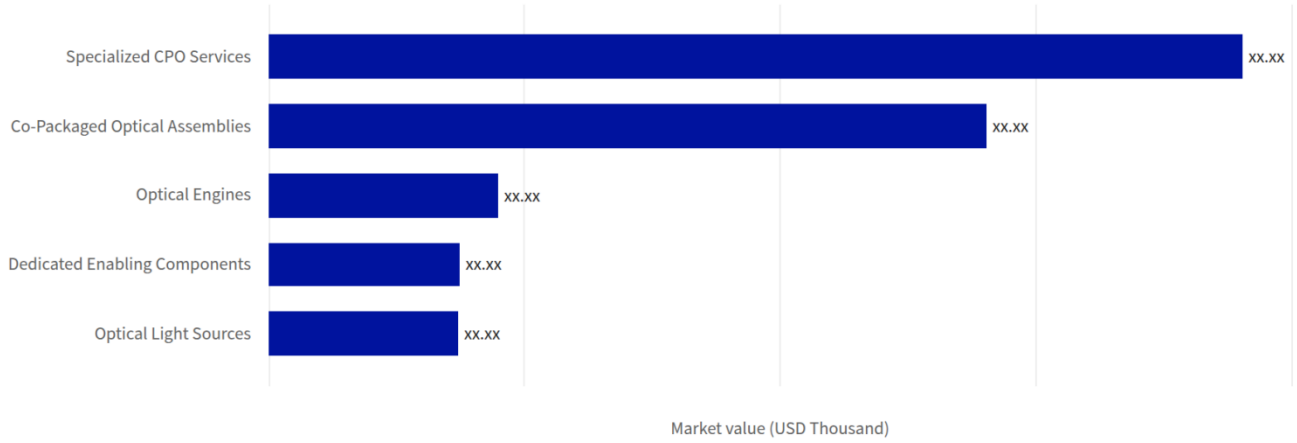


Figure 9. Global Co-Packaged Optics Market, by Offering: Market size and growth, 2025-2032

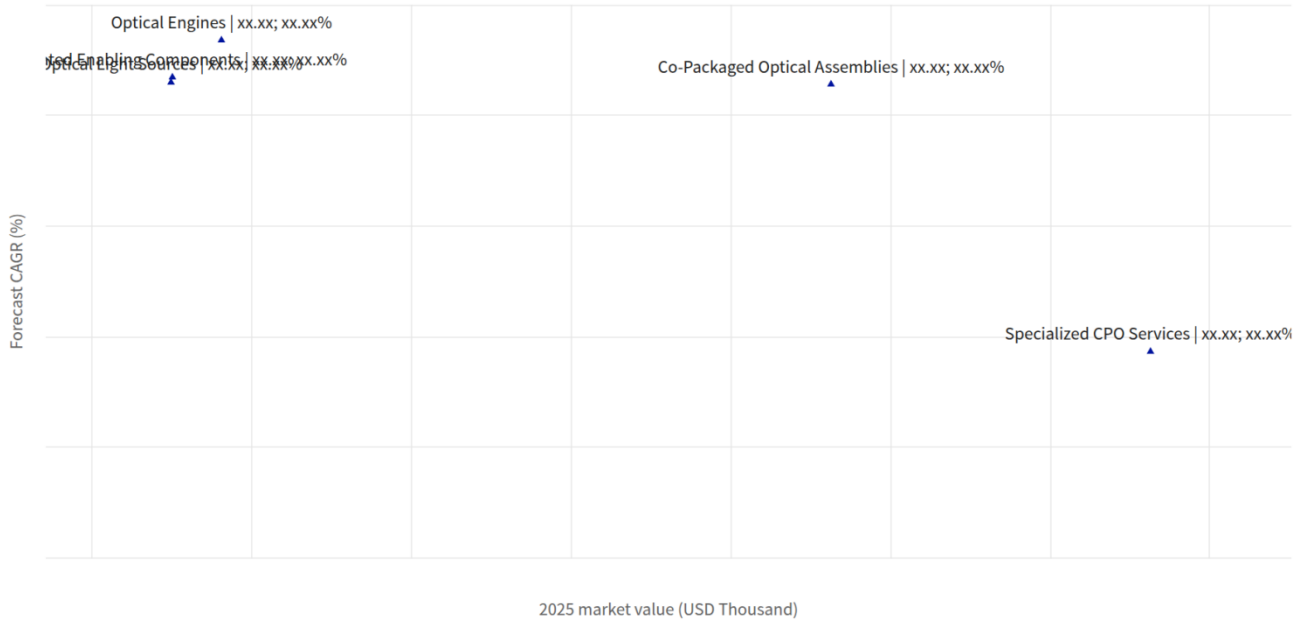


Table 4. Global Co-Packaged Optics Market, by Offering growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 5. Global Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Implementation Agreement for a 3.2Tb/s Co-Packaged (CPO) Module - OIF-Co-Packaging-3.2T-Module-01.0
   · Defines the optical module as a building block supplying optical I/O to a larger switch assembly.
2. External Laser Small Form Factor Pluggable Implementation Agreement - OIF-ELSFP-02.0
   · Defines a faceplate-pluggable external laser source supplying illumination to CPO engines rather than the data-transceiver function.
3. Datacom / CPO - PHIX Photonics Assembly
   · Offers CPO co-design, optical attachment, electronic-photonic integration, source assembly, and manufacturing support.
4. AIM Photonics Test, Assembly and Packaging Services
   · Offers assembly, packaging, interposer integration, and optoelectronic testing for customer-provided chips and wafers, supporting separately contracted service roles.
5. Technology Focus - AIM Photonics
   · Identifies foundry brokerage and operations, design enablement, laser integration, interposer integration, and testing as distinct capabilities.
6. Co-packaged optics (CPO): status, challenges, and solutions
   · Separately discusses photonic devices, electronic interfaces, optical attachment, and packaging as CPO constituent functions.

7.1. Specialized CPO Services

Table 6. Global Co-Packaged Optics Market, by Specialized CPO Services growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 7. Global Co-Packaged Optics Market Size, by Specialized CPO Services, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 8. Global Co-Packaged Optics Market Size, by Specialized CPO Services, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 9. Global Co-Packaged Optics Market Size, by Specialized CPO Services, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

7.1.1. Design and Integration Engineering

Table 10. Global Co-Packaged Optics Market Size, by Design and Integration Engineering, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 11. Global Co-Packaged Optics Market Size, by Design and Integration Engineering, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 12. Global Co-Packaged Optics Market Size, by Design and Integration Engineering, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

7.1.2. Packaging and Optical Assembly Services

Table 13. Global Co-Packaged Optics Market Size, by Packaging and Optical Assembly Services, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 14. Global Co-Packaged Optics Market Size, by Packaging and Optical Assembly Services, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 15. Global Co-Packaged Optics Market Size, by Packaging and Optical Assembly Services, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

7.1.3. Semiconductor Foundry Services

Table 16. Global Co-Packaged Optics Market Size, by Semiconductor Foundry Services, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 17. Global Co-Packaged Optics Market Size, by Semiconductor Foundry Services, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 18. Global Co-Packaged Optics Market Size, by Semiconductor Foundry Services, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

7.1.4. Qualification and Test Services

Table 19. Global Co-Packaged Optics Market Size, by Qualification and Test Services, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 20. Global Co-Packaged Optics Market Size, by Qualification and Test Services, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 21. Global Co-Packaged Optics Market Size, by Qualification and Test Services, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

7.2. Co-Packaged Optical Assemblies

Table 22. Global Co-Packaged Optics Market Size, by Co-Packaged Optical Assemblies, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 23. Global Co-Packaged Optics Market Size, by Co-Packaged Optical Assemblies, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 24. Global Co-Packaged Optics Market Size, by Co-Packaged Optical Assemblies, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

7.3. Optical Engines

Table 25. Global Co-Packaged Optics Market Size, by Optical Engines, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 26. Global Co-Packaged Optics Market Size, by Optical Engines, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 27. Global Co-Packaged Optics Market Size, by Optical Engines, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

7.4. Dedicated Enabling Components

Table 28. Global Co-Packaged Optics Market, by Dedicated Enabling Components growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 29. Global Co-Packaged Optics Market Size, by Dedicated Enabling Components, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 30. Global Co-Packaged Optics Market Size, by Dedicated Enabling Components, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 31. Global Co-Packaged Optics Market Size, by Dedicated Enabling Components, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

7.4.1. Optical Coupling and Connectivity Components

Table 32. Global Co-Packaged Optics Market Size, by Optical Coupling and Connectivity Components, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 33. Global Co-Packaged Optics Market Size, by Optical Coupling and Connectivity Components, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 34. Global Co-Packaged Optics Market Size, by Optical Coupling and Connectivity Components, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

7.4.2. Electronic Interface and Control ICs

Table 35. Global Co-Packaged Optics Market Size, by Electronic Interface and Control ICs, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 36. Global Co-Packaged Optics Market Size, by Electronic Interface and Control ICs, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 37. Global Co-Packaged Optics Market Size, by Electronic Interface and Control ICs, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

7.4.3. Package Substrates and Interposers

Table 38. Global Co-Packaged Optics Market Size, by Package Substrates and Interposers, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 39. Global Co-Packaged Optics Market Size, by Package Substrates and Interposers, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 40. Global Co-Packaged Optics Market Size, by Package Substrates and Interposers, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

7.4.4. Photonic Integrated Circuits

Table 41. Global Co-Packaged Optics Market Size, by Photonic Integrated Circuits, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 42. Global Co-Packaged Optics Market Size, by Photonic Integrated Circuits, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 43. Global Co-Packaged Optics Market Size, by Photonic Integrated Circuits, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

7.5. Optical Light Sources

Table 44. Global Co-Packaged Optics Market Size, by Optical Light Sources, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 45. Global Co-Packaged Optics Market Size, by Optical Light Sources, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 46. Global Co-Packaged Optics Market Size, by Optical Light Sources, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

8. Co-Packaged Optics Market, by Photonic Platform

[redacted] Coherent's March 2026 announcement included silicon-photonics, VCSEL, and InP-on-silicon demonstrations, illustrating multiple integration choices within one supplier's development portfolio. Developers should compare compatible electronics, illumination, optical attachment, and customer acceptance alongside the active photonic device.

[redacted] This supports a distinct development route, not a released CPO substitute for every laser-based link. A compute-system developer can evaluate this approach when short-reach connectivity and its associated fiber assembly suit the topology; an equipment buyer should require evidence for the offered host-package configuration before transferring the research result into a delivery commitment.

[redacted] These milestones are not equivalent: a manufacturing partnership, an integration demonstration, and a funded development objective establish different commitments. Foundry partners and design owners should verify the relevant design kit, electronic interface, packaging compatibility, and program-specific qualification before selecting an alternative material.

Electro-Optic Polymer Photonics and Graphene Photonics likewise require distinct commercialization assessments. [redacted] Broader procurement commitments should follow package-level reliability and customer acceptance,

while an adequate qualified platform remains the alternative when those conditions are unsettled.

Figure 10. Global Co-Packaged Optics Market Size, by Photonic Platform, 2025 vs 2032 (%)

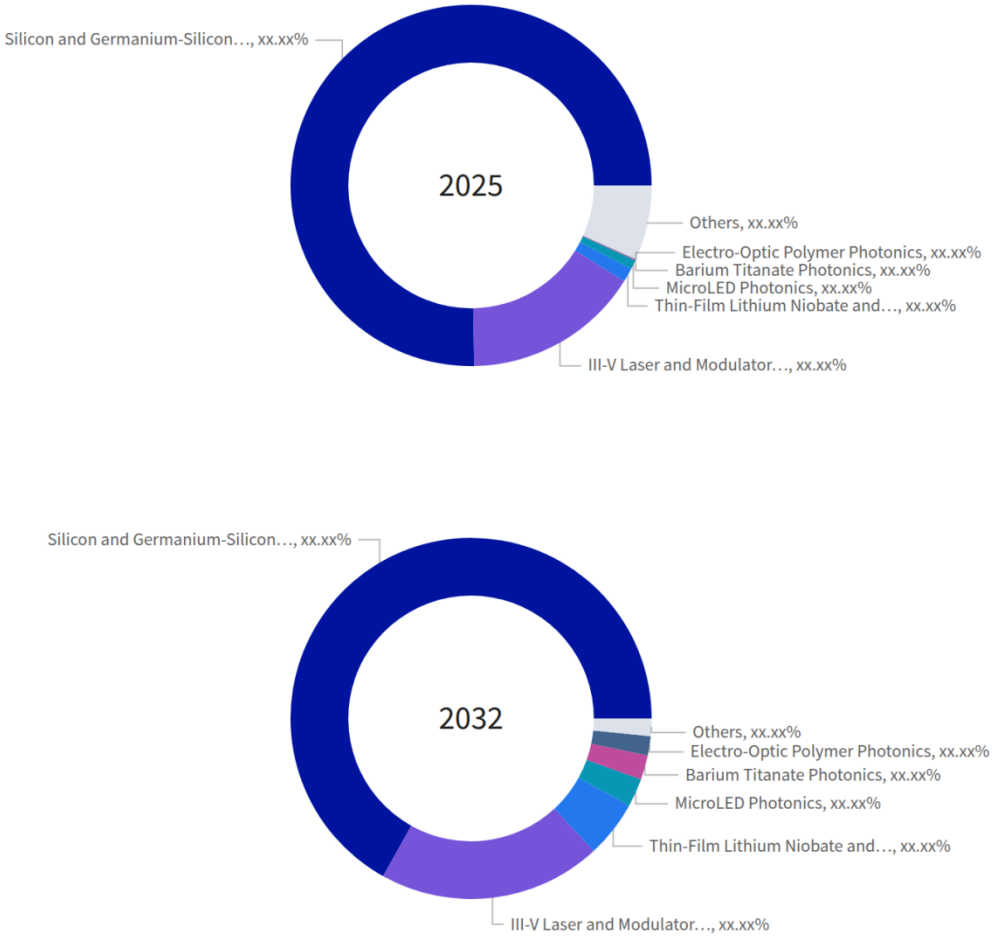


Figure 11. Global Co-Packaged Optics Market, by Photonic Platform: Market size by category, 2025

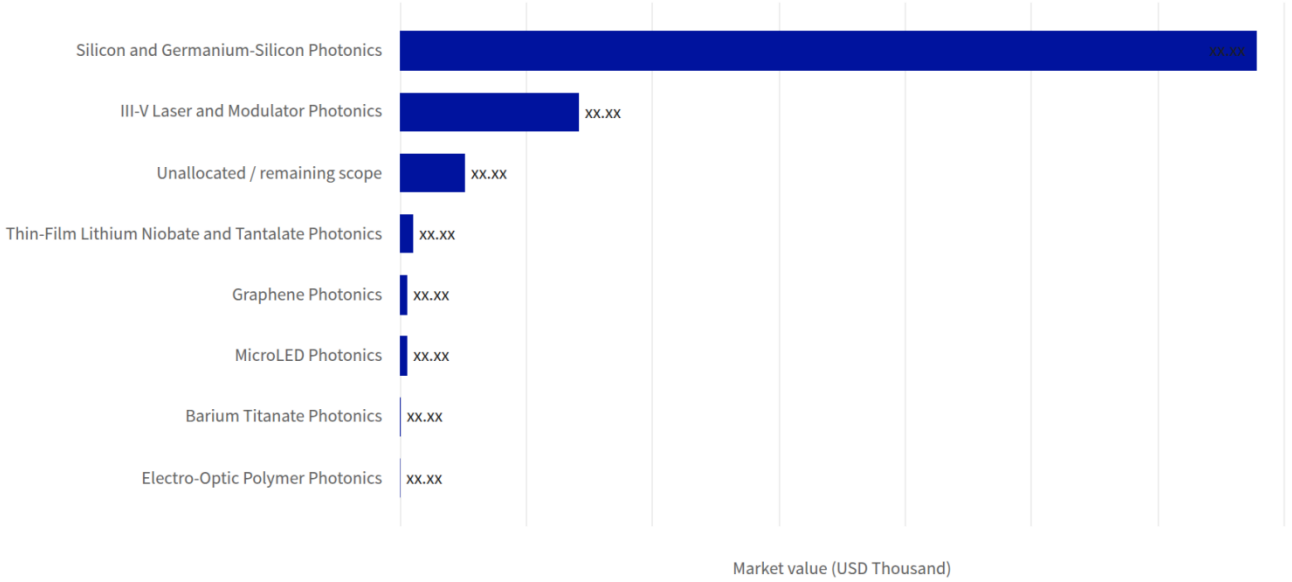


Figure 12. Global Co-Packaged Optics Market, by Photonic Platform: Market size and growth, 2025-2032



Table 47. Global Co-Packaged Optics Market, by Photonic Platform growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 48. Global Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Co-packaged optics (CPO): status, challenges, and solutions
   · Identifies silicon-photonics design libraries and III-V source integration, supporting complementary platform roles rather than automatic substitutability.
2. Roadmapping the next generation of silicon photonics
   · Distinguishes silicon, GeSi, III-V, lithium-niobate, BTO, polymer, and graphene modulation approaches; discusses integration trade-offs and polymer stability requirements.
3. MOSAIC: Breaking the Optics versus Copper Trade-off with a Wide-and-Slow Architecture and MicroLEDs
   · The 2025 research demonstrates parallel microLED links with imaging fiber in pluggable packaging and separately describes compatibility with host-package integration.
4. HyperLight, UMC, and Wavetek Announce Strategic Partnership for High-Volume Foundry Production of TFLN Chiplet Platform
   · The March xx.xx 2026 announcement establishes HyperLight, UMC, and Wavetek's TFLN manufacturing partnership for applications including CPO; it does not identify an accepted compute-host deployment.
5. A double world-first: integrating lithium niobate and lithium tantalate modulators on silicon photonics through micro-transfer printing
   · Reports lithium-niobate and lithium-tantalate modulator integration demonstrations on silicon photonics and discusses compatibility challenges.
6. Compact Electro-Optic Modulators Based on Barium Titanate on Silicon Platform
   · The 2025 STTR award targets SOI-integrated BTO modulation for CPO and optical network-on-chip applications; the record establishes a funded objective, not customer adoption.
7. Lightwave Logic, Inc. - Form 10-K for the Year Ended December 31, 2025
   · Makes electro-optic polymer applicability to CPO conditional on customer qualification and system requirements, and distinguishes development-stage progress from commercial production.
8. Technology - Black Semiconductor
   · Describes graphene modulators and an optical-link proof of concept; these own-technology disclosures do not independently establish customer-qualified compute-host CPO equipment.
9. Coherent Demonstrates Multiple Technologies for Co-packaged Optics (CPO) at OFC 2026
   · The March xx.xx 2026 announcement identifies planned silicon-photonics, VCSEL, and InP-modulator-on-silicon demonstrations without establishing uniform customer readiness.

8.1. Silicon and Germanium-Silicon Photonics

Table 49. Global Co-Packaged Optics Market Size, by Silicon and Germanium-Silicon Photonics, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 50. Global Co-Packaged Optics Market Size, by Silicon and Germanium-Silicon Photonics, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 51. Global Co-Packaged Optics Market Size, by Silicon and Germanium-Silicon Photonics, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

8.2. III-V Laser and Modulator Photonics

Table 52. Global Co-Packaged Optics Market Size, by III-V Laser and Modulator Photonics, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 53. Global Co-Packaged Optics Market Size, by III-V Laser and Modulator Photonics, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 54. Global Co-Packaged Optics Market Size, by III-V Laser and Modulator Photonics, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

8.3. Thin-Film Lithium Niobate and Tantalate Photonics

Table 55. Global Co-Packaged Optics Market Size, by Thin-Film Lithium Niobate and Tantalate Photonics, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 56. Global Co-Packaged Optics Market Size, by Thin-Film Lithium Niobate and Tantalate Photonics, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 57. Global Co-Packaged Optics Market Size, by Thin-Film Lithium Niobate and Tantalate Photonics, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

8.4. Graphene Photonics

Table 58. Global Co-Packaged Optics Market Size, by Graphene Photonics, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 59. Global Co-Packaged Optics Market Size, by Graphene Photonics, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 60. Global Co-Packaged Optics Market Size, by Graphene Photonics, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

8.5. MicroLED Photonics

Table 61. Global Co-Packaged Optics Market Size, by MicroLED Photonics, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 62. Global Co-Packaged Optics Market Size, by MicroLED Photonics, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 63. Global Co-Packaged Optics Market Size, by MicroLED Photonics, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

8.6. Barium Titanate Photonics

Table 64. Global Co-Packaged Optics Market Size, by Barium Titanate Photonics, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 65. Global Co-Packaged Optics Market Size, by Barium Titanate Photonics, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 66. Global Co-Packaged Optics Market Size, by Barium Titanate Photonics, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

8.7. Electro-Optic Polymer Photonics

Table 67. Global Co-Packaged Optics Market Size, by Electro-Optic Polymer Photonics, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 68. Global Co-Packaged Optics Market Size, by Electro-Optic Polymer Photonics, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 69. Global Co-Packaged Optics Market Size, by Electro-Optic Polymer Photonics, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

9. Co-Packaged Optics Market, by Package Integration

Package-integration comparisons must identify the relationship between the host logic and optical functionality. 2D Substrate Integration and xx.xx.5D Interposer Integration provide lateral integration choices, with the latter using an interposer or bridge to connect constituent dies. ■■■ ■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■ ■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■ ■■■■■■■■■■ ■■■■■■■■ ■■■■ ■■ ■ ■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■ ■■■■ ■ ■■■ ■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■ ■■■ ■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■

Internal engine stacking is not the same as 3D Logic-Photonics Stacking. ■■■ ■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■ ■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■ ■■■■■■■■ ■ ■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■ ■■ ■■■ ■■■ ■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ A design owner seeking independent evolution of compute and optical building blocks can evaluate lateral integration; direct logic-photonics stacking warrants consideration when its connectivity benefit justifies tighter design-time coupling and package-specific thermal acceptance.

Monolithic Logic-Photonics Integration moves that coupling into the host die itself. ■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■ ■■■■■■■■ ■■■ ■■■ ■■■■■■■ ■■■■■■■■■ ■■■ ■■■ ■ ■■■■■■■ ■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■■■■■ Procurement should revisit the chosen topology when host requirements, optical reliability, or accepted manufacturing combinations change; neither greater integration nor a research demonstration establishes a universally preferable commercial route.

Figure 13. Global Co-Packaged Optics Market, by Package Integration: Market share evolution, 2025-2032

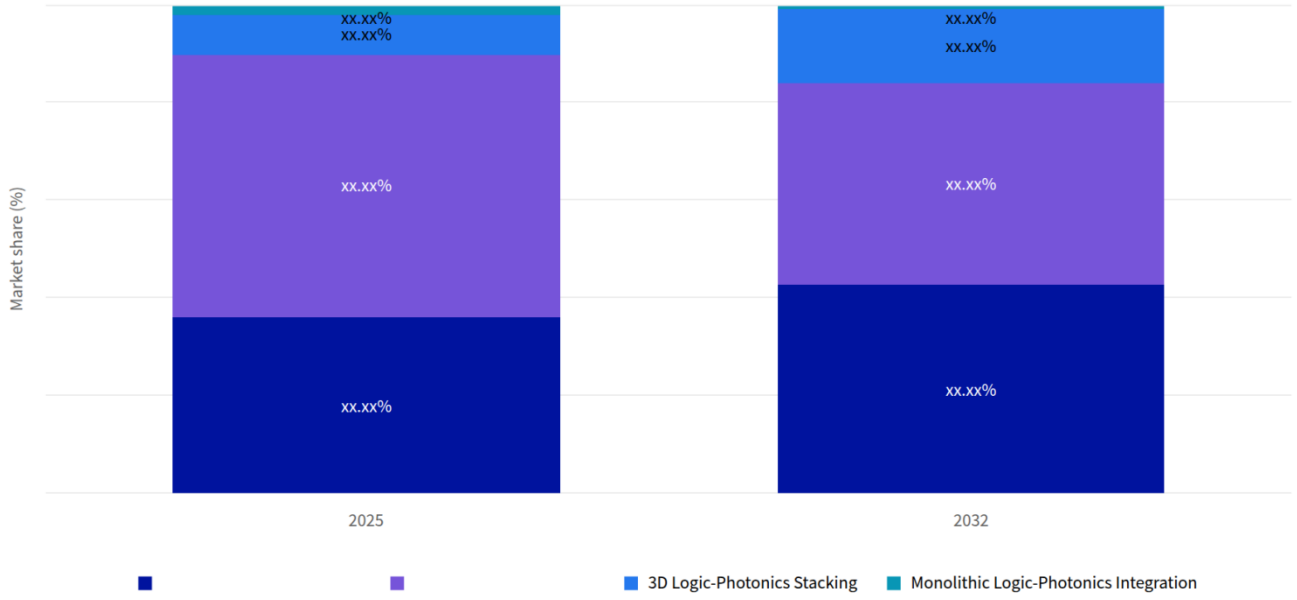


Figure 14. Global Co-Packaged Optics Market, by Package Integration: Market size by category, 2025

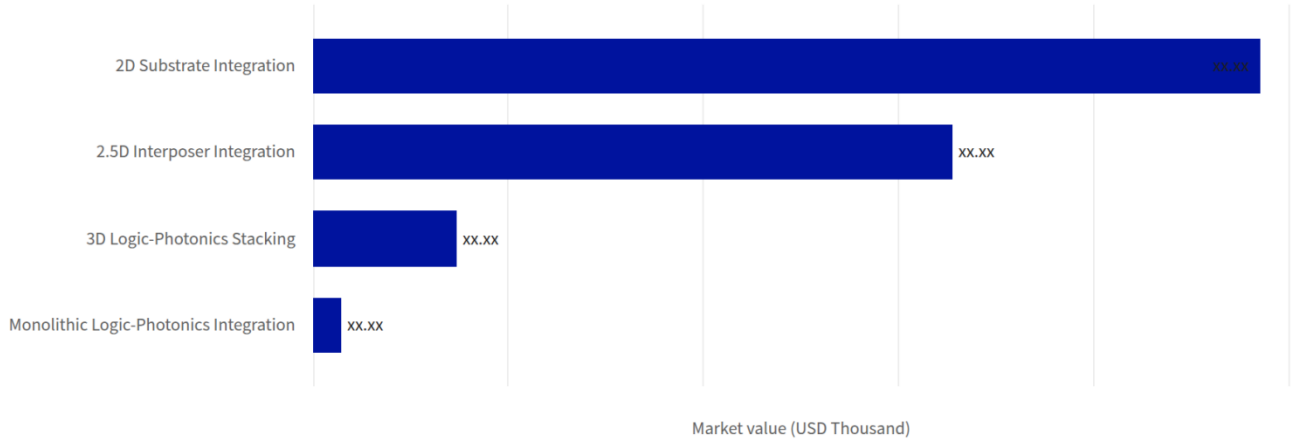


Figure 15. Global Co-Packaged Optics Market, by Package Integration: Market size and growth, 2025-2032



Table 70. Global Co-Packaged Optics Market, by Package Integration growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 71. Global Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Implementation Agreement for a 3.2Tb/s Co-Packaged (CPO) Module - OIF-Co-Packaging-3.2T-Module-01.0
   - Includes bare-host and separately packaged-host layouts, supporting configuration-specific package assessment.
2. How Industry Collaboration Fosters NVIDIA Co-Packaged Optics
   - Separately describes COUPE-based optical engines, optical subassemblies, and their switch-package integration, supporting assessment of internal-engine and host relationships.
3. Datacom / CPO - PHIX Photonics Assembly
   - Describes heterogeneous-integration and optical-attachment responsibilities; customer acceptance remains a separate condition.
4. Scaling Co-Packaged Optical Interconnects Using Hybrid 2.5D/3D Integration
   - Distinguishes monolithic integration, lateral interposer or bridge integration, direct compute-photonics stacking, and hybrid engine stacking; explains process-optimization and design-coupling trade-offs.

9.1. 2D Substrate Integration

Table 72. Global Co-Packaged Optics Market Size, by 2D Substrate Integration, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 73. Global Co-Packaged Optics Market Size, by 2D Substrate Integration, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 74. Global Co-Packaged Optics Market Size, by 2D Substrate Integration, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

9.2. 2.5D Interposer Integration

Table 75. Global Co-Packaged Optics Market Size, by xx.xx.5D Interposer Integration, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 76. Global Co-Packaged Optics Market Size, by xx.xx.5D Interposer Integration, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 77. Global Co-Packaged Optics Market Size, by xx.xx.5D Interposer Integration, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

9.3. 3D Logic-Photonics Stacking

Table 78. Global Co-Packaged Optics Market Size, by 3D Logic-Photonics Stacking, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 79. Global Co-Packaged Optics Market Size, by 3D Logic-Photonics Stacking, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 80. Global Co-Packaged Optics Market Size, by 3D Logic-Photonics Stacking, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

9.4. Monolithic Logic-Photonics Integration

Table 81. Global Co-Packaged Optics Market Size, by Monolithic Logic-Photonics Integration, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 82. Global Co-Packaged Optics Market Size, by Monolithic Logic-Photonics Integration, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 83. Global Co-Packaged Optics Market Size, by Monolithic Logic-Photonics Integration, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

10. Co-Packaged Optics Market, by Light Source Integration

Light-source integration changes where thermal and supply responsibilities sit within a CPO system. Engine-Integrated Light Sources avoid the additional source-to-engine optical connection, but place illumination closer to the host's thermal environment. ■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■ ■■■ ■■■■■■ ■■■ ■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■ ■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■ ■■ ■■■ ■■■■■■■■■ ■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■ ■■■■ ■■■■■■ ■■■■ ■■■■■■ ■■■ ■■■■■ ■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■

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The alternative remains engine-integrated illumination when reduced optical-connection burden is important and the intended package has adequate thermal and reliability evidence. ■■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■■■■■ ■■■■■■■■■■■ ■■ ■ ■■■■■■■ ■■■ ■■■■■■■■■■■■■■■■■■■■■ ■■■■■■ ■■ ■■■■■■ ■■■■■■■■ ■■■■■■ ■■ ■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■■ ■■■ ■■■■■■ ■■■■ ■■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■ External sources provide a distinct sourcing and maintenance boundary; integrated sources reduce that boundary at the cost of greater dependence on the engine's qualified environment.

Figure 16. Global Co-Packaged Optics Market Size, by Light Source Integration, 2025 vs 2032 (%)

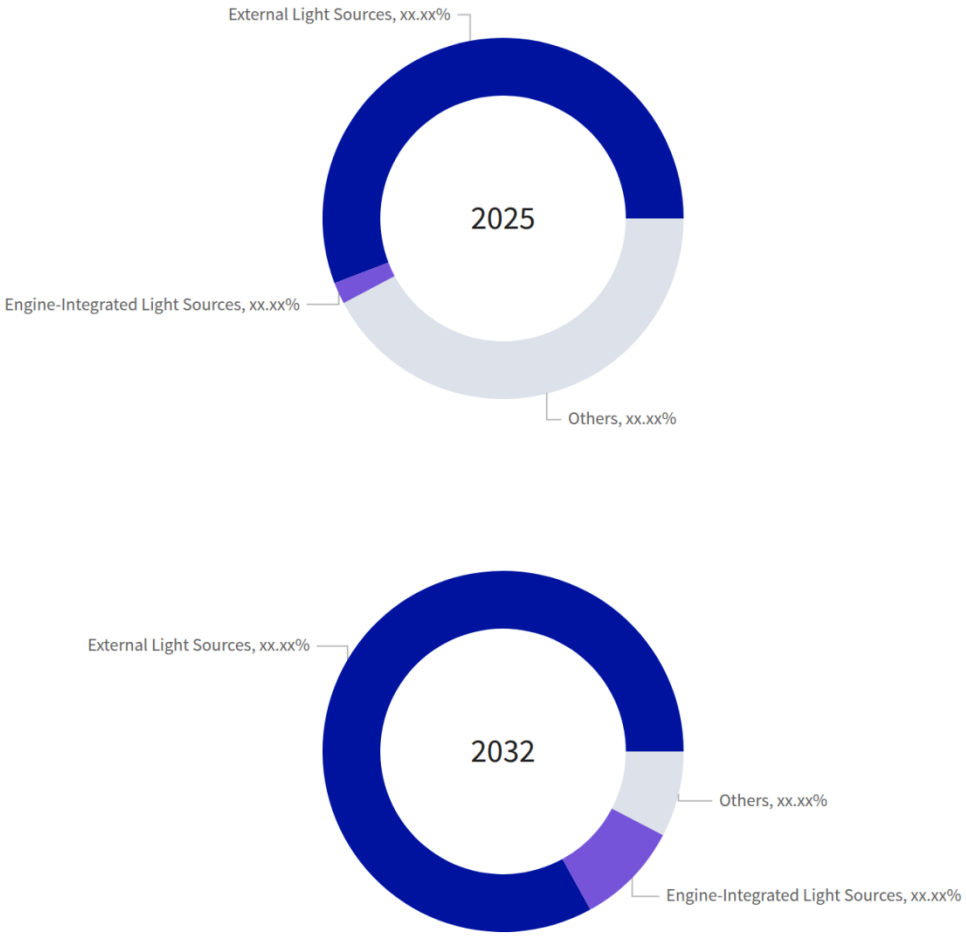


Figure 17. Global Co-Packaged Optics Market, by Light Source Integration: Market size by category, 2025

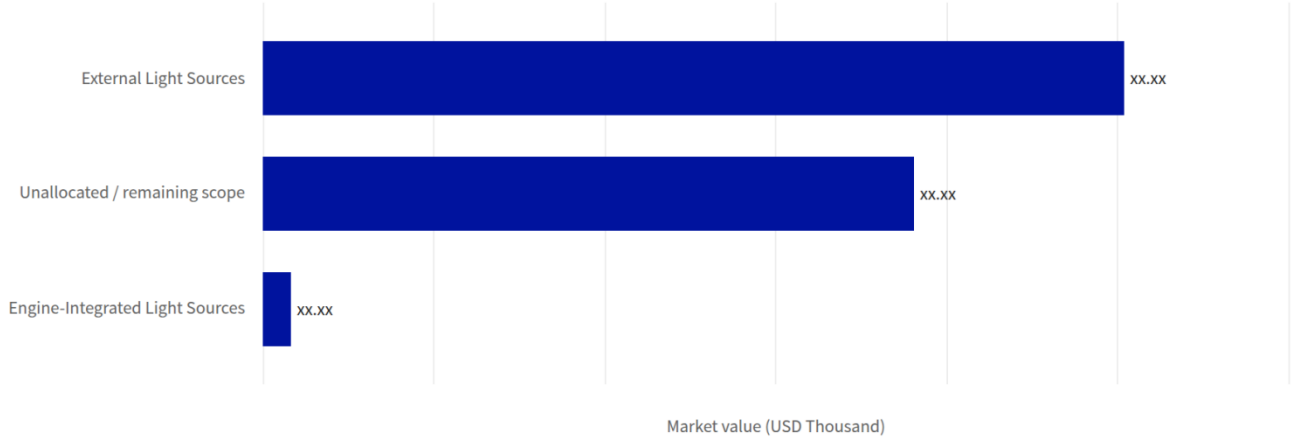


Figure 18. Global Co-Packaged Optics Market, by Light Source Integration: Market size and growth, 2025-2032

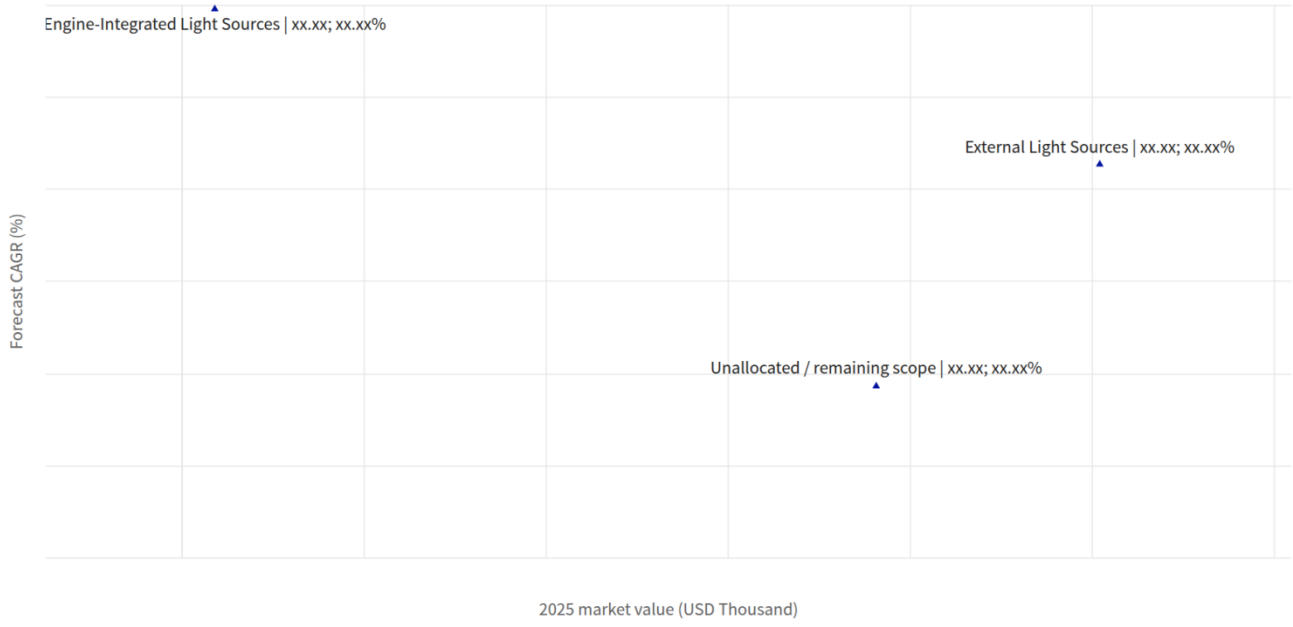


Table 84. Global Co-Packaged Optics Market, by Light Source Integration growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 85. Global Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. External Laser Small Form Factor Pluggable Implementation Agreement - OIF-ELSFP-02.0
   · Provides for laser-module field replacement and thermal separation from the co-packaged ASIC; these functions do not establish engine replacement.
2. How Industry Collaboration Fosters NVIDIA Co-Packaged Optics
   · Documents external laser modules in a dedicated thermally controlled environment and source-level replacement.
3. External vs. Integrated Light Sources for Intra-Data Center Co-Packaged Optical Interfaces
   · Models external and integrated illumination with coupling losses, temperature effects, and source efficiency; the comparisons are architectural modeling, not commercial operating results.
4. Co-packaged optics (CPO): status, challenges, and solutions
   · Explains fabrication dependencies and thermal considerations associated with integrating III-V sources into silicon photonics.

10.1. External Light Sources

Table 86. Global Co-Packaged Optics Market Size, by External Light Sources, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 87. Global Co-Packaged Optics Market Size, by External Light Sources, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 88. Global Co-Packaged Optics Market Size, by External Light Sources, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

10.2. Engine-Integrated Light Sources

Table 89. Global Co-Packaged Optics Market Size, by Engine-Integrated Light Sources, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 90. Global Co-Packaged Optics Market Size, by Engine-Integrated Light Sources, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 91. Global Co-Packaged Optics Market Size, by Engine-Integrated Light Sources, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

11. Co-Packaged Optics Market, by Fiber Mode

[redacted] The academic CPO adoption literature considers both, and Coherent's March 2026 announcement included a multimode socketed-CPO demonstration. That announcement establishes development activity, not customer qualification of every multimode configuration.

[redacted] Single-mode is a stronger candidate when the topology includes longer paths or requires a common medium across short and longer fabric connections. Neither route is automatically preferable: a change in medium can create new hardware, connectivity, and acceptance obligations even when the package-side electrical interface remains unchanged.

Equipment providers should preserve the exact optical physical-interface profile in configuration and support documentation. [redacted] Where an existing qualified medium already satisfies the topology, retaining it avoids a fiber migration undertaken solely to match a supplier's preferred architecture.

Figure 19. Global Co-Packaged Optics Market Size, by Fiber Mode, 2025 vs 2032 (%)

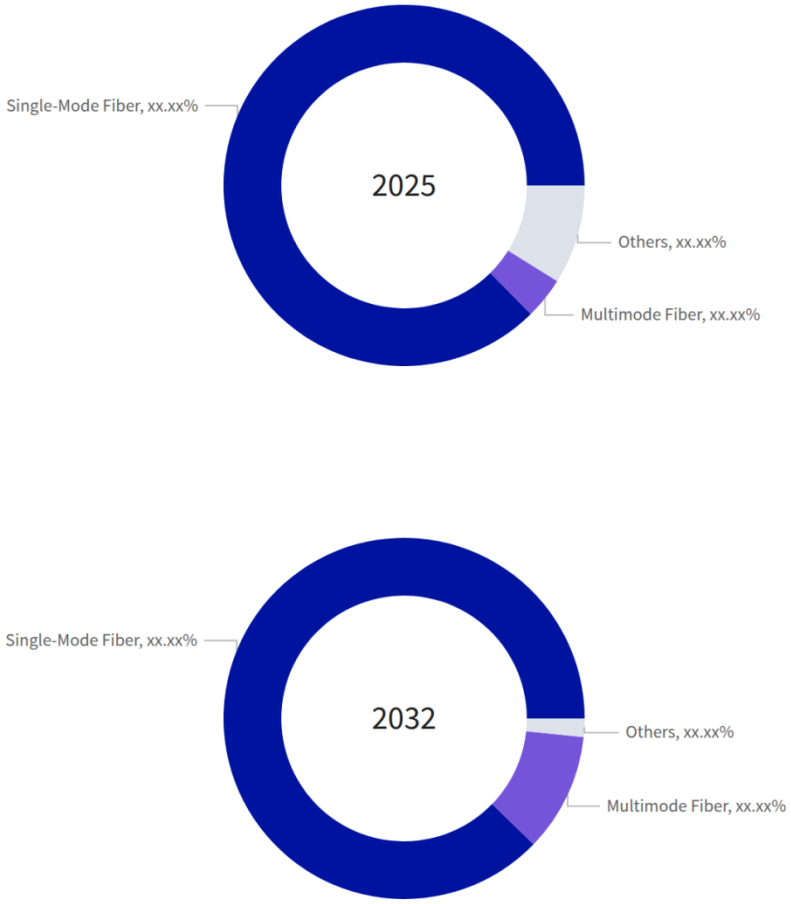


Figure 20. Global Co-Packaged Optics Market, by Fiber Mode: Market size by category, 2025

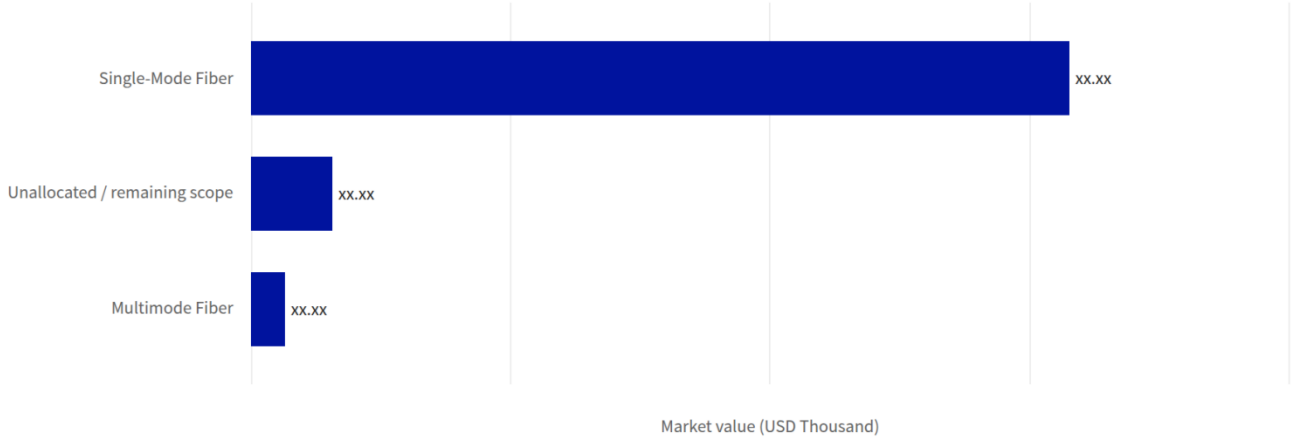


Figure 21. Global Co-Packaged Optics Market, by Fiber Mode: Market size and growth, 2025-2032

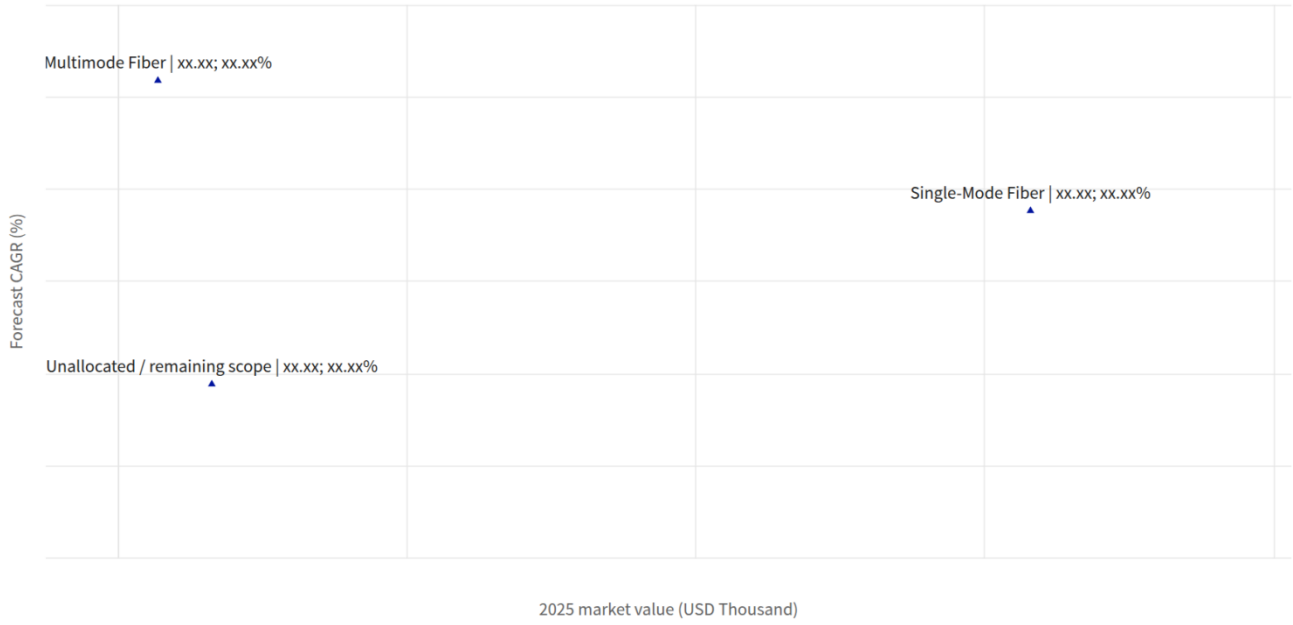


Table 92. Global Co-Packaged Optics Market, by Fiber Mode growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 93. Global Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Co-packaged datacenter optics: Opportunities and challenges
   - Considers both single-mode and multimode CPO physical interfaces and distinguishes shorter-reach options from broader fabric connectivity.
2. Coherent Demonstrates Multiple Technologies for Co-packaged Optics (CPO) at OFC 2026
   - Includes a multimode socketed-CPO demonstration in the announced portfolio, supporting the development category rather than completed customer qualification.

11.1. Single-Mode Fiber

Table 94. Global Co-Packaged Optics Market Size, by Single-Mode Fiber, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 95. Global Co-Packaged Optics Market Size, by Single-Mode Fiber, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 96. Global Co-Packaged Optics Market Size, by Single-Mode Fiber, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

11.2. Multimode Fiber

Table 97. Global Co-Packaged Optics Market Size, by Multimode Fiber, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 98. Global Co-Packaged Optics Market Size, by Multimode Fiber, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 99. Global Co-Packaged Optics Market Size, by Multimode Fiber, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

12. Co-Packaged Optics Market, by Wavelength Multiplexing

[illegible] OIF's DR4 and FR4 module options illustrate that distinction: the FR4 option includes multiplexing and demultiplexing. A design owner should evaluate wavelength multiplexing when fiber density or available connection paths constrain the intended assembly, rather than select it solely because the source supports multiple wavelengths.

The distinction must be established on the data-carrying link. Academic source-architecture research explicitly separates single- or multi-wavelength source terminology from the number of wavelengths used in the payload link. [illegible]

Multiplexing adds optical components and associated losses, creating a counterforce to reduced fiber-path demand. [illegible] A change in package connectivity or required reach can reverse the preferred choice, and a published module profile alone does not establish interchangeability between suppliers.

Figure 22. Global Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2025 vs 2032 (%)

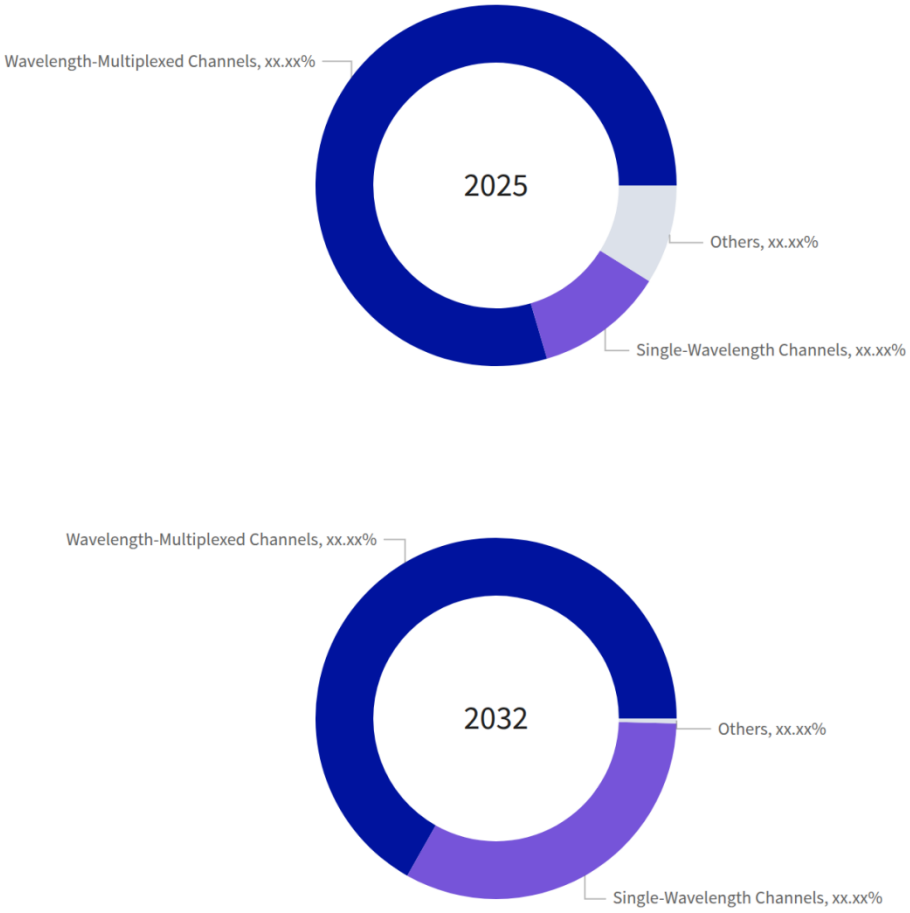


Figure 23. Global Co-Packaged Optics Market, by Wavelength Multiplexing: Market size by category, 2025

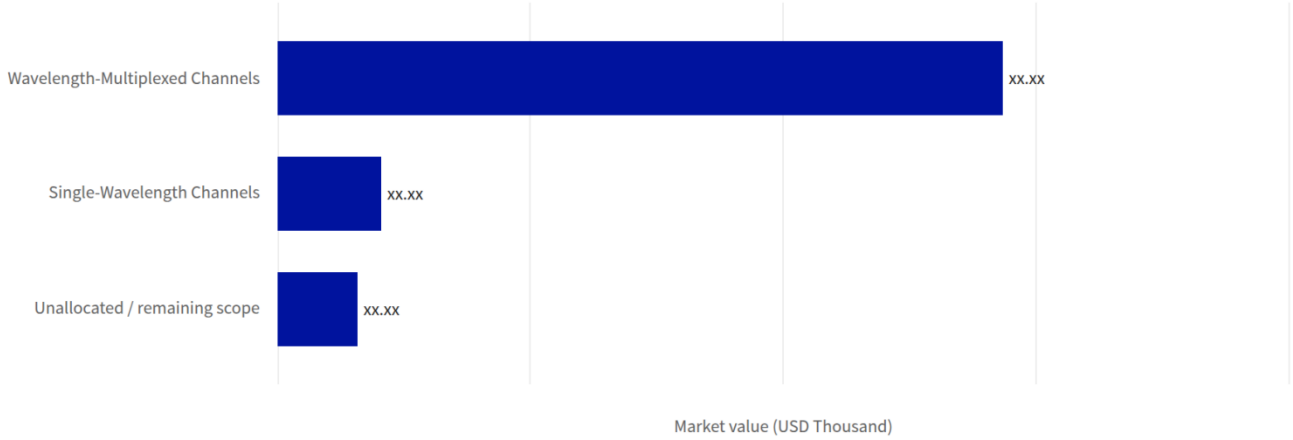


Figure 24. Global Co-Packaged Optics Market, by Wavelength Multiplexing: Market size and growth, 2025-2032

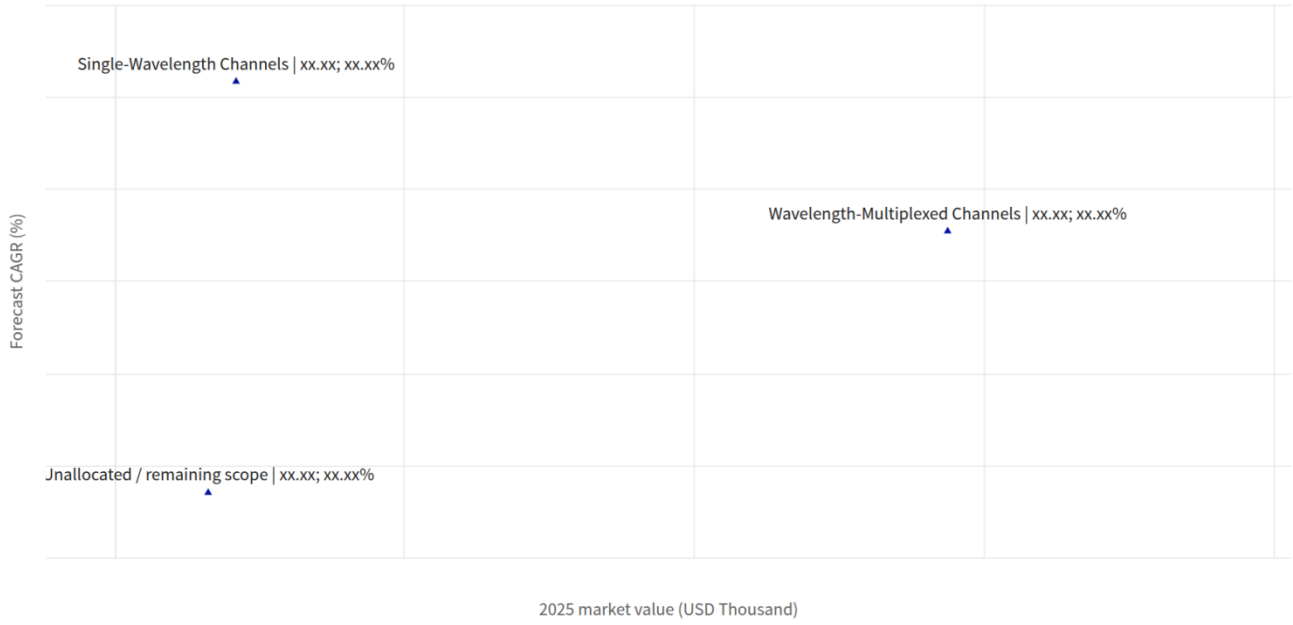


Table 100. Global Co-Packaged Optics Market, by Wavelength Multiplexing growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 101. Global Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Implementation Agreement for a 3.2Tb/s Co-Packaged (CPO) Module - OIF-Co-Packaging-3.2T-Module-01.0
   · Distinguishes parallel DR4 from FR4 configurations containing optical multiplexers and demultiplexers.
2. External vs. Integrated Light Sources for Intra-Data Center Co-Packaged Optical Interfaces
   · Explicitly separates source wavelength terminology from payload-link wavelength count and identifies losses from wavelength-dependent components.
3. MOSAIC: Breaking the Optics versus Copper Trade-off with a Wide-and-Slow Architecture and MicroLEDs
   · The architecture increases parallel spatial channels rather than establishing payload wavelength multiplexing.
4. Co-packaged datacenter optics: Opportunities and challenges
   · Distinguishes parallel optical media from duplex single-mode links using wavelength division multiplexing.

12.1. Wavelength-Multiplexed Channels

Table 102. Global Co-Packaged Optics Market Size, by Wavelength-Multiplexed Channels, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 103. Global Co-Packaged Optics Market Size, by Wavelength-Multiplexed Channels, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 104. Global Co-Packaged Optics Market Size, by Wavelength-Multiplexed Channels, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

12.2. Single-Wavelength Channels

Table 105. Global Co-Packaged Optics Market Size, by Single-Wavelength Channels, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 106. Global Co-Packaged Optics Market Size, by Single-Wavelength Channels, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 107. Global Co-Packaged Optics Market Size, by Single-Wavelength Channels, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

13. Co-Packaged Optics Market, by Host Interface

Host-interface selection determines which electrical connection the host must provide to the optical engine. ■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■ ■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■ ■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■ ■■■■ ■■■ ■ ■■■■■■■■ ■■■■■■ ■■■■ ■■■ ■■■■■■■■■ ■■■■■■ ■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■■ ■ ■■■■■■■■■■ ■■■■■■■■■■ Buyers should verify the offered host-engine pairing rather than assume that package proximity makes an existing SerDes implementation compatible.

■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■■■■■■■ ■■■■ ■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■ ■■■ ■■■■■ ■■■■ ■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■ ■■■ A PCIe or CXL application therefore does not, by itself, identify the host-facing physical interface. This distinction matters to developers deciding whether to retain an existing host design or introduce an optical chiplet connection that changes the host's interface requirements.

Lightmatter's Passage L200 announcement illustrates why classification must follow the actual host connection: it describes a UCIe die-to-die interface alongside optics-ready SerDes within the optical-engine implementation. The presence of SerDes inside an engine does not make its host-facing connection serial. ■■■■■■ ■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■ ■■■■ ■■■■■■■■■ ■■ ■ ■■■■■■■■■■ ■■■■■■ ■■■■ ■■■ ■■■■■ ■■■ ■■■■■■■■■■■ ■■ ■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■ ■■■ ■ ■■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■ ■■■■■■■■■■ ■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■■■■■ ■■■■■■■■■■■ ■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■ ■■■ ■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■ ■■■ ■■■■■■■■■ ■■■■■ ■■■■■■

Figure 25. Global Co-Packaged Optics Market Size, by Host Interface, 2025 vs 2032 (%)

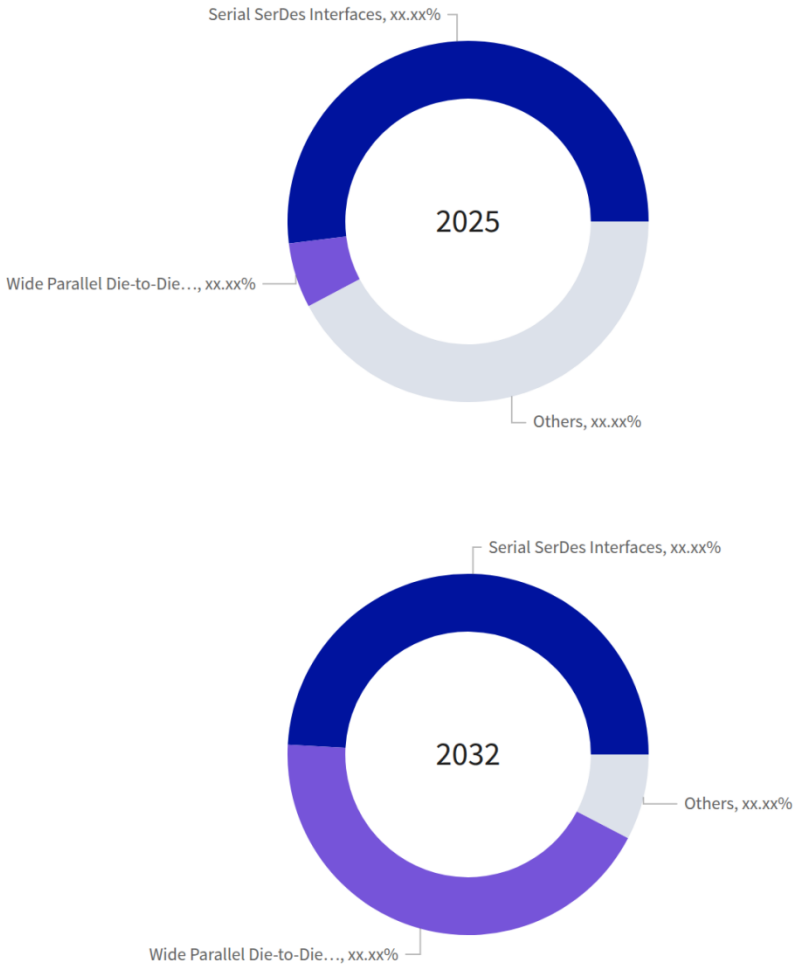


Figure 26. Global Co-Packaged Optics Market, by Host Interface: Market size by category, 2025

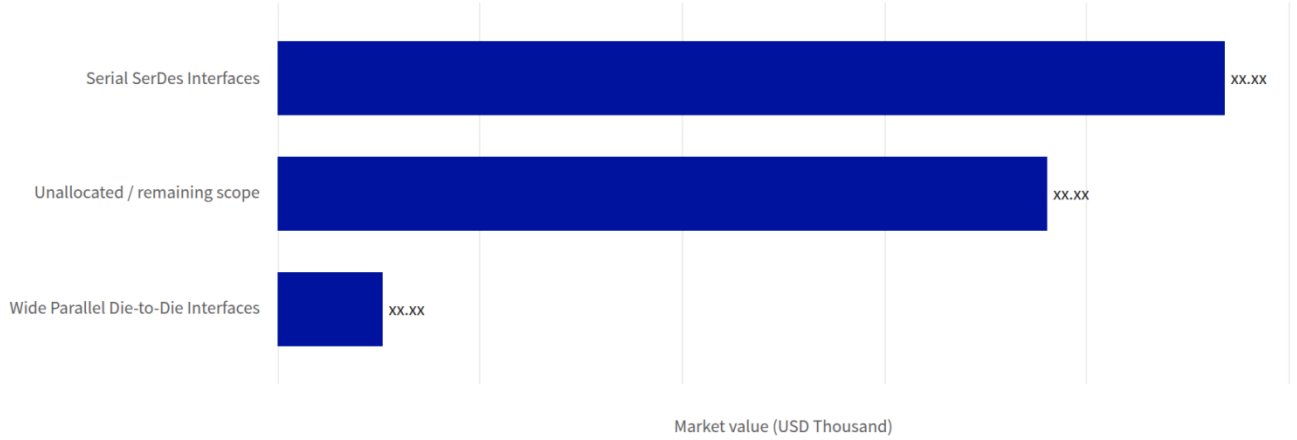


Figure 27. Global Co-Packaged Optics Market, by Host Interface: Market size and growth, 2025-2032

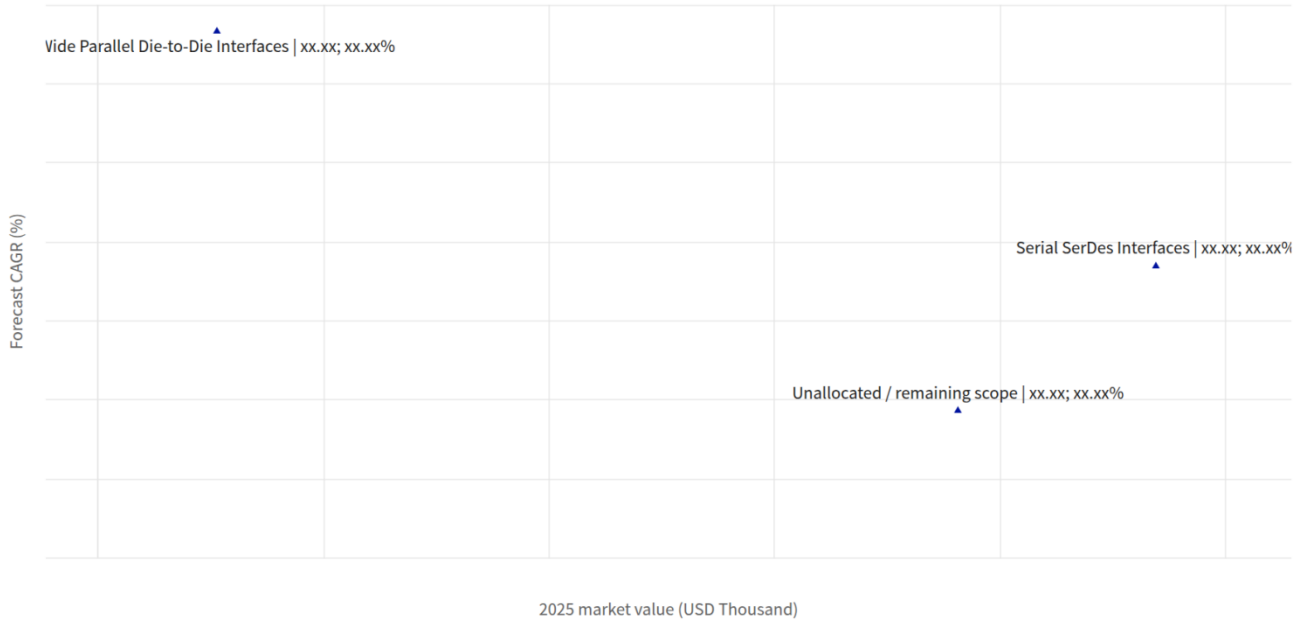


Table 108. Global Co-Packaged Optics Market, by Host Interface growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 109. Global Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Implementation Agreement for a 3.2Tb/s Co-Packaged (CPO) Module - OIF-Co-Packaging-3.2T-Module-01.0
   · The module agreement specifies a host-facing CEI-XSR serial electrical connection, supporting configuration-specific serial-interface assessment. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-Co-Packaging-xx.xx.2T-Module-xx.xx.pdf))
2. Universal Chiplet Interconnect Express (UCIe): Building an open chiplet ecosystem
   · UCIe separates physical signaling from carried PCIe, CXL, and streaming protocols and describes parallel data lanes with forwarded clocks. ([uciexpress.org](https://www.uciexpress.org/_files/ugd/0c1418_c5970a68ab214ffc97fab16d11581449.pdf))
3. Lightmatter Announces Passage L200, the Fastest Co-Packaged Optics for AI
   · The Passage L200 announcement describes a UCIe host-facing die-to-die interface alongside optics-ready SerDes in its engine implementation. Its availability statement is an announced expectation, not deployment evidence. ([lightmatter.co](https://lightmatter.co/press-release/lightmatter-announces-passage-l200-the-fastest-co-packaged-optics-for-ai/))

13.1. Serial SerDes Interfaces

Table 110. Global Co-Packaged Optics Market Size, by Serial SerDes Interfaces, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 111. Global Co-Packaged Optics Market Size, by Serial SerDes Interfaces, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 112. Global Co-Packaged Optics Market Size, by Serial SerDes Interfaces, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

13.2. Wide Parallel Die-to-Die Interfaces

Table 113. Global Co-Packaged Optics Market Size, by Wide Parallel Die-to-Die Interfaces, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 114. Global Co-Packaged Optics Market Size, by Wide Parallel Die-to-Die Interfaces, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 115. Global Co-Packaged Optics Market Size, by Wide Parallel Die-to-Die Interfaces, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

14. Co-Packaged Optics Market, by Signal Processing

Signal Processing distinguishes where timing restoration occurs and which party must accommodate the complete channel. ■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■ ■ ■■■■■■■■ ■■■■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■ ■■■ ■■■■■■ ■■ ■ ■■■■■ ■■■■■■■■ ■■■■■■■■ Design owners should evaluate this route only against the intended host and optical path; a linear-interface description is not evidence that an arbitrary host-engine combination will work.

Fully Retimed configurations retain timing restoration in both directions. ■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■ ■■ ■■■■ ■■■■■ ■■ ■■■ ■■■■ ■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■ ■■■ ■■■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■■■■ ■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■ ■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■ ■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■ An equipment developer may accept that overhead when it addresses a channel requirement that the proposed unretimed arrangement cannot satisfy.

Half-Retimed configurations retain retiming in only one direction. OIF's retimed-transmitter/linear-receiver document provides a concrete directional example; its chip-to-module coverage does not independently establish a qualifying CPO package. ■■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■ ■■■ ■■■■■■■■■■■■ ■■■ ■■■■ ■■■■■■■■■■■ ■■ ■■ ■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■ ■■■■ ■■■■■■■■ ■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■ ■■ ■■■■■■■■ ■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■■■ ■■ ■■■ ■■■■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■ ■■ ■■■■■■■■ ■■■■■■■■■■■■■■■

Figure 28. Global Co-Packaged Optics Market Size, by Signal Processing, 2025 vs 2032 (%)

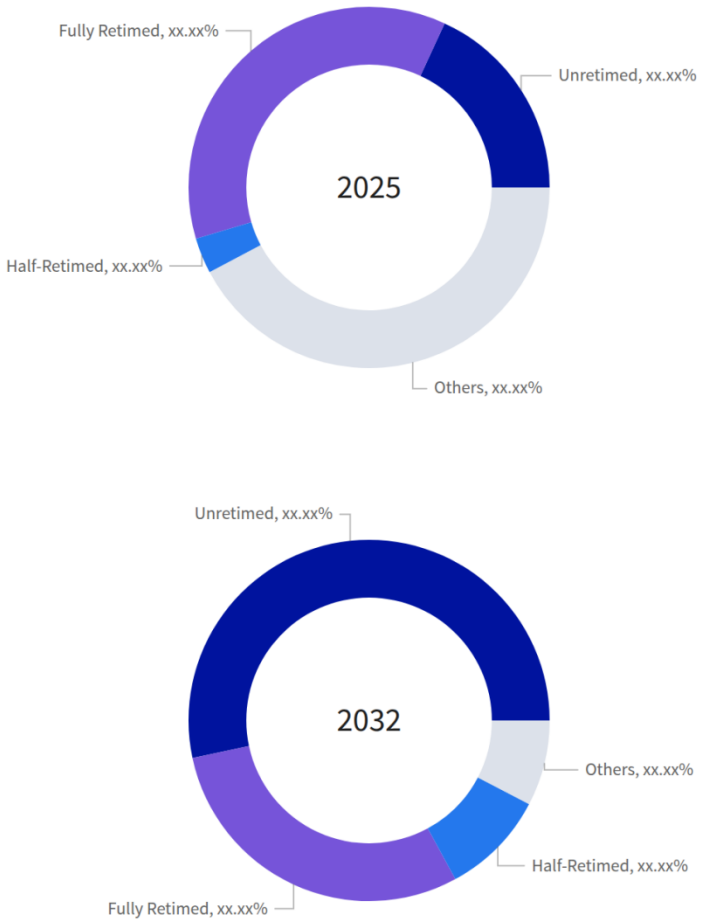


Figure 29. Global Co-Packaged Optics Market, by Signal Processing: Market size by category, 2025

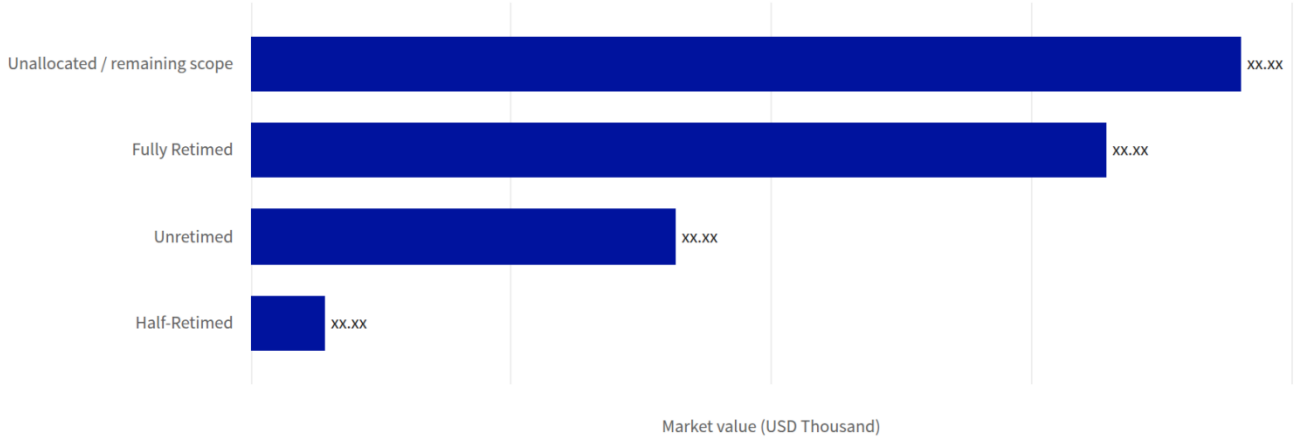


Figure 30. Global Co-Packaged Optics Market, by Signal Processing: Market size and growth, 2025-2032

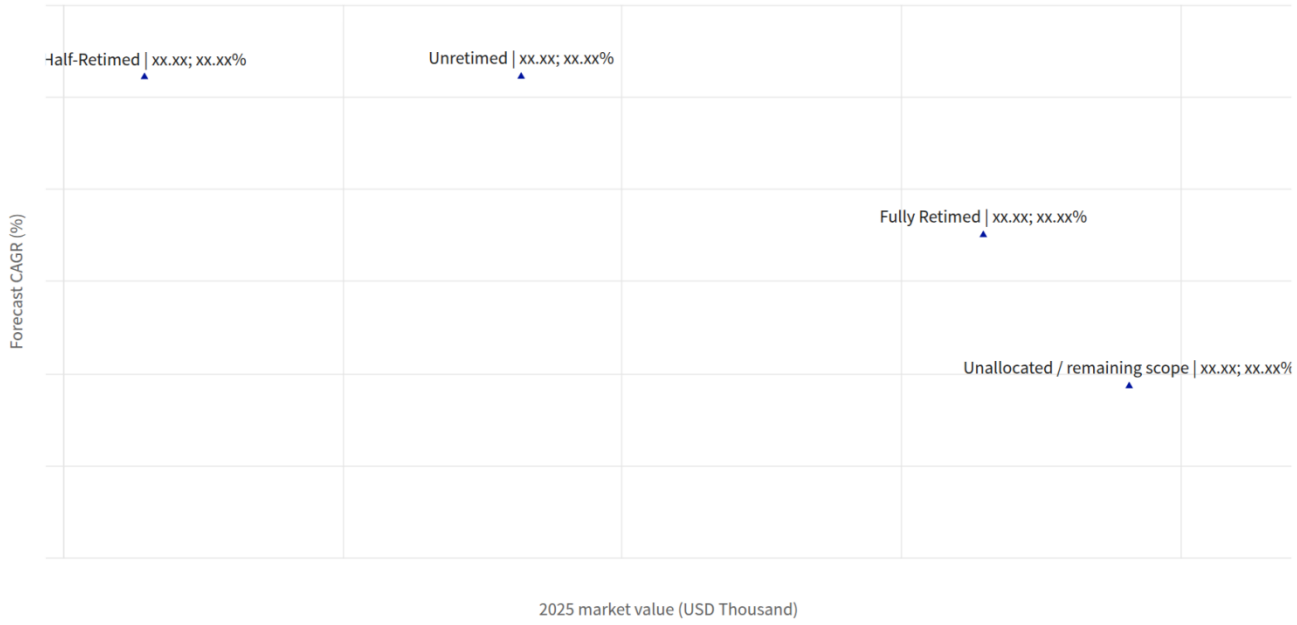


Table 116. Global Co-Packaged Optics Market, by Signal Processing growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 117. Global Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Implementation Agreement for a 3.2Tb/s Co-Packaged (CPO) Module - OIF-Co-Packaging-3.2T-Module-01.0
   · The architecture anticipates retiming on both sides of the link while applying forward error correction at the host.
   ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-Co-Packaging-xx.xx.2T-Module-xx.xx.pdf))
2. Implementation Agreement for 112 Gb/s Retimed Transmitter Linear Receiver - OIF-EEI-112G-RTLR-01.0
   · The RTLR document combines a retimed transmitter with a linear receiver and specifies distinct host and module responsibilities. Its chip-to-module scope does not establish CPO package inclusion.
   ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-EEI-112G-RTLR-xx.xx.pdf))
3. Vesta 200 6.4T CPX Optical Engine - Ciena Infobrief
   · Ciena identifies optical linear drive among the Vesta CPX engine's applications and lists a linear host-interface specification. ([ciena.com](https://www.ciena.com/__data/assets/pdf_file/xx.xx/xx.xx/vesta_200_6-4T_cpx_optical_engine_IB.pdf))
4. Energy Efficient Interfaces - OIF Physical & Link Layer Interoperability Demo at OFC 2024
   · OIF explains that extending electrical connectivity through additional DSP capability or retimers trades additional power and latency for reach.
   ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF_EEI_Interop_Slide_Set_OFC24v2.pdf))

14.1. Fully Retimed

Table 118. Global Co-Packaged Optics Market Size, by Fully Retimed, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 119. Global Co-Packaged Optics Market Size, by Fully Retimed, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 120. Global Co-Packaged Optics Market Size, by Fully Retimed, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

14.2. Unretimed

Table 121. Global Co-Packaged Optics Market Size, by Unretimed, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 122. Global Co-Packaged Optics Market Size, by Unretimed, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 123. Global Co-Packaged Optics Market Size, by Unretimed, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

14.3. Half-Retimed

Table 124. Global Co-Packaged Optics Market Size, by Half-Retimed, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 125. Global Co-Packaged Optics Market Size, by Half-Retimed, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 126. Global Co-Packaged Optics Market Size, by Half-Retimed, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

15. Co-Packaged Optics Market, by Application

Application selection changes both the required deliverable and the evidence needed before commitment. ■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■■■■ ■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■■■ ■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■ ■■ ■■■■■ ■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■ ■■■■ ■■ ■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■ ■■■ ■■■■■■■■■■■ ■■ ■■■■■■■■■■■■■ ■■ ■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■■ Equipment buyers should verify the offered switch or endpoint configuration and its interoperability with the intended fabric rather than transfer readiness from one to the other.

Scale-Up Compute Connectivity requires an accepted connection to the relevant accelerator or processor architecture. ■■■■■■■■■ ■■■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■ ■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■ ■■■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■ ■ ■■■■■■■ ■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ A compute developer should pursue package-level optics when the intended host communication requirement justifies the integration commitment; adopting a CPO networking switch does not independently establish readiness of a compute-package optical interface.

Memory and I/O Disaggregation has a different objective: independently allocated resources must remain useful to the workload. A study published at IEEE Cluster 2023 models co-packaged photonics for memory and network-interface resource pooling. ■■■ ■■■■■■■ ■■■■■■■ ■■■ ■■■ ■■■■■■■■■ ■■■■■■■ ■■■■ ■ ■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■ ■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■ ■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■ ■■■■■■■■■■■ ■■■■ ■■ ■■■■■■■■ ■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■ ■■ ■ ■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■

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Figure 31. Global Co-Packaged Optics Market, by Application: Market share evolution, 2025-2032

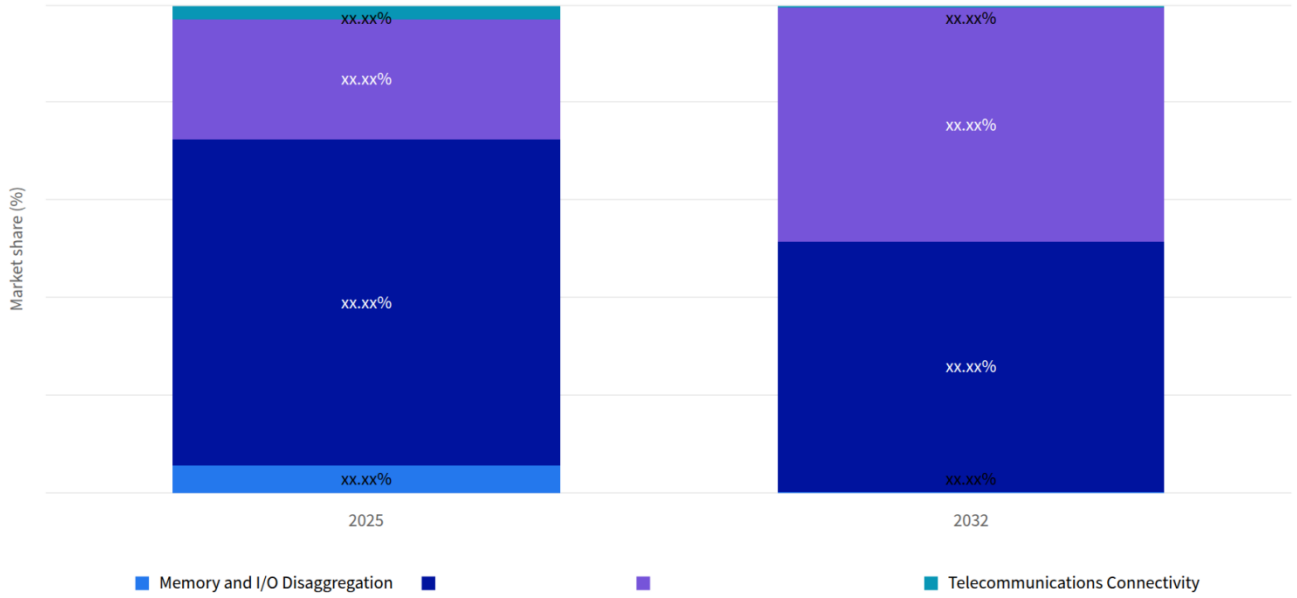


Figure 32. Global Co-Packaged Optics Market, by Application: Market size by category, 2025

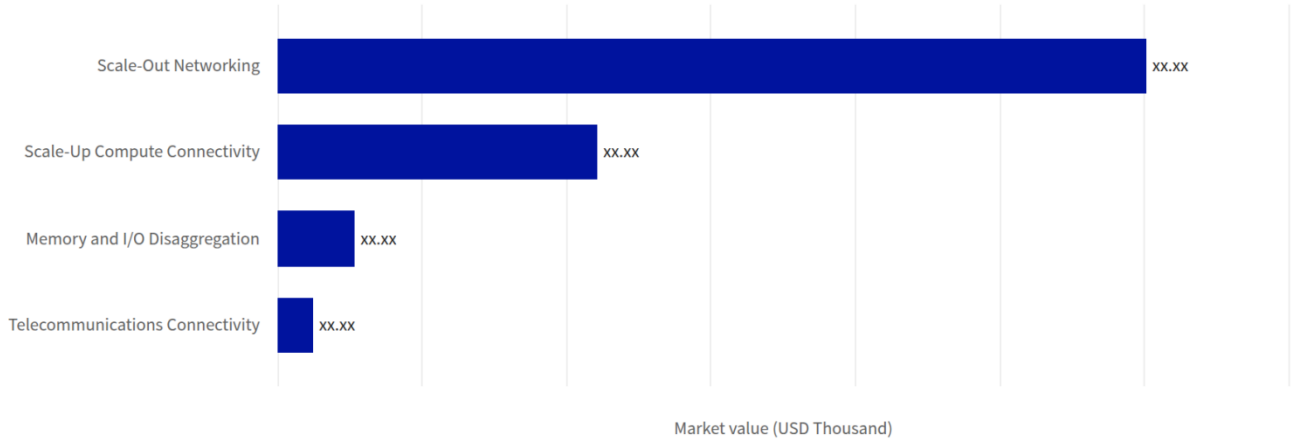


Figure 33. Global Co-Packaged Optics Market, by Application: Market size and growth, 2025-2032

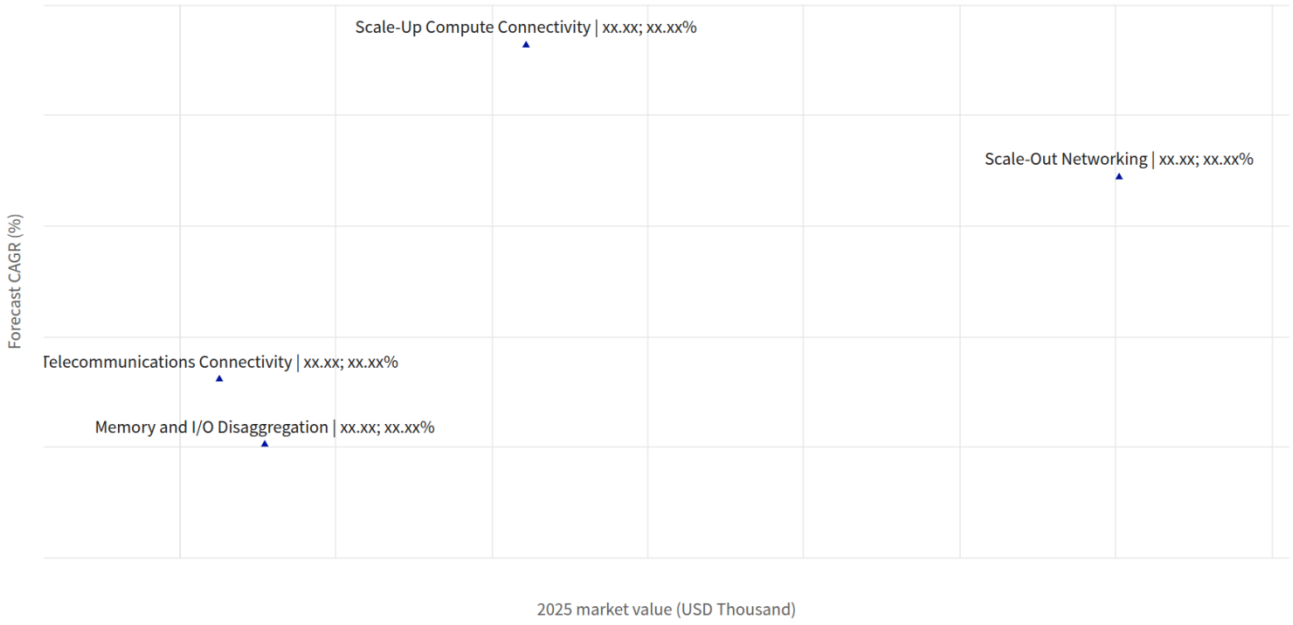


Table 127. Global Co-Packaged Optics Market, by Application growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 128. Global Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. External Laser Small Form Factor Pluggable Implementation Agreement - OIF-ELSFP-02.0
   · The ELSFP agreement identifies engines in switches, network interface cards, and AI/ML ASICs as intended applications. Intended use does not establish availability of a particular endpoint product. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-ELSFP-xx.xx-xx.xx.pdf))
2. Micas Networks Announces Industry's First 51.2T Co-Packaged Optics Network Switch System Now in Volume Production
   · Micas' March xx.xx 2025 announcement reports commercial availability of its CPO Ethernet switch, establishing an equipment-availability milestone rather than readiness of other CPO applications. ([micasnetworks.com](https://www.micasnetworks.com/company/news/xx.xx))
3. Intel Demonstrates First Fully Integrated Optical I/O Chiplet
   · Intel's June xx.xx 2024 disclosure describes an optical-I/O chiplet demonstrated with an Intel CPU and explicitly identifies it as a prototype. ([intel.com](https://www.intel.com/content/www/us/en/newsroom/news/intel-unveils-first-integrated-optical-io-chiplet.html))
4. Marvell Announces Breakthrough Co-Packaged Optics Architecture for Custom AI Accelerators
   · Marvell's January xx.xx 2025 announcement describes package-integrated optics within custom-XPU designs for scale-up connections. This is a design-platform milestone, not completed deployment evidence. ([marvell.com](https://www.marvell.com/company/newsroom/marvell-co-packaged-optics-architecture-custom-ai-accelerators.html))
5. Efficient Intra-Rack Resource Disaggregation for HPC Using Co-Packaged DWDM Photonics
   · The paper, identified as published at IEEE Cluster 2023, studies co-packaged photonics for independently allocated compute, memory, and network-interface resources. Its comparisons are modeled, not delivered-system operating results. ([arxiv.org](https://arxiv.org/abs/xx.xx))
6. Co-packaged optics opportunities in radio-access networks - Ericsson Technology Review, November 2023
   · Ericsson's November 2023 research identifies prospective radio-access CPO applications and dedicated environmental, cabling, and service-life requirements. ([ericsson.com](https://www.ericsson.com/49058e/assets/local/reports-papers/ericsson-technology-review/docs/2023/co-packaged-optics-in-radio-access-networks.pdf))
7. Scaling Routers with In-Package Optics and High-Bandwidth Memories
   · The university-authored paper proposes a backbone-router architecture using in-package optics and evaluates it as research. It does not establish an orderable carrier implementation. ([arxiv.org](https://arxiv.org/pdf/xx.xx))

15.1. Scale-Out Networking

Table 129. Global Co-Packaged Optics Market, by Scale-Out Networking growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 130. Global Co-Packaged Optics Market Size, by Scale-Out Networking, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 131. Global Co-Packaged Optics Market Size, by Scale-Out Networking, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 132. Global Co-Packaged Optics Market Size, by Scale-Out Networking, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

15.1.1. Switch-to-Switch Fabrics

Table 133. Global Co-Packaged Optics Market Size, by Switch-to-Switch Fabrics, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 134. Global Co-Packaged Optics Market Size, by Switch-to-Switch Fabrics, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 135. Global Co-Packaged Optics Market Size, by Switch-to-Switch Fabrics, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

15.1.2. Endpoint Network Access

Table 136. Global Co-Packaged Optics Market Size, by Endpoint Network Access, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 137. Global Co-Packaged Optics Market Size, by Endpoint Network Access, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 138. Global Co-Packaged Optics Market Size, by Endpoint Network Access, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

15.2. Scale-Up Compute Connectivity

Table 139. Global Co-Packaged Optics Market, by Scale-Up Compute Connectivity growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 140. Global Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 141. Global Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 142. Global Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

15.2.1. Accelerator Interconnects

Table 143. Global Co-Packaged Optics Market Size, by Accelerator Interconnects, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 144. Global Co-Packaged Optics Market Size, by Accelerator Interconnects, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 145. Global Co-Packaged Optics Market Size, by Accelerator Interconnects, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

15.2.2. Processor Interconnects

Table 146. Global Co-Packaged Optics Market Size, by Processor Interconnects, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 147. Global Co-Packaged Optics Market Size, by Processor Interconnects, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 148. Global Co-Packaged Optics Market Size, by Processor Interconnects, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

15.3. Memory and I/O Disaggregation

Table 149. Global Co-Packaged Optics Market, by Memory and I/O Disaggregation growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 150. Global Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 151. Global Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 152. Global Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

15.3.1. Memory Disaggregation

Table 153. Global Co-Packaged Optics Market Size, by Memory Disaggregation, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 154. Global Co-Packaged Optics Market Size, by Memory Disaggregation, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 155. Global Co-Packaged Optics Market Size, by Memory Disaggregation, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

15.3.2. Storage and Peripheral I/O Disaggregation

Table 156. Global Co-Packaged Optics Market Size, by Storage and Peripheral I/O Disaggregation, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 157. Global Co-Packaged Optics Market Size, by Storage and Peripheral I/O Disaggregation, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 158. Global Co-Packaged Optics Market Size, by Storage and Peripheral I/O Disaggregation, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

15.4. Telecommunications Connectivity

Table 159. Global Co-Packaged Optics Market, by Telecommunications Connectivity growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 160. Global Co-Packaged Optics Market Size, by Telecommunications Connectivity, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 161. Global Co-Packaged Optics Market Size, by Telecommunications Connectivity, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 162. Global Co-Packaged Optics Market Size, by Telecommunications Connectivity, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

15.4.1. Radio Access Connectivity

Table 163. Global Co-Packaged Optics Market Size, by Radio Access Connectivity, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 164. Global Co-Packaged Optics Market Size, by Radio Access Connectivity, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 165. Global Co-Packaged Optics Market Size, by Radio Access Connectivity, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

15.4.2. Fixed and Core Network Connectivity

Table 166. Global Co-Packaged Optics Market Size, by Fixed and Core Network Connectivity, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 167. Global Co-Packaged Optics Market Size, by Fixed and Core Network Connectivity, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 168. Global Co-Packaged Optics Market Size, by Fixed and Core Network Connectivity, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

16. Co-Packaged Optics Market, by Buyer Type

Buyer Type should be assigned to the purchasing task, not inferred from an organization's presence in the CPO ecosystem. [redacted] A supplier seeking a design position should separately establish who can authorize subsequent manufacturing purchases.

[redacted] Buyers should specify the supplied devices, accepted integration scope, and responsibility for changes. Purchasing a specialized service can preserve control of constituent sourcing, but it leaves coordination obligations that an integrated assembly supplier may otherwise assume.

Equipment OEMs and ODMs incorporate CPO into equipment products; System Integrators address the supported configuration delivered into the customer's infrastructure. [redacted] Contracts should distinguish equipment incorporation from deployment integration and identify which party accepts the assembled configuration before the customer relies on its support commitments.

[redacted] Research and Development Organizations engage for demonstrators and evaluation rather than necessarily for operational installations. Suppliers should match the offered deliverable to the funded purchasing task and verify authorization before treating technical interest, research participation, or portfolio distribution as an executable CPO order.

Figure 34. Global Co-Packaged Optics Market, by Buyer Type: Market share evolution, 2025-2032

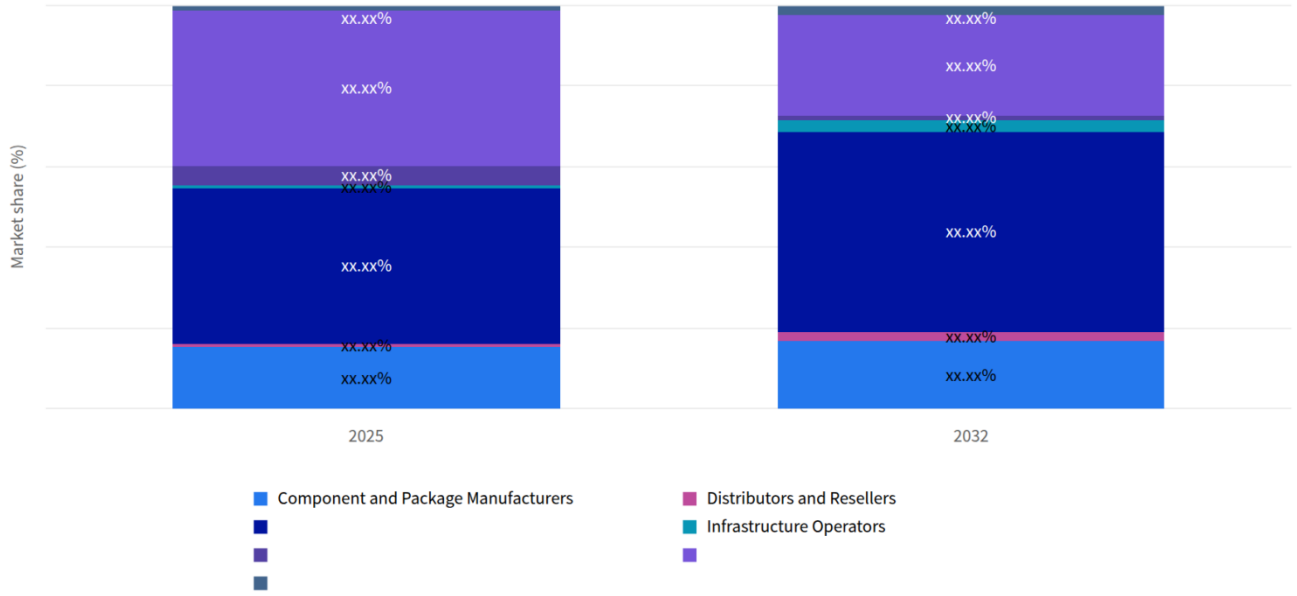


Figure 35. Global Co-Packaged Optics Market, by Buyer Type: Market size by category, 2025

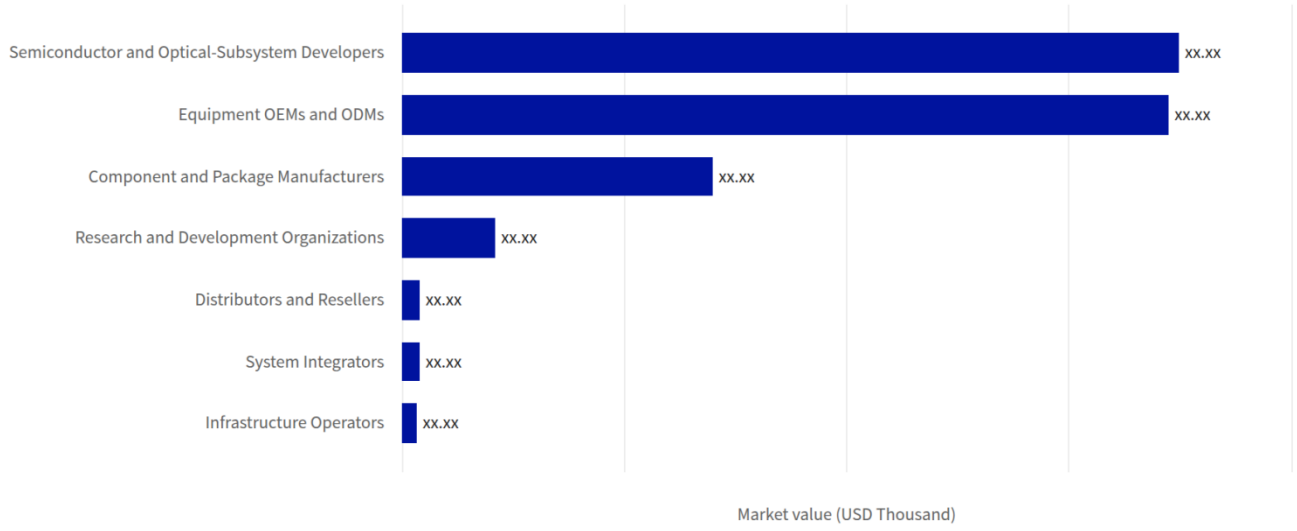


Figure 36. Global Co-Packaged Optics Market, by Buyer Type: Market size and growth, 2025-2032



Table 169. Global Co-Packaged Optics Market, by Buyer Type growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 170. Global Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Datacom / CPO - PHIX Photonics Assembly
   · PHIX markets CPO system-level co-design, optical attachment, and electronic-photonic integration services, supporting separately contracted integration capabilities.
   ([phix.com](https://www.phix.com/markets/datacom-cpo/))
2. AIM Photonics Test, Assembly and Packaging Services
   · AIM Photonics offers assembly, packaging, and testing for customer-provided chips and wafers, supporting a service-purchasing relationship distinct from acquiring a finished engine.
   ([aimphotonics.com](https://www.aimphotonics.com/tap))
3. Optical interconnect research program
   · Imec's precompetitive program includes foundries, assembly/test businesses, device developers, and system companies. Participation establishes engagement roles rather than purchasing authority.
   ([imec-int.com](https://www.imec-int.com/en/expertise/cmos-advanced/connect/optical-interconnects))
4. Microsoft and Facebook announce formation of the Co-Packaged Optics Collaboration under the Joint Development Foundation
   · Microsoft's company-issued announcement documents operator-led requirements and supplier proposal evaluation, not constituent purchase contracts.
   ([prnewswire.com](https://www.prnewswire.com/news-releases/microsoft-and-facebook-announce-formation-of-the-co-packaged-optics-collaboration-under-the-joint-development-foundation-xx.xx.html))
5. Micas Networks Inc. Signs First Distributor Agreement in Japan with SB C&S Corp. to Enter Japanese Market
   · The February xx.xx 2026 announcement establishes Micas' distribution agreement with SB C&S for a portfolio discussing CPO switches. It does not establish host-package design authority or model-specific purchases.
   ([micasnetworks.com](https://www.micasnetworks.com/company/news/sbcs20260226))
6. American AI Networking Company Micas Networks Expands Company-Operated Manufacturing to Scale Commercial CPO
   · Micas discloses delivery of its CPO switch through Supermicro within validated infrastructure configurations, illustrating an equipment-to-infrastructure route without settling purchasing-role allocation.
   ([micasnetworks.com](https://www.micasnetworks.com/company/news/xx.xx))

16.1. Semiconductor and Optical-Subsystem Developers

Table 171. Global Co-Packaged Optics Market Size, by Semiconductor and Optical-Subsystem Developers, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 172. Global Co-Packaged Optics Market Size, by Semiconductor and Optical-Subsystem Developers, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 173. Global Co-Packaged Optics Market Size, by Semiconductor and Optical-Subsystem Developers, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

16.2. Equipment OEMs and ODMs

Table 174. Global Co-Packaged Optics Market Size, by Equipment OEMs and ODMs, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 175. Global Co-Packaged Optics Market Size, by Equipment OEMs and ODMs, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 176. Global Co-Packaged Optics Market Size, by Equipment OEMs and ODMs, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

16.3. Component and Package Manufacturers

Table 177. Global Co-Packaged Optics Market Size, by Component and Package Manufacturers, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 178. Global Co-Packaged Optics Market Size, by Component and Package Manufacturers, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 179. Global Co-Packaged Optics Market Size, by Component and Package Manufacturers, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

16.4. Research and Development Organizations

Table 180. Global Co-Packaged Optics Market Size, by Research and Development Organizations, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 181. Global Co-Packaged Optics Market Size, by Research and Development Organizations, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 182. Global Co-Packaged Optics Market Size, by Research and Development Organizations, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

16.5. Distributors and Resellers

Table 183. Global Co-Packaged Optics Market Size, by Distributors and Resellers, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 184. Global Co-Packaged Optics Market Size, by Distributors and Resellers, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 185. Global Co-Packaged Optics Market Size, by Distributors and Resellers, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

16.6. System Integrators

Table 186. Global Co-Packaged Optics Market Size, by System Integrators, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 187. Global Co-Packaged Optics Market Size, by System Integrators, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 188. Global Co-Packaged Optics Market Size, by System Integrators, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

16.7. Infrastructure Operators

Table 189. Global Co-Packaged Optics Market Size, by Infrastructure Operators, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 190. Global Co-Packaged Optics Market Size, by Infrastructure Operators, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 191. Global Co-Packaged Optics Market Size, by Infrastructure Operators, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

17. Co-Packaged Optics Market, by End User

End User identifies the organization operating the relevant infrastructure, which need not be the purchaser of its embedded CPO constituents. ▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ Suppliers should determine whether the operator controls the host architecture, approves equipment, or delegates those choices to another purchaser.

Hosting and Colocation Network Operators require careful separation of provider-operated networks from tenant equipment. ▪▪▪ ▪▪▪ ▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪ ▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪ ▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪ ▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ Sales teams should identify the organization controlling the relevant network; a provider's own fabric and a tenant's compute installation can require different commercial relationships.

Enterprise Operators face a choice between procuring supported equipment and sponsoring optical integration within a custom host program. ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪ ▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ Custom development becomes more defensible only when the requirement cannot be met by the evaluated equipment route and the enterprise can fund and govern the resulting engineering obligations.

Government and Research Institutions also have distinct development and operational purposes. DARPA's historical package-level optical-signaling program and imec's proof-of-concept activities establish development engagement, not acceptance of operational infrastructure. ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪

Figure 37. Global Co-Packaged Optics Market, by End User: Market share evolution, 2025-2032

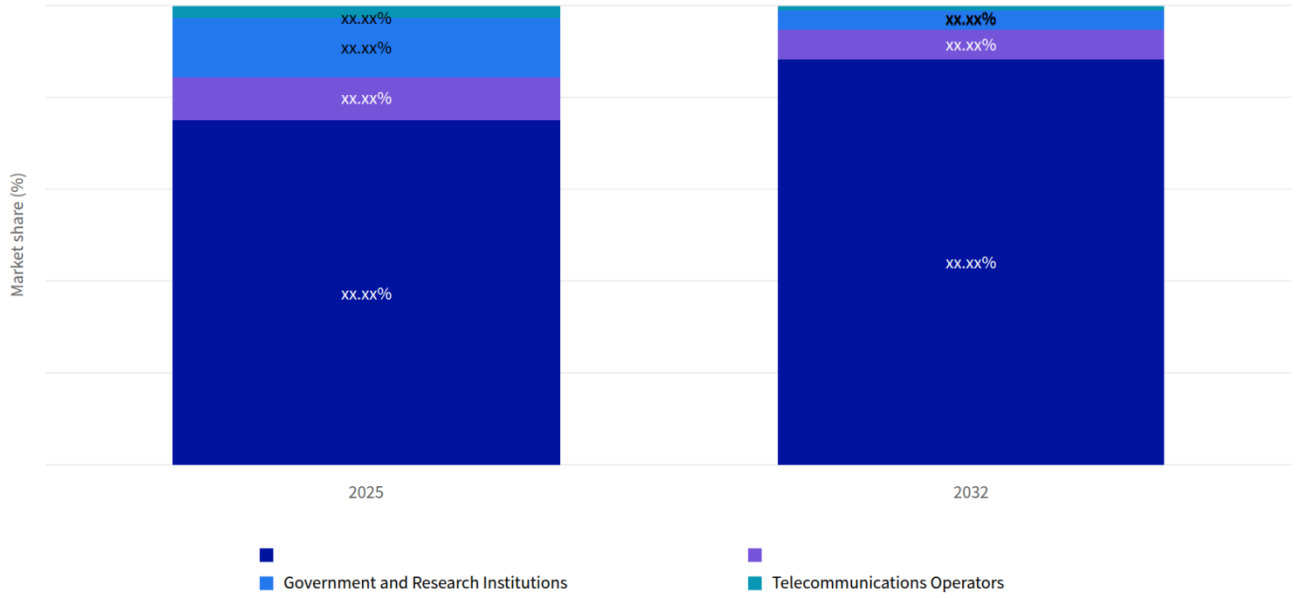


Figure 38. Global Co-Packaged Optics Market, by End User: Market size by category, 2025

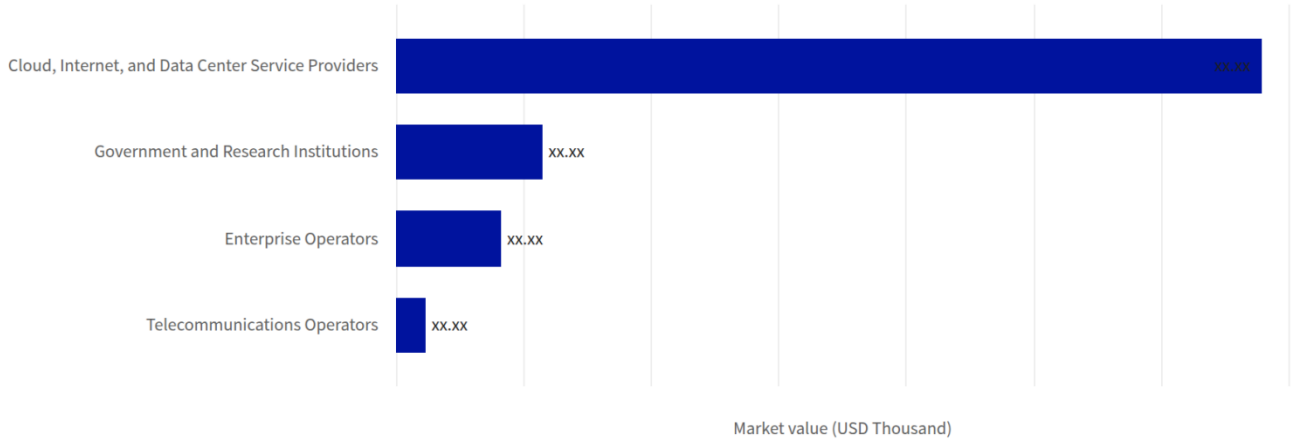


Figure 39. Global Co-Packaged Optics Market, by End User: Market size and growth, 2025-2032



Table 192. Global Co-Packaged Optics Market, by End User growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 193. Global Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Optical interconnect research program
   · The program includes proof-of-concept CPO demonstrators, supporting a development purpose distinct from operational equipment acceptance. ([imec-int.com](https://www.imec-int.com/en/expertise/cmos-advanced/connect/optical-interconnects))
2. Microsoft and Facebook announce formation of the Co-Packaged Optics Collaboration under the Joint Development Foundation
   · Microsoft and Facebook formed a customer-led CPO requirements collaboration in March 2019, supporting cloud and Internet-platform design influence without establishing operational adoption. ([prnewswire.com](https://www.prnewswire.com/news-releases/microsoft-and-facebook-announce-formation-of-the-co-packaged-optics-collaboration-under-the-joint-development-foundation-xx.xx.html))
3. Co-packaged optics opportunities in radio-access networks - Ericsson Technology Review, November 2023
   · The radio-access discussion links outdoor exposure and remote-site maintenance concerns to operator requirements; it does not establish carrier deployment. ([ericsson.com](https://www.ericsson.com/49058e/assets/local/reports-papers/ericsson-technology-review/docs/2023/co-packaged-optics-in-radio-access-networks.pdf))
4. American AI Networking Company Micas Networks Expands Company-Operated Manufacturing to Scale Commercial CPO
   · The disclosed integrated equipment route supports comparison with sponsoring chip-level integration; it does not establish enterprise-specific adoption. ([micasnetworks.com](https://www.micasnetworks.com/company/news/xx.xx))
5. Fotini Karinou at Microsoft Research
   · Microsoft's official research page describes presentation of compute-ASIC-driven scale-up connectivity requirements in a CPO and pluggable-optics discussion. ([microsoft.com](https://www.microsoft.com/en-us/research/people/fokarino/))
6. Data Center Colocation and Master Services Agreement between Digi Power X Inc. and Cerebras Systems Inc., dated May 4, 2026
   · The May xx.xx 2026 Digi Power X-Cerebras agreement separates provider facility infrastructure from customer responsibility for switches, routers, optical equipment, and their operation. This is not CPO deployment evidence. ([sec.gov](https://www.sec.gov/Archives/edgar/data/xx.xx/xx.xx/ea028958501ex10-xx.xx.htm))
7. Bringing Photonic Signaling to Digital Microelectronics
   · DARPA's PIPES announcement establishes government-sponsored development of package-level optical signaling and associated packaging capabilities, not acceptance of operational equipment. ([darpa.mil](https://www.darpa.mil/news/2018/photonic-signaling))

17.1. Cloud, Internet, and Data Center Service Providers

Table 194. Global Co-Packaged Optics Market, by Cloud, Internet, and Data Center Service Providers growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 195. Global Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 196. Global Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 197. Global Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

17.1.1. Public Cloud Providers

Table 198. Global Co-Packaged Optics Market Size, by Public Cloud Providers, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 199. Global Co-Packaged Optics Market Size, by Public Cloud Providers, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 200. Global Co-Packaged Optics Market Size, by Public Cloud Providers, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

17.1.2. Internet Platform Operators

Table 201. Global Co-Packaged Optics Market Size, by Internet Platform Operators, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 202. Global Co-Packaged Optics Market Size, by Internet Platform Operators, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 203. Global Co-Packaged Optics Market Size, by Internet Platform Operators, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

17.1.3. Hosting and Colocation Network Operators

Table 204. Global Co-Packaged Optics Market Size, by Hosting and Colocation Network Operators, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 205. Global Co-Packaged Optics Market Size, by Hosting and Colocation Network Operators, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 206. Global Co-Packaged Optics Market Size, by Hosting and Colocation Network Operators, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

17.2. Government and Research Institutions

Table 207. Global Co-Packaged Optics Market Size, by Government and Research Institutions, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 208. Global Co-Packaged Optics Market Size, by Government and Research Institutions, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 209. Global Co-Packaged Optics Market Size, by Government and Research Institutions, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

17.3. Enterprise Operators

Table 210. Global Co-Packaged Optics Market Size, by Enterprise Operators, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 211. Global Co-Packaged Optics Market Size, by Enterprise Operators, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 212. Global Co-Packaged Optics Market Size, by Enterprise Operators, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

17.4. Telecommunications Operators

Table 213. Global Co-Packaged Optics Market Size, by Telecommunications Operators, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 214. Global Co-Packaged Optics Market Size, by Telecommunications Operators, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 215. Global Co-Packaged Optics Market Size, by Telecommunications Operators, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

18. Co-Packaged Optics Market, by Customization Model

[illegible] A developer should select a standard design when its declared interfaces and capabilities fit the intended host. Unresolved surrounding integration should not be mistaken for evidence that the optical-engine core itself requires redesign.

[illegible] Adaptation is preferable to a new design when reuse genuinely resolves the requirement, but dependence on the platform owner's architecture can constrain later changes. Monitor whether the requested changes remain within the supported platform rather than assume that a semi-custom label means limited engineering.

[illegible] Custom development is justified when standard or adapted options cannot meet the binding requirement and an accountable sponsor can support the additional obligations. If the difference can be resolved through a supported configuration change, a narrower adaptation avoids unnecessary design dependence.

Figure 40. Global Co-Packaged Optics Market, by Customization Model: Market share evolution, 2025-2032

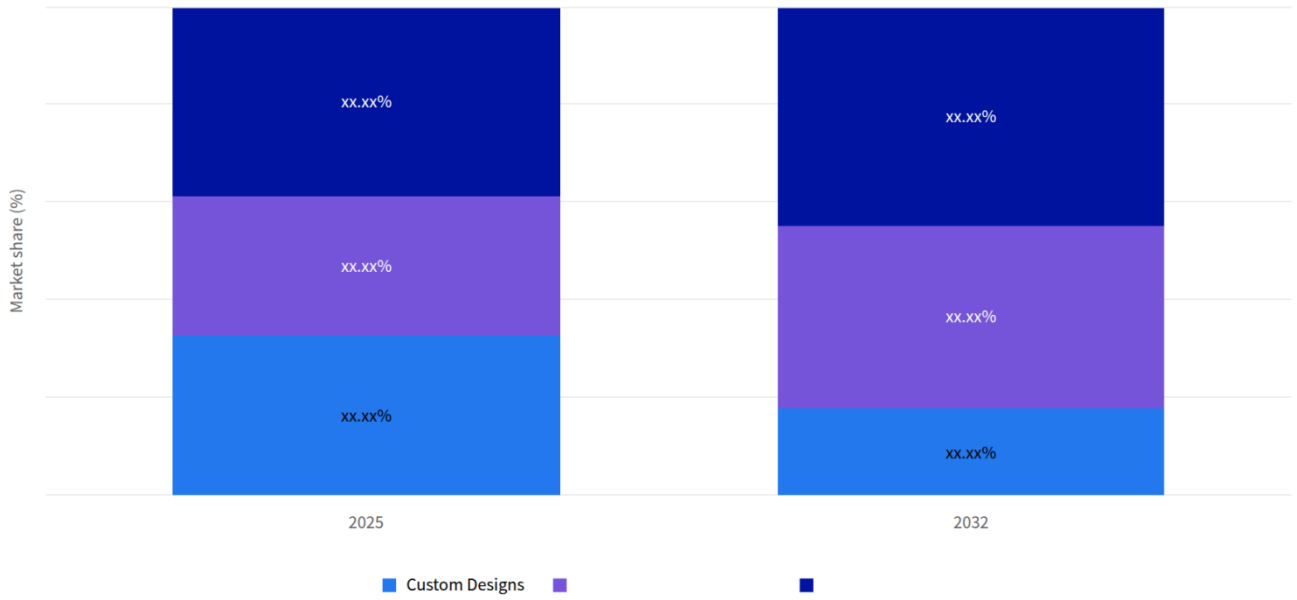


Figure 41. Global Co-Packaged Optics Market, by Customization Model: Market size by category, 2025



Figure 42. Global Co-Packaged Optics Market, by Customization Model: Market size and growth, 2025-2032



Table 216. Global Co-Packaged Optics Market, by Customization Model growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 217. Global Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Marvell Technology, Inc. - 2026 Proxy Statement and Annual Report

   · Marvell distinguishes repeatable standard products from customer-specific optimized solutions and identifies CPO within its tailored ASIC platform. These company-level descriptions do not settle every CPO contract's customization boundary.
   ([sec.gov](https://www.sec.gov/Archives/edgar/data/xx.xx/xx.xx/tm261486d6_ars.pdf))

2. Vesta 200 6.4T CPX Optical Engine - Ciena Infobrief
   · The infobrief describes an identifiable engine with defined interfaces and supported configurations, supporting a predefined-design example without settling customer customization contracts. ([ciena.com](https://www.ciena.com/__data/assets/pdf_file/xx.xx/xx.xx/vesta_200_6-4T_cpx_optical_engine_IB.pdf))
3. Lightmatter Joins NVIDIA NVLink Fusion and Powers Next-Generation AI Infrastructure with Photonic Interconnects
   · Lightmatter's June 2026 announcement describes adapting an existing bidirectional optical-link architecture for NVLink Fusion and intended CPO/NPO products. It does not disclose the complete changed-device scope or establish delivery of every configuration. ([lightmatter.co](https://lightmatter.co/press-release/lightmatter-joins-nvidia-nvlink-fusion/))
4. Co-Packaged Optics Package Design Services - BroadPak
   · BroadPak offers CPO package architecture and interface-definition engineering, establishing a customer-specific development route without proving particular contract outcomes. ([broadpak.com](https://www.broadpak.com/co-packaged-optics-package-design.html))

18.1. Standard Designs

Table 218. Global Co-Packaged Optics Market Size, by Standard Designs, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 219. Global Co-Packaged Optics Market Size, by Standard Designs, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 220. Global Co-Packaged Optics Market Size, by Standard Designs, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

18.2. Custom Designs

Table 221. Global Co-Packaged Optics Market Size, by Custom Designs, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 222. Global Co-Packaged Optics Market Size, by Custom Designs, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 223. Global Co-Packaged Optics Market Size, by Custom Designs, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

18.3. Platform-Adapted Designs

Table 224. Global Co-Packaged Optics Market Size, by Platform-Adapted Designs, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 225. Global Co-Packaged Optics Market Size, by Platform-Adapted Designs, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 226. Global Co-Packaged Optics Market Size, by Platform-Adapted Designs, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

19. Co-Packaged Optics Market, by Serviceability Model

Serviceability Model changes the buyer's exposure to an optical fault, so procurement should distinguish Optical Engine Replacement, Light Source Replacement, and Host-Package Replacement rather than treating CPO as uniformly repairable or unrepairable. ■■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■ Subassembly maintainability is meaningful, but neither a socket nor a detachable fiber interface establishes authorization to replace an individual engine in installed equipment.

Light Source Replacement has a separately documented maintenance boundary. ■■■■■ ■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■ ■■ ■■■■■■■■ ■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■ ■■■■■ ■■■ ■■■■■■■■■ ■■■■ ■■■■ ■■■■■■■■ ■■■■■■ ■ ■■■■■■ ■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■ ■■ ■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ The option is unsuitable as a complete repairability solution when the operational concern is failure of an integrated engine rather than illumination.

Host-Package Replacement remains the relevant exposure when an engine fault cannot be resolved through an approved smaller replacement unit. ■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■ ■■■■ ■■■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■ ■■■ ■■■■■■■■■■ ■■ ■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ Before equipment acceptance, the decisive evidence is the supplier's supported replacement unit and maintenance entitlement; a connector feature alone cannot establish either.

Figure 43. Global Co-Packaged Optics Market Size, by Serviceability Model, 2025 vs 2032 (%)

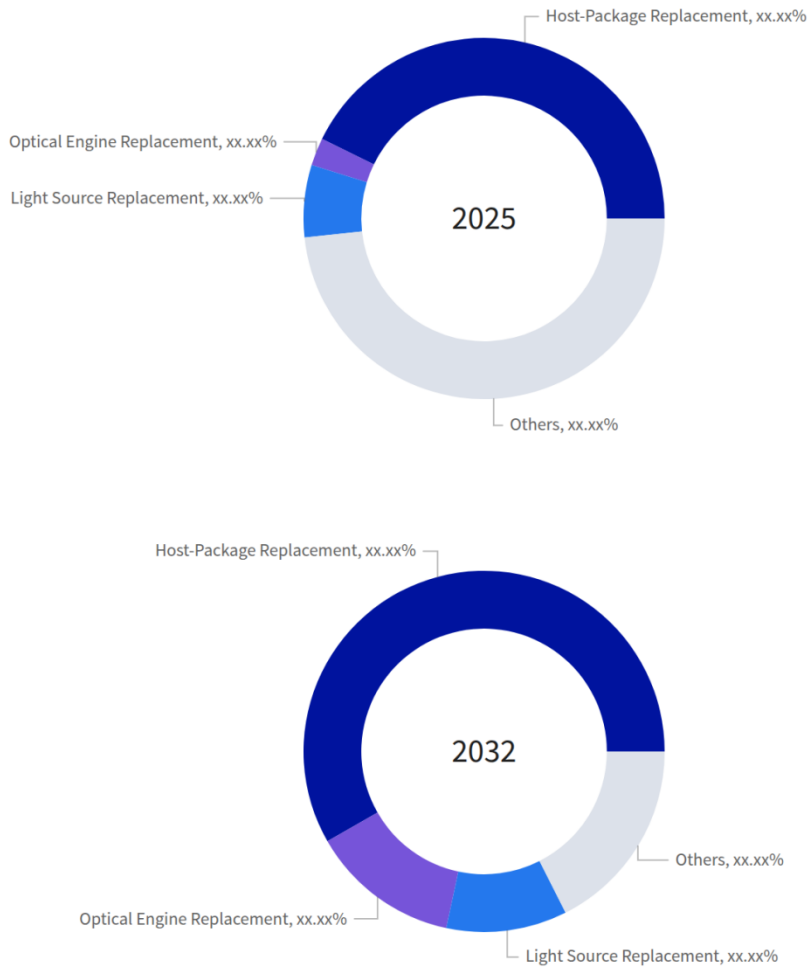


Figure 44. Global Co-Packaged Optics Market, by Serviceability Model: Market size by category, 2025

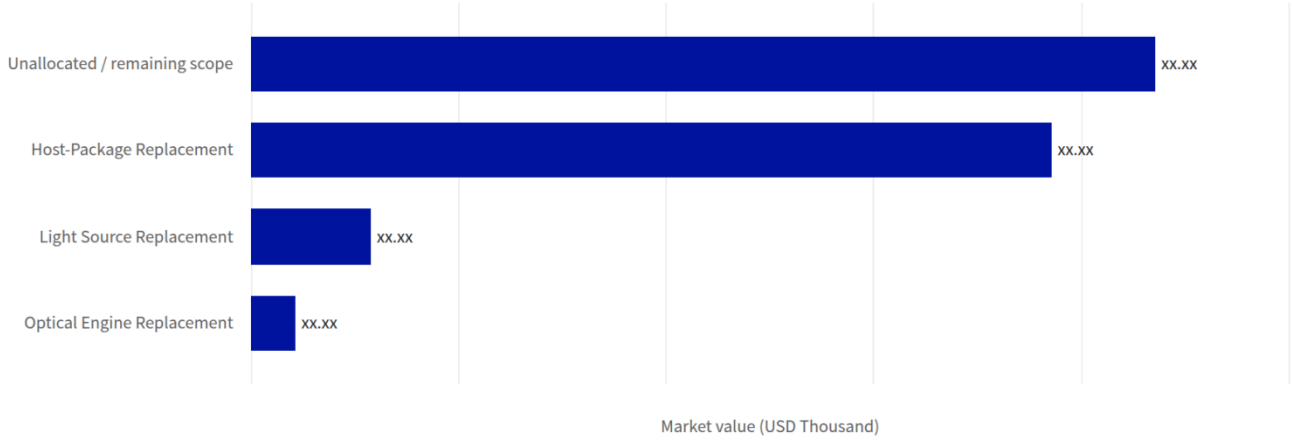


Figure 45. Global Co-Packaged Optics Market, by Serviceability Model: Market size and growth, 2025-2032

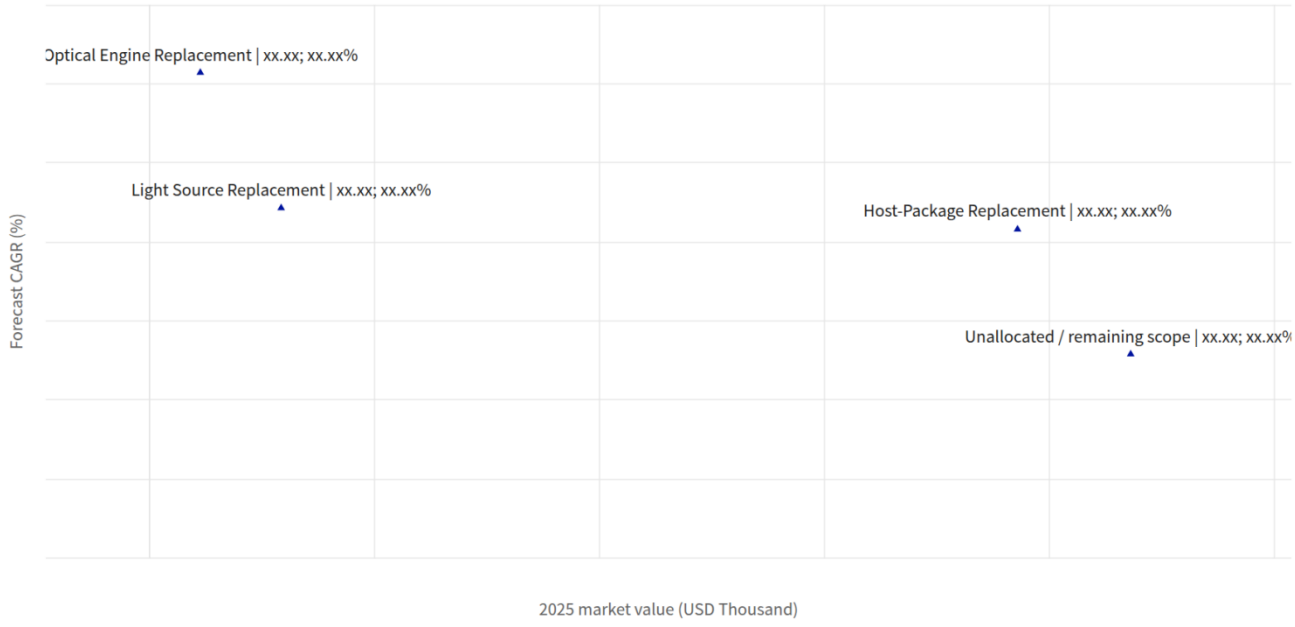


Table 227. Global Co-Packaged Optics Market, by Serviceability Model growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 228. Global Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. External Laser Small Form Factor Pluggable Implementation Agreement - OIF-ELSFP-02.0
   · ELSFP is a faceplate-pluggable external laser-source form factor with field replacement among its objectives. Its replacement function concerns illumination, not independent optical-engine replacement. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-ELSFP-xx.xx-xx.xx.pdf))
2. How Industry Collaboration Fosters NVIDIA Co-Packaged Optics
   · NVIDIA describes field-maintainable socket-based Quantum-X optical subassemblies and soldered Spectrum-X engines with detachable optical connectors; it does not disclose individual-engine maintenance entitlement. ([developer.nvidia.com](https://developer.nvidia.com/blog/how-industry-collaboration-fosters-nvidia-co-packaged-optics))
3. Datacom / CPO - PHIX Photonics Assembly
   · PHIX describes serviceability challenges in non-detachable assemblies and its participation in detachable optical-interface adoption. This supports replacement-boundary analysis, not universal repair rights. ([phix.com](https://www.phix.com/markets/datacom-cpo/))
4. OIF Co-Packaging Interoperability Demo - OFC 2022
   · OIF presents socketed and soldered CPO engine arrangements and treats repairability as an interface consideration. This supports comparing attachment and maintenance boundaries without inferring product-specific entitlements. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF_Co-Packaging_Demo_OFC2022_Presentation.pdf))

5. Broadcom Announces Tomahawk 6 - Davisson, the Industry's First 102.4-Tbps Ethernet Switch with Co-Packaged Optics
   · Broadcom's Davisson product description identifies field-replaceable ELSFP laser modules without establishing a separate engine-replacement policy.
   ([investors.broadcom.com](https://investors.broadcom.com/node/xx.xx/pdf))

19.1. Host-Package Replacement

Table 229. Global Co-Packaged Optics Market Size, by Host-Package Replacement, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 230. Global Co-Packaged Optics Market Size, by Host-Package Replacement, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 231. Global Co-Packaged Optics Market Size, by Host-Package Replacement, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

19.2. Light Source Replacement

Table 232. Global Co-Packaged Optics Market Size, by Light Source Replacement, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 233. Global Co-Packaged Optics Market Size, by Light Source Replacement, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 234. Global Co-Packaged Optics Market Size, by Light Source Replacement, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

19.3. Optical Engine Replacement

Table 235. Global Co-Packaged Optics Market Size, by Optical Engine Replacement, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 236. Global Co-Packaged Optics Market Size, by Optical Engine Replacement, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 237. Global Co-Packaged Optics Market Size, by Optical Engine Replacement, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

20. Co-Packaged Optics Market, by Sales Channel

[redacted] These are direct engagement routes, not evidence that the buyer receives a finished, supported networking system. A developer should use direct engagement when unresolved host integration or service scope requires the originating supplier's authority.

Intermediated Sales can address equipment distribution and local purchasing access. [redacted] The intermediary is commercially useful when those duties are contracted; an unqualified promise of upstream optical redesign is not a substitute for manufacturer authorization.

[redacted] The trade-off is fewer commercial interfaces versus local reach. A change in the seller or support arrangement should trigger confirmation that the same approved configuration and maintenance entitlement still apply.

Figure 46. Global Co-Packaged Optics Market, by Sales Channel: Market share evolution, 2025-2032

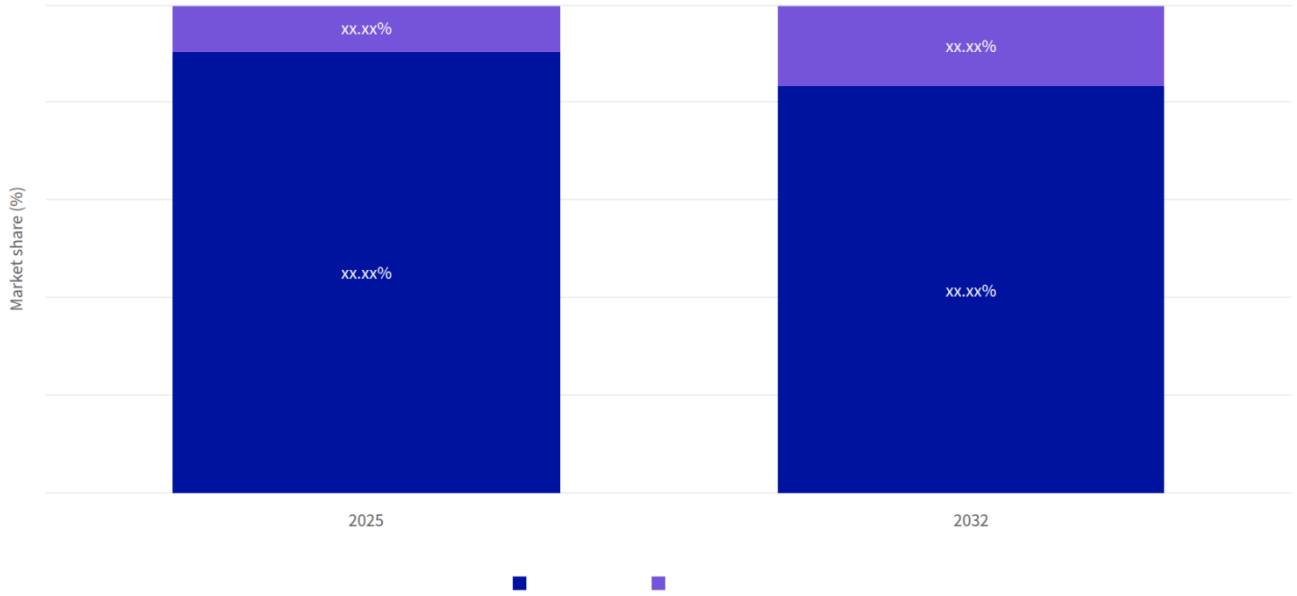


Figure 47. Global Co-Packaged Optics Market, by Sales Channel: Market size by category, 2025

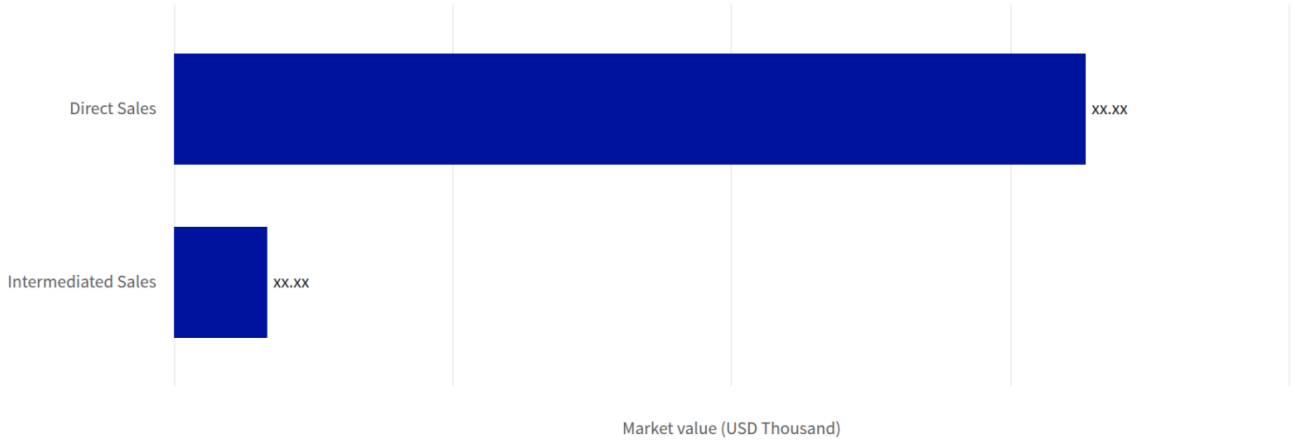


Table 238. Global Co-Packaged Optics Market, by Sales Channel growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 239. Global Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. AIM Photonics Test, Assembly and Packaging Services
   · AIM Photonics provides packaging and testing services for customer-provided chips and wafers, supporting direct service procurement distinct from finished-equipment purchase. ([aimphotonics.com](https://www.aimphotonics.com/tap))
2. Passage M1000 EVK - 3D Photonic Interconnect for AI Infrastructure
   · The M1000 evaluation-platform page directs prospective customers to Lightmatter's sales team for integration discussions, establishing a direct engagement route. ([lightmatter.co](https://lightmatter.co/products/passage-m1000-evk/))
3. Micas Networks Inc. Signs First Distributor Agreement in Japan with SB C&S Corp. to Enter Japanese Market
   · The February xx.xx 2026 announcement establishes a Japanese distributor agreement with SB C&S for a portfolio discussing CPO-enabled switches; it does not establish completed purchases of every model. ([micasnetworks.com](https://www.micasnetworks.com/company/news/sbcs20260226))

20.1. Direct Sales

Table 240. Global Co-Packaged Optics Market Size, by Direct Sales, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 241. Global Co-Packaged Optics Market Size, by Direct Sales, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 242. Global Co-Packaged Optics Market Size, by Direct Sales, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

20.2. Intermediated Sales

Table 243. Global Co-Packaged Optics Market Size, by Intermediated Sales, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 244. Global Co-Packaged Optics Market Size, by Intermediated Sales, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 245. Global Co-Packaged Optics Market Size, by Intermediated Sales, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

21. Co-Packaged Optics Market, by Optical Engine Capacity

Optical Engine Capacity should guide selection of the optical building block, not comparison of complete-switch headline bandwidth. ■■■■■■■■■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■ ■ ■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■ ■■■ ■■ ■■■■■■■ ■■ ■■■ ■■■■■■■ OIF's module documentation distinguishes module capacity from the larger switch assembled from those modules.

■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■ ■■■■ ■■ ■■■■ ■■■■■■■■■ ■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■ ■■■ ■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■ ■■■ ■■ ■ ■■■ ■■■■ ■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■ ■■■■■■■■■■■■■■■■ These examples anchor lower, intermediate, and higher terabit comparisons without using system totals. Ciena also addresses both CPO and NPO uses, so the capacity specification does not independently establish the host-package integration class.

■■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■■■■ ■ ■■■■■■■■■■■■■■■ ■■■■■■ ■■■ ■■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■■■■■ ■■ ■■■■■■■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■■ ■ ■■■■■■■■ ■■■■■■ ■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■ ■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ A larger engine is unsuitable when its supported port arrangement does not match the intended topology, while smaller building blocks do not guarantee finer field-replacement rights. Reassessment is warranted when the host's connection requirements or enabled configuration changes.

Figure 48. Global Co-Packaged Optics Market Size, by Optical Engine Capacity, 2025 vs 2032 (%)

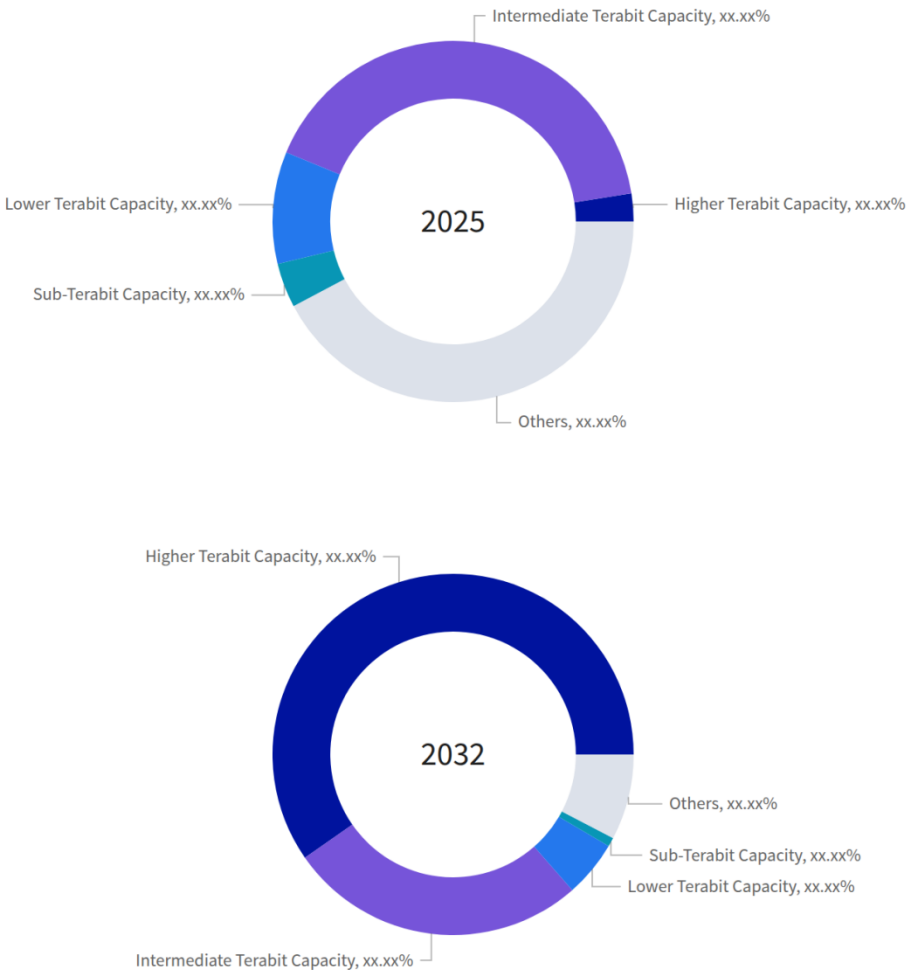


Figure 49. Global Co-Packaged Optics Market, by Optical Engine Capacity: Market size by category, 2025

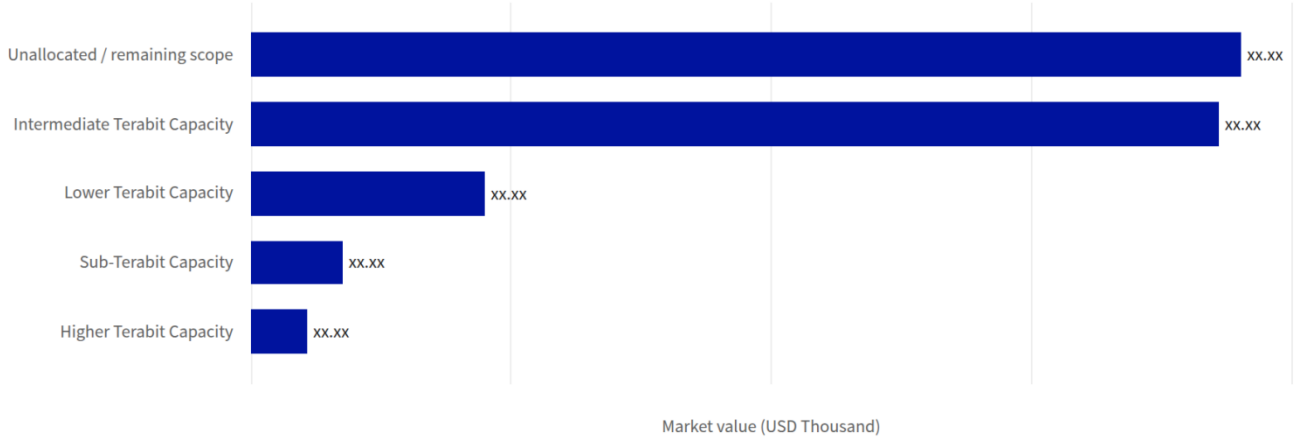


Figure 50. Global Co-Packaged Optics Market, by Optical Engine Capacity: Market size and growth, 2025-2032

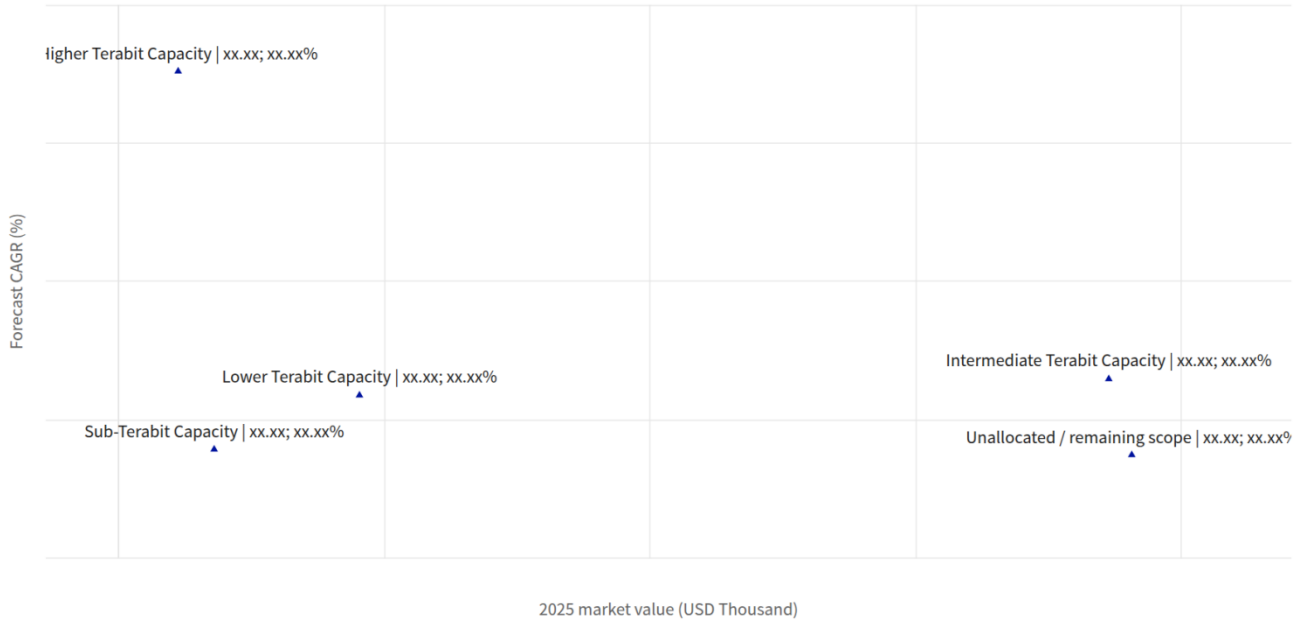


Table 246. Global Co-Packaged Optics Market, by Optical Engine Capacity growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 247. Global Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Implementation Agreement for a 3.2Tb/s Co-Packaged (CPO) Module - OIF-Co-Packaging-3.2T-Module-01.0
   · The agreement distinguishes optical-module capacity from complete-switch capacity. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-Co-Packaging-xx.xx.2T-Module-xx.xx.pdf))
2. How Industry Collaboration Fosters NVIDIA Co-Packaged Optics
   · Individual Quantum-X engines are specified at xx.xx Tb/s transmit and xx.xx Tb/s receive; Spectrum-X engines are specified at xx.xx Tb/s with separate transmit and receive lanes. ([developer.nvidia.com](https://developer.nvidia.com/blog/how-industry-collaboration-fosters-nvidia-co-packaged-optics))
3. Vesta 200 6.4T CPX Optical Engine - Ciena Infobrief
   · Vesta xx.xx is specified as a xx.xx Tb/s engine with xx.xx nominal xx.xx Gb/s transmit lanes and separate receive lanes, supporting several optical port configurations and both CPO and NPO applications. ([ciena.com](https://www.ciena.com/__data/assets/pdf_file/xx.xx/xx.xx/vesta_200_6-4T_cpx_optical_engine_IB.pdf))

4. OIF Co-Packaging Interoperability Demo - OFC 2022
   · The presentation distinguishes optical modules from the larger switch assembled from them and identifies port grouping separately from module capacity.
   ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF_Co-Packaging_Demo_OFC2022_Presentation.pdf))

21.1. Intermediate Terabit Capacity

Table 248. Global Co-Packaged Optics Market Size, by Intermediate Terabit Capacity, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 249. Global Co-Packaged Optics Market Size, by Intermediate Terabit Capacity, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 250. Global Co-Packaged Optics Market Size, by Intermediate Terabit Capacity, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

21.2. Lower Terabit Capacity

Table 251. Global Co-Packaged Optics Market Size, by Lower Terabit Capacity, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 252. Global Co-Packaged Optics Market Size, by Lower Terabit Capacity, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 253. Global Co-Packaged Optics Market Size, by Lower Terabit Capacity, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

21.3. Sub-Terabit Capacity

Table 254. Global Co-Packaged Optics Market Size, by Sub-Terabit Capacity, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 255. Global Co-Packaged Optics Market Size, by Sub-Terabit Capacity, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 256. Global Co-Packaged Optics Market Size, by Sub-Terabit Capacity, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

21.4. Higher Terabit Capacity

Table 257. Global Co-Packaged Optics Market Size, by Higher Terabit Capacity, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 258. Global Co-Packaged Optics Market Size, by Higher Terabit Capacity, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 259. Global Co-Packaged Optics Market Size, by Higher Terabit Capacity, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

22. Co-Packaged Optics Market, by Interface Standardization

[redacted] OIF's CPO work addresses these interfaces separately, making a common electrical label insufficient to establish complete interchangeability. Buyers should request a configuration-specific interface declaration before treating an alternative engine as a replacement.

[redacted] Likewise, incomplete public disclosure is not affirmative evidence of a fully proprietary implementation. For proprietary arrangements, design owners should establish access to the necessary interface information, permitted integration changes, and continuity of supplier support before committing to a dependent host architecture.

Version control is commercially consequential. The retrieved OIF module agreement's management chapter specifies CMIS xx.xx or later, while its informative references retain CMIS xx.xx. [redacted]

Figure 51. Global Co-Packaged Optics Market Size, by Interface Standardization, 2025 vs 2032 (%)

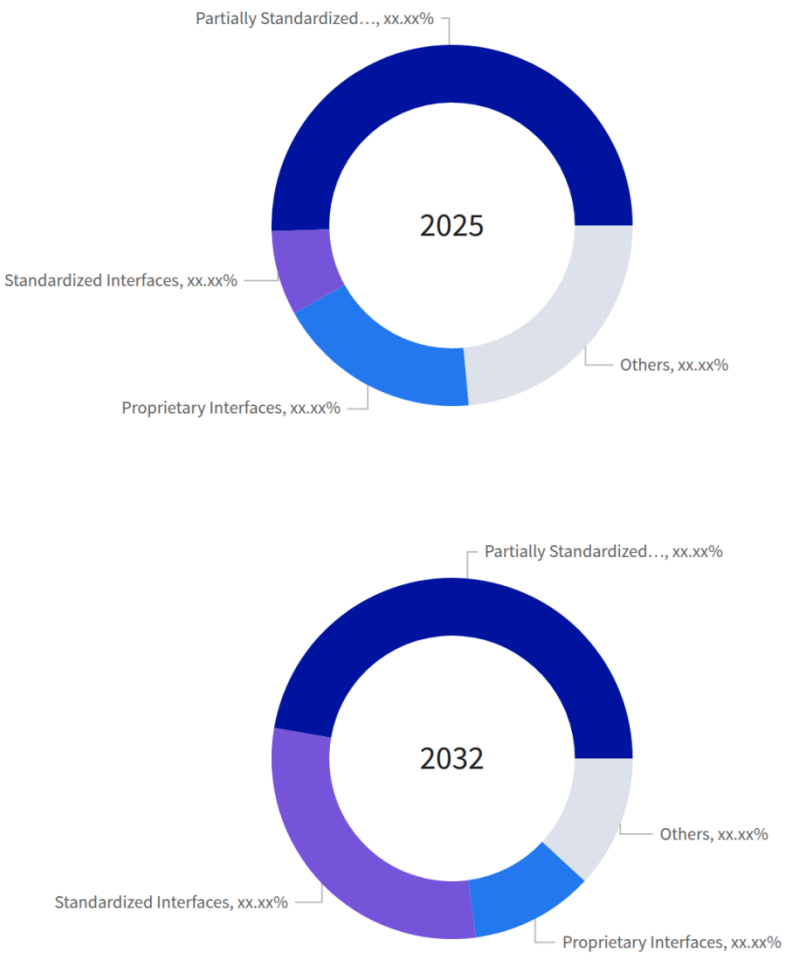


Figure 52. Global Co-Packaged Optics Market, by Interface Standardization: Market size by category, 2025

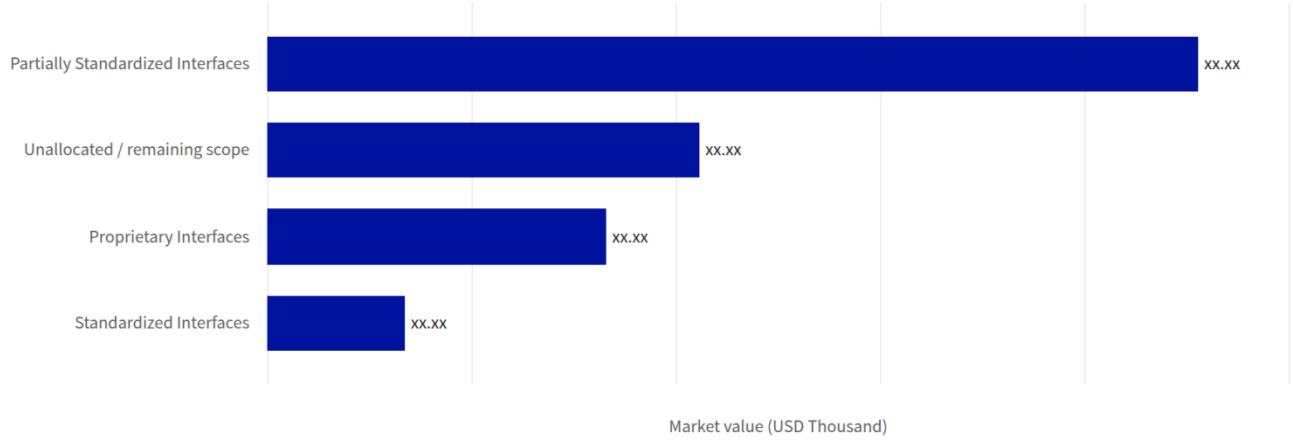


Figure 53. Global Co-Packaged Optics Market, by Interface Standardization: Market size and growth, 2025-2032



Table 260. Global Co-Packaged Optics Market, by Interface Standardization growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 261. Global Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Implementation Agreement for a 3.2Tb/s Co-Packaged (CPO) Module - OIF-Co-Packaging-3.2T-Module-01.0
   · The agreement covers electrical, mechanical, and management interfaces. Its management chapter references CMIS xx.xx or later, while informative references retain CMIS xx.xx; contractual profile confirmation is therefore necessary.
   ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-Co-Packaging-xx.xx.2T-Module-xx.xx.pdf))
2. Vesta 200 6.4T CPX Optical Engine - Ciena Infobrief
   · Ciena affirmatively identifies standards-based host electrical interfaces, but the infobrief does not establish complete public mechanical and management profile conformity.
   ([ciena.com](https://www.ciena.com/__data/assets/pdf_file/xx.xx/xx.xx/vesta_200_6-4T_cpx_optical_engine_IB.pdf))
3. OIF Co-Packaging Interoperability Demo - OFC 2022
   · OIF identifies electrical, socket, and management interfaces as separate interoperability subjects.
   ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF_Co-Packaging_Demo_OFC2022_Presentation.pdf))
4. NVIDIA LinkX Cables and Transceivers for High-Speed AI Factory Networking
   · NVIDIA markets qualification, testing, and end-to-end support within its networking systems. This supports a single-supplier accountability alternative without proving cross-supplier interchangeability.
   ([nvidia.com](https://www.nvidia.com/en-us/networking/interconnect/))

22.1. Partially Standardized Interfaces

Table 262. Global Co-Packaged Optics Market Size, by Partially Standardized Interfaces, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 263. Global Co-Packaged Optics Market Size, by Partially Standardized Interfaces, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 264. Global Co-Packaged Optics Market Size, by Partially Standardized Interfaces, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

22.2. Proprietary Interfaces

Table 265. Global Co-Packaged Optics Market Size, by Proprietary Interfaces, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 266. Global Co-Packaged Optics Market Size, by Proprietary Interfaces, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 267. Global Co-Packaged Optics Market Size, by Proprietary Interfaces, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

22.3. Standardized Interfaces

Table 268. Global Co-Packaged Optics Market Size, by Standardized Interfaces, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 269. Global Co-Packaged Optics Market Size, by Standardized Interfaces, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 270. Global Co-Packaged Optics Market Size, by Standardized Interfaces, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

23. Co-Packaged Optics Market, by Optical Detection

Optical Detection changes the architecture being evaluated, independently of light-source location or wavelength multiplexing. ■■■■■■ ■■■■■■■■■ ■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■ ■■ ■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■ ■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■ ■ ■■■■■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■■■ A buyer should first determine whether an accepted direct-detection configuration meets the intended optical-path requirement rather than assuming that a more elaborate detection architecture is preferable.

■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■ ■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■ ■■ ■■■ ■■■■■■■■■ ■ ■■■■■■■■■■ ■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■■ ■■ ■■■■■■■ ■■■■■■■■■ ■■ ■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■ A 2025 C2PO research preprint combines architectural modeling with a modulation proof of concept; a separate preprint proposes DSP-free phase recovery using modeled components. Neither establishes customer acceptance of a commercial host-package implementation.

Developers should consider coherent CPO evaluation when a documented density or optical-loss constraint defeats the accepted direct-detection alternative. Before committing, they need evidence for the complete host-package configuration, compatible interfaces, thermal behavior, and customer acceptance. ■■■ ■■■■■■■■■ ■■ ■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■ ■ ■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■ ■■ ■ ■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■ ■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■■■■

Figure 54. Global Co-Packaged Optics Market Size, by Optical Detection, 2025 vs 2032 (%)

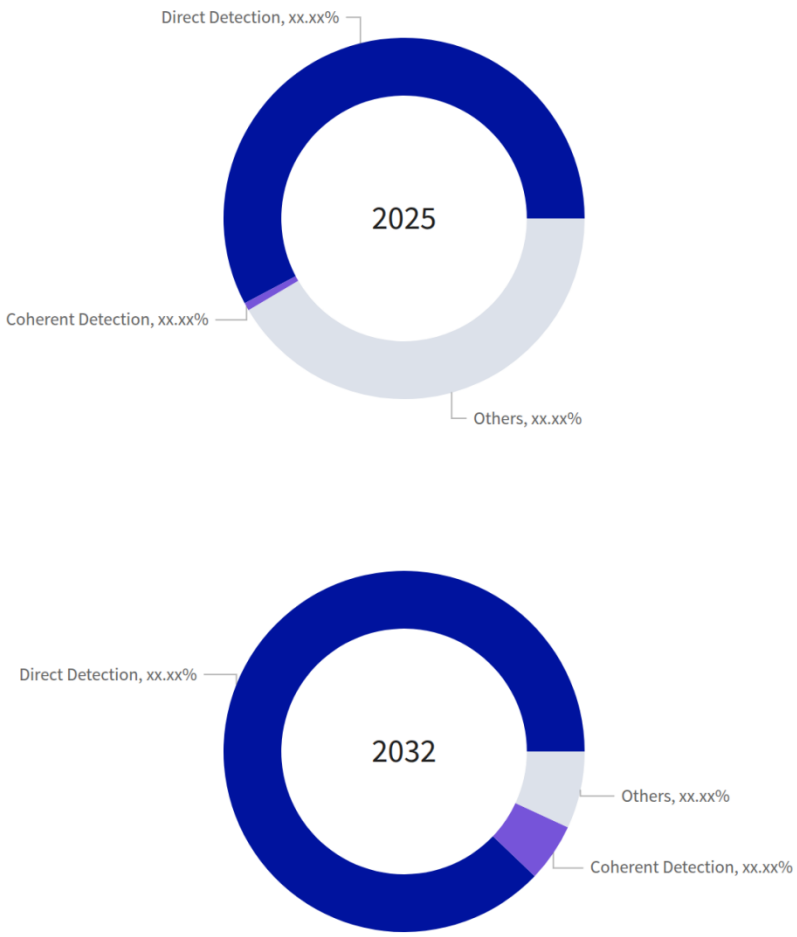


Figure 55. Global Co-Packaged Optics Market, by Optical Detection: Market size by category, 2025

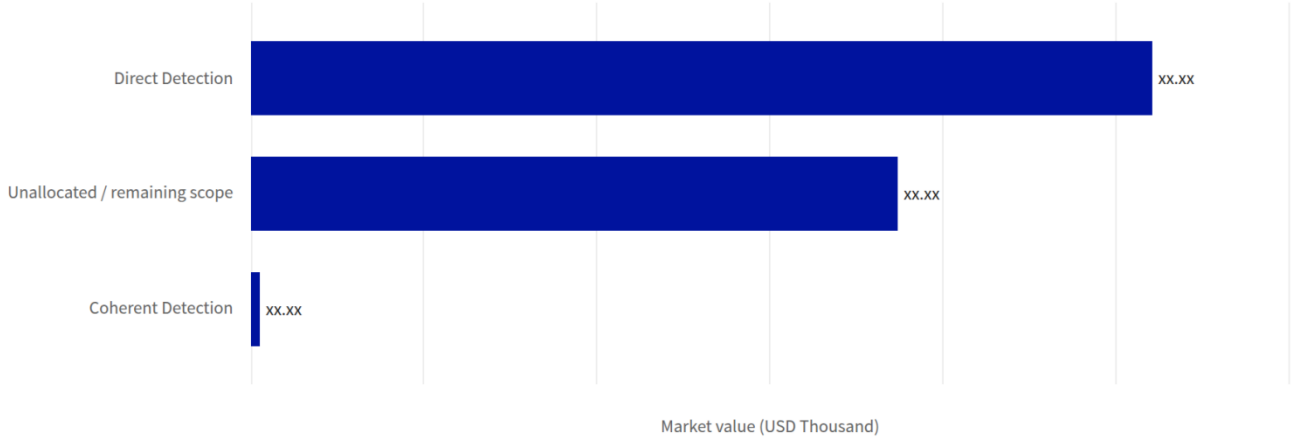


Figure 56. Global Co-Packaged Optics Market, by Optical Detection: Market size and growth, 2025-2032

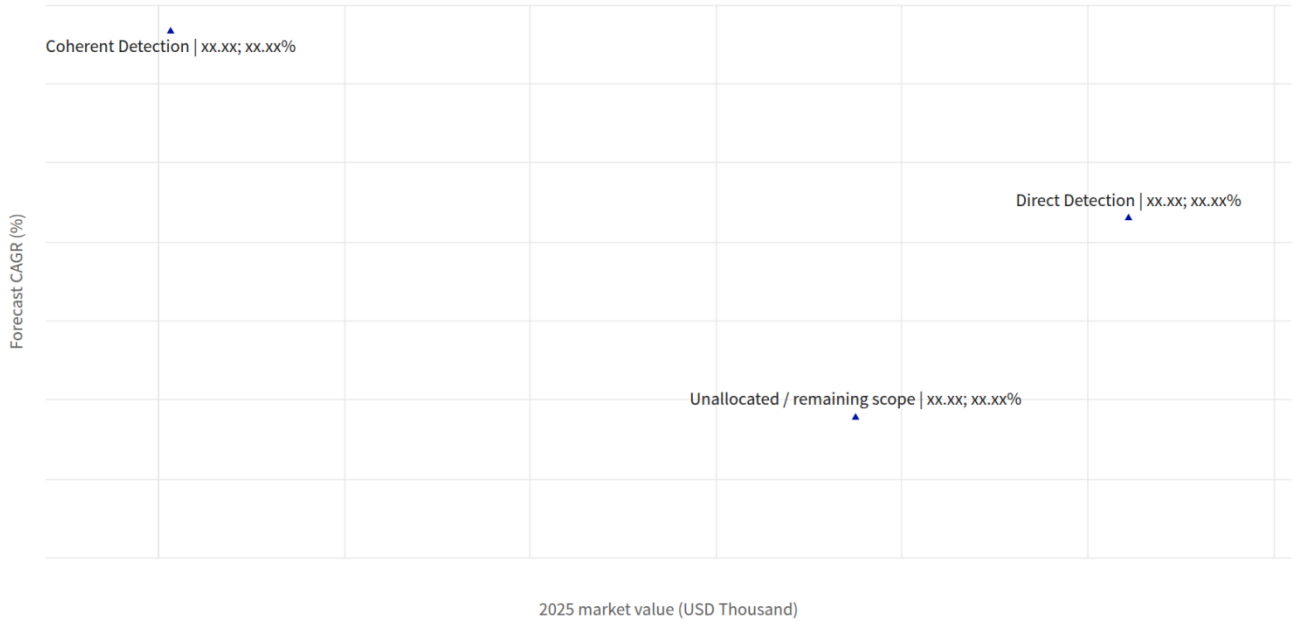


Table 271. Global Co-Packaged Optics Market, by Optical Detection growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 272. Global Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. External vs. Integrated Light Sources for Intra-Data Center Co-Packaged Optical Interfaces
   · The peer-reviewed study models direct and coherent CPO architectures independently of external or integrated source location. Sensitivity and link-budget comparisons are modeled results, not commercial operating evidence.
   ([ee.stanford.edu](https://ee.stanford.edu/~jmk/pubs/ext.vs.integ.light.sources.jlt.xx.xx-xx.xx.pdf))
2. Vesta 200 6.4T CPX Optical Engine - Ciena Infobrief
   · The documented PAM4 optical engine and photodiode receiver block are interpreted as a direct-detection reference, not as a coherent receiver implementation.
   ([ciena.com](https://www.ciena.com/__data/assets/pdf_file/xx.xx/xx.xx/vesta_200_6-4T_cpx_optical_engine_IB.pdf))
3. Coherent Data Center Links
   · The peer-reviewed analysis distinguishes intensity-based formats from conventional coherent reception and examines simplified coherent receivers against sensitivity, power, and complexity considerations.
   ([ee.stanford.edu](https://ee.stanford.edu/~jmk/pubs/coh.data.center.links.JLT.xx.xx.pdf))
4. C2PO: Coherent Co-packaged Optics using offset-QAM-16 for Beyond PAM-4 Optical I/O
   · The University of Washington research preprint submitted June xx.xx 2025 combines coherent CPO architectural modeling with a modulation proof of concept. It does not establish a commercial host-package implementation. ([arxiv.org](https://arxiv.org/pdf/xx.xx))
5. A DSP-Free Carrier Phase Recovery System using 16-Offset-QAM Laser Forwarded Links for 400Gb/s and Beyond
   · The May xx.xx 2025 research preprint proposes DSP-free carrier-phase recovery for prospective coherent optical interconnects and validates the proposal using component models; it is not a released CPO product.
   ([arxiv.org](https://arxiv.org/pdf/xx.xx))

23.1. Direct Detection

Table 273. Global Co-Packaged Optics Market Size, by Direct Detection, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 274. Global Co-Packaged Optics Market Size, by Direct Detection, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 275. Global Co-Packaged Optics Market Size, by Direct Detection, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

23.2. Coherent Detection

Table 276. Global Co-Packaged Optics Market Size, by Coherent Detection, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 277. Global Co-Packaged Optics Market Size, by Coherent Detection, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 278. Global Co-Packaged Optics Market Size, by Coherent Detection, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

24. Co-Packaged Optics Market, by Region

Regional sourcing decisions should follow the location of the relevant capability and contractual responsibility rather than supplier headquarters alone. ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪ A domestic design relationship therefore does not establish domestic fabrication, and local equipment distribution does not establish authority over the embedded optical package.

North America provides distinct component-development and finished-equipment access points. Canada's National Research Council reports that its Canadian Photonics Fabrication Centre supplies lasers used in Ottawa-based RANOVUS CPO hardware. ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪

▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ Infrastructure buyers should separate facility cabling procurement from host-package optical procurement. A regional connectivity supplier becomes a viable CPO participant only when its specific interface is accepted by the equipment or package owner; otherwise, qualified system sourcing remains a different commercial task from buying locally supported cabling.

Europe offers a packaging-engagement route illustrated by Netherlands-based PHIX, which markets CPO co-design, optical attachment, and manufacturing support. ▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪ ▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ It does not mandate CPO adoption, and EU obligations should not be generalized to every European jurisdiction.

The Middle East combines different supplier and deployment contexts. ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪

[illegible] Suppliers should distinguish a foundry-development engagement from a regional infrastructure prospect and require the actual equipment model and supported optical architecture before treating an AI project as executable CPO demand.

[illegible] For an African infrastructure buyer, Egyptian engineering activity is not evidence of locally manufactured equipment or local restoration support. A different sourcing conclusion would require a facility-specific CPO delivery assignment and customer-approved support responsibilities.

Asia-Pacific presents separate foundry, packaging-development, and equipment-channel choices. TSMC's 2025 annual report describes COUPE and CoWoS CPO development, retaining announced production expectations as expectations rather than completed customer acceptance. [illegible]

Figure 57. Global Co-Packaged Optics Market, by Region: Market share evolution, 2025-2032

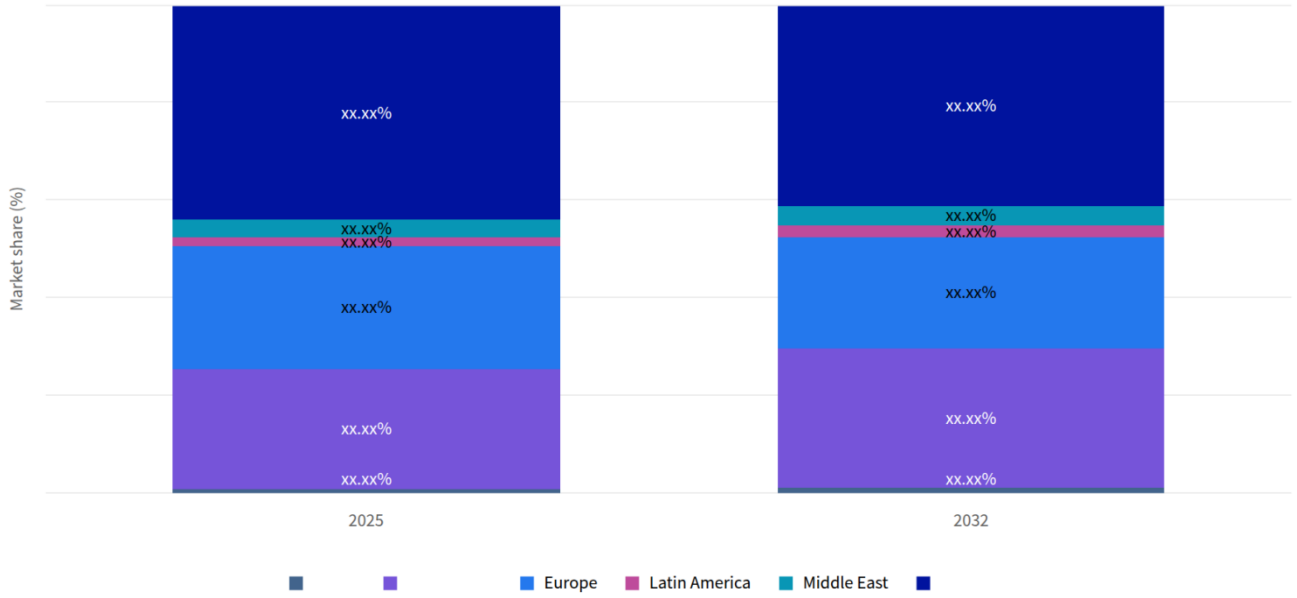


Figure 58. Global Co-Packaged Optics Market, by Region: Market size by category, 2025

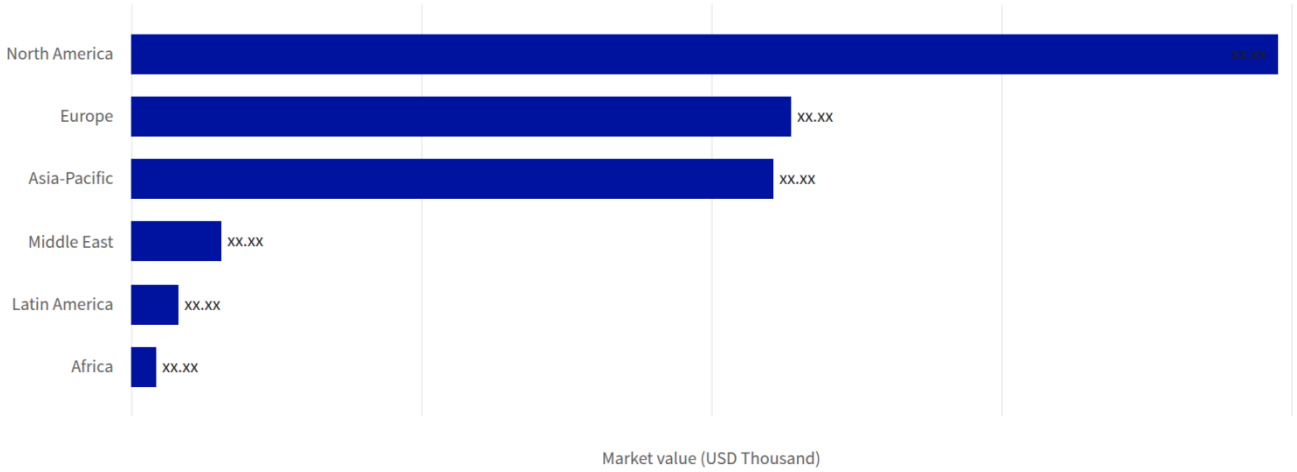


Figure 59. Global Co-Packaged Optics Market, Regional growth by Buyer Type, 2025-2032 (CAGR %)

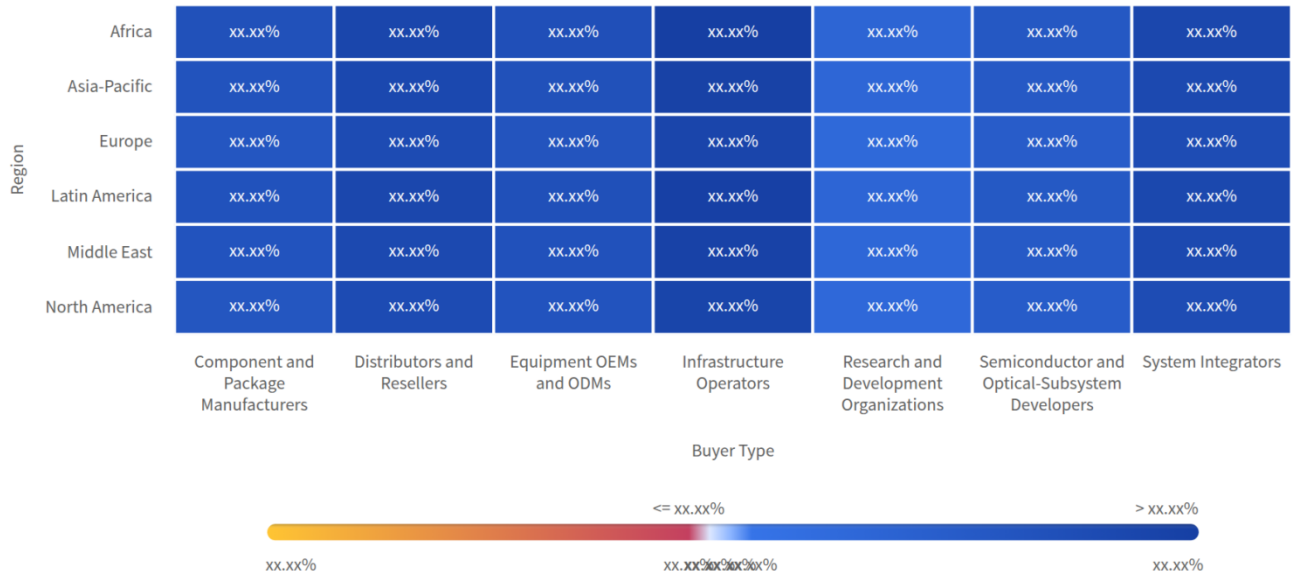


Table 279. Global Co-Packaged Optics Market, by Region growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 280. Global Co-Packaged Optics Market Size, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Micas Networks Announces Industry's First 51.2T Co-Packaged Optics Network Switch System Now in Volume Production
   · Micas Networks' March xx.xx 2025 California-datelined announcement reports global availability of its finished CPO switch system, establishing an equipment-access milestone distinct from constituent supply. ([micasnetworks.com](https://www.micasnetworks.com/company/news/xx.xx))
2. Datacom / CPO - PHIX Photonics Assembly
   · PHIX markets CPO co-design, optical attachment, and manufacturing support. Using these services as an entry route remains conditional on platform compatibility and customer approval. ([phix.com](https://www.phix.com/markets/datacom-cpo/))
3. Micas Networks Inc. Signs First Distributor Agreement in Japan with SB C&S Corp. to Enter Japanese Market
   · The agreement provides a Japan-specific downstream equipment channel, distinct from foundry or host-package integration relationships. ([micasnetworks.com](https://www.micasnetworks.com/company/news/sbcs20260226))
4. Energy performance of data centres
   · The European Commission identifies data-center energy-performance reporting under the Energy Efficiency Directive and EU/2024/xx.xx. This concerns covered EU facilities, not a mandate to adopt CPO or a Europe-wide product requirement. ([energy.ec.europa.eu](https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficiency-targets-directive-and-rules/energy-efficiency-directive/energy-performance-data-centres_en))
5. National Research Council Canada Annual Report 2024-2025 - Delivering Results for a Stronger Canada
   · Canada's official research-council annual report states that Canadian Photonics Fabrication Centre lasers are used in Ottawa-based RANOVUS CPO hardware, establishing a specific Canadian component-development link. ([publications.gc.ca](https://publications.gc.ca/collections/collection_2025/cnrc-nrc/NR1-xx.xx-2025-eng.pdf))
6. The Operational Structure of the Furukawa Electric Optical Fiber Cable Business Has Been Integrated Under a New Brand, Lightera
   · Furukawa's March 2025 optical-fiber-and-cable reorganization identifies Lightera LatAm S.A. in Brazil. It does not assign CPO component production to that operation. ([furukawaelectric.com](https://www.furukawaelectric.com/en/release/2025/comm_20250306.html))
7. An Epoch Compact Multi-Fiber Optical Connector Suitable for CPO
   · Furukawa's March xx.xx 2025 announcement documents development of a compact multifiber connector intended for CPO, separate from its Brazilian cable-business disclosure. ([furukawaelectric.com](https://www.furukawaelectric.com/en/release/2025/comm_20250327.html))
8. Contact - PHIX Photonics Assembly
   · PHIX's official contact page identifies PHIX B.V. headquarters in the Netherlands, supporting the geographic binding of its separately inspected CPO services. ([phix.com](https://www.phix.com/contact/))
9. Light-Speed Ambition: GlobalFoundries Acquires AMF and InfiniLink to Power the AI Data Center Revolution
   · GlobalFoundries' November xx.xx 2025 disclosure identifies acquired AMF as Singapore-based manufacturing capability and InfiniLink as Cairo-based connectivity-design capability contributing to optical-engine roadmaps for pluggable and co-packaged optics. It does not establish Egyptian CPO fabrication. ([gf.com](https://gf.com/news-and-events/blog/light-speed-ambition-globalfoundries-acquires-amf-and-infinilink-to-power-the-ai-datacenter-revolution/))
10. TSMC 2025 Annual Report
    · TSMC's 2025 annual report describes COUPE and CoWoS CPO development and retains 2026 production expectations as forward-looking statements. These do not independently establish customer acceptance or a specific facility assignment. ([investor.tsmc.com](https://investor.tsmc.com/sites/ir/annual-report/2025/2025%20Annual%20Report.E.pdf))

11. Tower Semiconductor to Participate at OFC 2026 Highlighting Its Silicon Photonics Platform for AI, Telecom and Emerging Applications

· Tower's March xx.xx 2026 Israel-datelined announcement identifies CPO scale-up applications for its silicon-photonics platform and describes fabrication operations in Israel, the United States, Japan, and Italy. It does not allocate CPO production to a particular facility. ([towersemi.com](https://towersemi.com/wp-content/uploads/2026/xx.xx/OFC_2026_-PR_Final_AC.pdf))

12. HUMAIN and NVIDIA Announce Strategic Partnership to Build AI Factories of the Future in Saudi Arabia

· The May xx.xx 2025 HUMAIN-NVIDIA announcement describes planned Saudi AI infrastructure with NVIDIA InfiniBand networking. It does not identify a same-package optical configuration, so the project announcement is not treated as established CPO demand. ([nvidianews.nvidia.com](https://nvidianews.nvidia.com/news/humain-and-nvidia-announce-strategic-partnership-to-build-ai-factories-of-the-future-in-saudi-arabia))

24.1. North America

Table 281. North America Co-Packaged Optics Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 282. North America Co-Packaged Optics Market Size, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 283. North America Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 284. North America Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 285. North America Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 286. North America Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 287. North America Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 288. North America Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 289. North America Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 290. North America Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 291. North America Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 292. North America Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 293. North America Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 294. North America Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 295. North America Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 296. North America Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 297. North America Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 298. North America Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 299. North America Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 300. North America Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 301. North America Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 302. North America Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 303. North America Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 304. North America Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 305. North America Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 306. North America Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

24.2. Europe

Table 307. Europe Co-Packaged Optics Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Austria	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Belgium	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Denmark	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Finland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Netherlands	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Norway	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Poland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Portugal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sweden	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switzerland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 308. Europe Co-Packaged Optics Market Size, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Austria	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Belgium	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Denmark	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Finland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Netherlands	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Norway	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Poland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Portugal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sweden	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switzerland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 309. Europe Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 310. Europe Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 311. Europe Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 312. Europe Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 313. Europe Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 314. Europe Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 315. Europe Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 316. Europe Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 317. Europe Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 318. Europe Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 319. Europe Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 320. Europe Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 321. Europe Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 322. Europe Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 323. Europe Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 324. Europe Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 325. Europe Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 326. Europe Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 327. Europe Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 328. Europe Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 329. Europe Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 330. Europe Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 331. Europe Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 332. Europe Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

24.3. Asia-Pacific

Table 333. Asia-Pacific Co-Packaged Optics Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Indonesia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Malaysia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Philippines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Singapore	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Taiwan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thailand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 334. Asia-Pacific Co-Packaged Optics Market Size, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Indonesia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Malaysia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Philippines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Singapore	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Taiwan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thailand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 335. Asia-Pacific Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 336. Asia-Pacific Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 337. Asia-Pacific Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 338. Asia-Pacific Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 339. Asia-Pacific Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 340. Asia-Pacific Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 341. Asia-Pacific Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 342. Asia-Pacific Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 343. Asia-Pacific Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 344. Asia-Pacific Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 345. Asia-Pacific Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 346. Asia-Pacific Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 347. Asia-Pacific Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 348. Asia-Pacific Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 349. Asia-Pacific Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 350. Asia-Pacific Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 351. Asia-Pacific Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 352. Asia-Pacific Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 353. Asia-Pacific Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 354. Asia-Pacific Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 355. Asia-Pacific Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 356. Asia-Pacific Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 357. Asia-Pacific Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 358. Asia-Pacific Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

24.4. Middle East

Table 359. Middle East Co-Packaged Optics Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Israel	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qatar	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Saudi Arabia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Turkey	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Arab Emirates	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 360. Middle East Co-Packaged Optics Market Size, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Israel	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qatar	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Saudi Arabia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Turkey	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Arab Emirates	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 361. Middle East Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 362. Middle East Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 363. Middle East Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 364. Middle East Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 365. Middle East Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 366. Middle East Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 367. Middle East Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 368. Middle East Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 369. Middle East Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 370. Middle East Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 371. Middle East Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 372. Middle East Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 373. Middle East Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 374. Middle East Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 375. Middle East Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 376. Middle East Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 377. Middle East Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 378. Middle East Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 379. Middle East Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 380. Middle East Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 381. Middle East Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 382. Middle East Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 383. Middle East Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 384. Middle East Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

24.5. Latin America

Table 385. Latin America Co-Packaged Optics Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Argentina	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chile	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Colombia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Peru	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 386. Latin America Co-Packaged Optics Market Size, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Argentina	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chile	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Colombia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Peru	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 387. Latin America Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 388. Latin America Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 389. Latin America Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 390. Latin America Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 391. Latin America Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 392. Latin America Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 393. Latin America Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 394. Latin America Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 395. Latin America Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 396. Latin America Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 397. Latin America Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 398. Latin America Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 399. Latin America Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 400. Latin America Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 401. Latin America Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 402. Latin America Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 403. Latin America Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 404. Latin America Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 405. Latin America Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 406. Latin America Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 407. Latin America Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 408. Latin America Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 409. Latin America Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 410. Latin America Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

24.6. Africa

Table 411. Africa Co-Packaged Optics Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Egypt	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Kenya	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nigeria	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 412. Africa Co-Packaged Optics Market Size, by Region, 2017-2032 (USD Thousand)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Egypt	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Kenya	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nigeria	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 413. Africa Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 414. Africa Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 415. Africa Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 416. Africa Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 417. Africa Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 418. Africa Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 419. Africa Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 420. Africa Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 421. Africa Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 422. Africa Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 423. Africa Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 424. Africa Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 425. Africa Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 426. Africa Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 427. Africa Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 428. Africa Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 429. Africa Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 430. Africa Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 431. Africa Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 432. Africa Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 433. Africa Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 434. Africa Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 435. Africa Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 436. Africa Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

25. Co-Packaged Optics Market, by Group

The Americas group supports a cross-border supply-chain view, but CPO sourcing decisions still require the actual trade corridor. Within the United States-Canada-Mexico corridor, preferential origin depends on product-specific production requirements, not the supplier's headquarters or shipping address. ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■ ■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■ ■■■■■■■■ ■■■ ■■■■ ■■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■ ■■ ■■■■■ ■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■■■

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ASEAN provides a shared customs-document mechanism through the ASEAN Single Window's electronic exchange of ATIGA Form D. This can support documented movements of eligible CPO constituents between participating countries, but it does not establish preferential origin or customer qualification by itself. ■■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■ ■■■■ ■■■■■ ■■■■■■■■■■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■ ■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■ ■■■■■■■■■■■■ Electronic documentation can reduce administrative friction; it cannot make different national facilities interchangeable.

The GCC's unified customs framework is relevant to imported CPO assemblies and replacement-source logistics. Its procedures distinguish commercial importation, temporary admission, reexportation, and free-zone handling, while retaining requirements for restricted-goods approvals. ■ ■■■■■■■■ ■■■ ■■ ■■■ ■■■■■■ ■■■■ ■■■■■■■■ ■■ ■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■ ■■ ■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■ ■■■ ■■■■■■ ■■■■■■ ■■■■■■■■■ ■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■■■■■ ■■■■ ■ ■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■

Australasia's Australia-New Zealand Closer Economic Relations agreement provides preferential treatment for goods meeting its origin requirements. CPO engines or assemblies sourced elsewhere do not become qualifying regional goods solely through trans-Tasman distribution. ■ ■■■■■■■■ ■■■ ■■■■■■■■ ■ ■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■

[illegible]

Nordic cooperation provides a requirements-engagement mechanism rather than a consolidated CPO purchasing mandate. The Nordic Council of Ministers' June 2025 funding decision for a Nordic-Baltic AI center brought together organizations from Finland, Sweden, Denmark, Norway, and Iceland. [illegible]

The European Union offers shared photonics development infrastructure through PIXEurope, an ongoing Chips Joint Undertaking project designed to provide coordinated access from photonic-chip development through packaging and test. [illegible] Suppliers should distinguish program access from the legal and commercial obligations of the final delivery jurisdiction.

[illegible] Joint research support is not an optical-hardware order or a common supplier qualification. This route suits an eligible development consortium; a funded customer integration program remains the more direct route to a specific commercial design position.

G7 semiconductor cooperation provides a supply-chain coordination lens. [illegible] A nominal second country is not a qualified second source, and transferring work can introduce renewed integration obligations.

[redacted] Membership geography does not establish product eligibility or a procurement award. The trade-off is access to a structured innovation program against contractual reporting and scope obligations, rather than a substitute for customer-approved integration.

[redacted] EU, Nordic, G7, NATO, ASEAN, GCC, and BRICS coverage can intersect broader regional and group coverage. Multiple memberships do not represent independent customers, additional supply capacity, or separate qualification pathways.

Figure 60. Global Co-Packaged Optics Market Size, by Group, 2025 vs 2026 vs 2032

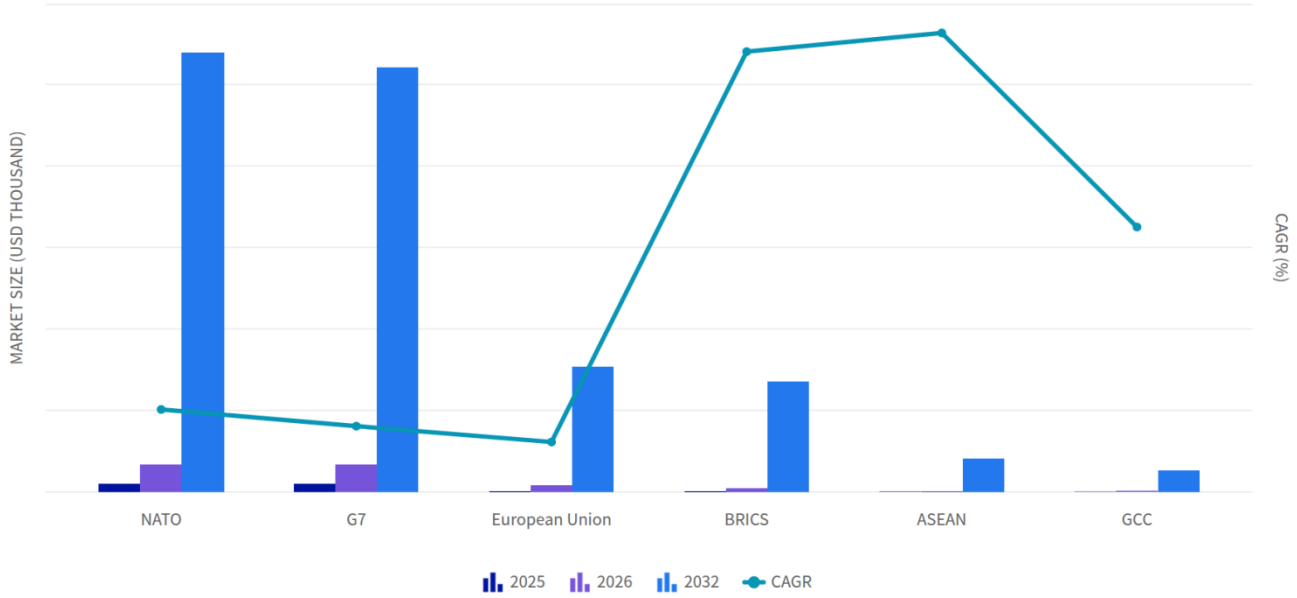


Table 437. Global Co-Packaged Optics Market Size, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Sources & Evidence

1. Datacom / CPO - PHIX Photonics Assembly
   · PHIX offers CPO packaging, integration, and new-product-introduction support, establishing a packaging contribution suitable for assessing coordinated EMEA engagement. ([phix.com](https://www.phix.com/markets/datacom-cpo/))
2. Light-Speed Ambition: GlobalFoundries Acquires AMF and InfiniLink to Power the AI Data Center Revolution
   · GlobalFoundries identifies acquired Cairo-based InfiniLink as a connectivity-design contribution to complete optical-engine modules for pluggable and CPO applications. Cross-jurisdiction coordination is an analytical implication. ([gf.com](https://gf.com/news-and-events/blog/light-speed-ambition-globalfoundries-acquires-amf-and-infinilink-to-power-the-ai-datacenter-revolution/))
3. Memorandum D11-5-17 - Canada-United States-Mexico Agreement (CUSMA) Rules of Origin
   · CBSA explains that product-specific origin rules determine when components undergo sufficient production within the United States-Canada-Mexico free-trade area. Applying this to CPO corridor selection is a commercial inference. ([cbsa-asfc.gc.ca](https://www.cbsa-asfc.gc.ca/publications/dm-md/d11/d11-xx.xx-xx.xx-eng.html))
4. Electronic Exchange of Form D via the ASEAN Single Window (ASW)
   · Singapore Customs describes ASEAN Single Window exchange of ATIGA electronic Form D, including full electronic transmission from January xx.xx 2024. This establishes a shared origin-document mechanism, not CPO qualification. ([customs.gov.sg](https://www.customs.gov.sg/doing-business/rules-of-origin/origin-documentation/electronic-exchange-of-form-d-via-the-asean-single-window/))
5. Approved Exporter and Certified Exporter Scheme
   · Singapore's approved- and certified-exporter rules restrict self-certification to authorized goods satisfying the relevant agreement requirements. They do not establish eligibility of an individual CPO item. ([customs.gov.sg](https://www.customs.gov.sg/doing-business/rules-of-origin/origin-documentation/approved-exporter-and-certified-exporter-scheme/))
6. GCC Unified Guide for Customs Procedures at First Points of Entry
   · The GCC guide distinguishes importation, temporary admission, reexportation, and free-zone treatment; it requires approvals for restricted goods and treats goods leaving free zones as foreign goods. CPO hub implications are conditional. ([gcc-sg.org](https://gcc-sg.org/en/MediaCenter/DigitalLibrary/Documents/xx.xx.pdf))
7. Australia-New Zealand Closer Economic Relations Trade Agreement
   · DFAT states that CER preferential trade treatment applies to goods meeting its origin requirements. Distribution through Australia or New Zealand alone is not an established origin determination for CPO hardware. ([dfat.gov.au](https://www.dfat.gov.au/trade/agreements/in-force/anzcerta/australia-new-zealand-closer-economic-relations-trade-agreement))
8. Nordic Council of Ministers approve funding for a Nordic-Baltic AI Center
   · The June xx.xx 2025 funding announcement identifies organizations from Finland, Sweden, Denmark, Norway, and Iceland establishing a Nordic-Baltic AI center. It establishes cooperation, not selected CPO equipment or purchasing authority. ([norden.org](https://www.norden.org/en/news/nordic-council-ministers-approve-funding-nordic-baltic-ai-center))
9. PIXEurope - Advanced Photonic Integrated Circuits Pilot Line for Europe
   · Chips JU identifies PIXEurope as an ongoing distributed, open-access photonics pilot-line project with planned chip, packaging, test, and specialized services. Listed participant countries include the United Kingdom. ([chips-ju.europa.eu](https://www.chips-ju.europa.eu/Project-detail/?id=95b6afc8-761c-f111-xx.xx-7ced8d10ebdf))

10. Chips JU entered negotiations to fund a Pilot Line for Advanced Photonic Integrated Circuits
    · The November xx.xx 2024 consortium-selection announcement describes intended access from design and chip fabrication through integration, packaging, test, and reliability. Selection and negotiation were not completed production qualification. ([chips-ju.europa.eu](https://www.chips-ju.europa.eu/NewsDetails/?id=6b5344c5-cf21-f111-xx.xx-000d3a27d474))
11. India National Annex - 1st BRICS STI Framework Programme Innovation Call 2025
    · The BRICS innovation-call annex identifies national participating agencies and technology-maturation objectives, while distinguishing national scope and maturity requirements. It does not establish eligibility of a specific CPO proposal. ([dbtindia.gov.in](https://dbtindia.gov.in/sites/default/files/ibrics_india_national_annexure_17102025.pdf))
12. G7 Industry, Technology and Digital Ministerial Meeting - Ministerial Declaration, March 2024
    · The March xx.xx-xx.xx 2024 G7 declaration establishes semiconductor information exchange covering precompetitive research, sustainable manufacturing, and crisis coordination. Its cooperation mechanism is not CPO supplier qualification. ([meti.go.jp](https://www.meti.go.jp/policy/trade_policy/G7G8/G7-Industry-Tech-and-Digital-Ministerial.pdf))
13. NATO DIANA Challenge Call Q&A: Your key questions answered
    · DIANA specifies NATO-country corporate eligibility and contractual deliverables, while allowing innovators to retain intellectual property. These are program-access conditions, not proof of a CPO award. ([diana.nato.int](https://www.diana.nato.int/connect/-nato-diana-challenge-call-qa-your-key-questions-answered-xx.xx.html))

25.1. NATO

Table 438. NATO Co-Packaged Optics Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Albania	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Belgium	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Bulgaria	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Croatia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Czech Republic	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Denmark	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Estonia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Finland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Greece	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Hungary	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Iceland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 438 - continued

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Latvia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lithuania	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Luxembourg	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Montenegro	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Netherlands	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North Macedonia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Norway	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Poland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Portugal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Romania	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Slovakia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Slovenia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sweden	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Turkey	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 439. NATO Co-Packaged Optics Market Size, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
Albania	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Belgium	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Bulgaria	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Croatia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Czech Republic	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Denmark	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Estonia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Finland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Greece	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Hungary	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Iceland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latvia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lithuania	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Luxembourg	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Montenegro	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Netherlands	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North Macedonia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Norway	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Poland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Portugal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Romania	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Slovakia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Slovenia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sweden	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Turkey	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 440. NATO Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 441. NATO Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 442. NATO Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 443. NATO Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 444. NATO Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 445. NATO Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 446. NATO Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 447. NATO Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 448. NATO Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 449. NATO Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 450. NATO Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 451. NATO Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 452. NATO Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 453. NATO Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 454. NATO Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 455. NATO Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 456. NATO Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 457. NATO Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 458. NATO Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 459. NATO Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 460. NATO Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 461. NATO Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 462. NATO Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 463. NATO Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

25.2. G7

Table 464. G7 Co-Packaged Optics Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 465. G7 Co-Packaged Optics Market Size, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 466. G7 Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 467. G7 Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 468. G7 Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 469. G7 Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 470. G7 Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 471. G7 Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 472. G7 Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 473. G7 Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 474. G7 Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 475. G7 Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 476. G7 Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 477. G7 Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 478. G7 Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 479. G7 Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 480. G7 Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 481. G7 Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 482. G7 Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 483. G7 Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 484. G7 Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 485. G7 Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 486. G7 Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 487. G7 Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 488. G7 Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 489. G7 Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

25.3. European Union

Table 490. European Union Co-Packaged Optics Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Austria	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Belgium	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Bulgaria	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Croatia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cyprus	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Czech Republic	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Denmark	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Estonia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Finland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Greece	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Hungary	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ireland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latvia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lithuania	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Luxembourg	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Malta	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Netherlands	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Poland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Portugal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Romania	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Slovakia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Slovenia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sweden	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 491. European Union Co-Packaged Optics Market Size, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
Austria	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Belgium	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Bulgaria	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Croatia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cyprus	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Czech Republic	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Denmark	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Estonia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Finland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Greece	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Hungary	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ireland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latvia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lithuania	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Luxembourg	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Malta	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Netherlands	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Poland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Portugal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Romania	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Slovakia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Slovenia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sweden	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 492. European Union Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 493. European Union Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 494. European Union Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 495. European Union Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 496. European Union Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 497. European Union Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 498. European Union Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 499. European Union Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 500. European Union Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 501. European Union Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 502. European Union Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 503. European Union Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 504. European Union Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 505. European Union Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 506. European Union Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 507. European Union Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 508. European Union Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 509. European Union Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 510. European Union Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 511. European Union Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 512. European Union Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 513. European Union Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 514. European Union Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 515. European Union Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

25.4. BRICS

Table 516. BRICS Co-Packaged Optics Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 517. BRICS Co-Packaged Optics Market Size, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 518. BRICS Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 519. BRICS Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 520. BRICS Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 521. BRICS Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 522. BRICS Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 523. BRICS Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 524. BRICS Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 525. BRICS Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 526. BRICS Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 527. BRICS Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 528. BRICS Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 529. BRICS Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 530. BRICS Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 531. BRICS Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 532. BRICS Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 533. BRICS Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 534. BRICS Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 535. BRICS Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 536. BRICS Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 537. BRICS Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 538. BRICS Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 539. BRICS Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 540. BRICS Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 541. BRICS Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

25.5. ASEAN

Table 542. ASEAN Co-Packaged Optics Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Brunei	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cambodia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Indonesia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lao People's Democratic Republic	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Malaysia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Myanmar	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Philippines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Singapore	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thailand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Vietnam	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 543. ASEAN Co-Packaged Optics Market Size, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
Brunei	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cambodia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Indonesia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lao People's Democratic Republic	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Malaysia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Myanmar	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Philippines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Singapore	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thailand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Vietnam	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 544. ASEAN Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 545. ASEAN Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 546. ASEAN Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 547. ASEAN Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 548. ASEAN Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 549. ASEAN Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 550. ASEAN Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 551. ASEAN Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 552. ASEAN Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 553. ASEAN Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 554. ASEAN Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 555. ASEAN Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 556. ASEAN Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 557. ASEAN Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 558. ASEAN Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 559. ASEAN Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 560. ASEAN Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 561. ASEAN Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 562. ASEAN Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 563. ASEAN Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 564. ASEAN Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 565. ASEAN Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 566. ASEAN Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 567. ASEAN Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

25.6. GCC

Table 568. GCC Co-Packaged Optics Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Bahrain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Kuwait	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Oman	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qatar	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Saudi Arabia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Arab Emirates	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 569. GCC Co-Packaged Optics Market Size, by Group, 2017-2032 (USD Thousand)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
Bahrain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Kuwait	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Oman	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qatar	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Saudi Arabia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Arab Emirates	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 570. GCC Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 571. GCC Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 572. GCC Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 573. GCC Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 574. GCC Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 575. GCC Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 576. GCC Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 577. GCC Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 578. GCC Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 579. GCC Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 580. GCC Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 581. GCC Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 582. GCC Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 583. GCC Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 584. GCC Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 585. GCC Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 586. GCC Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 587. GCC Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 588. GCC Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 589. GCC Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 590. GCC Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 591. GCC Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 592. GCC Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 593. GCC Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

26. Co-Packaged Optics Market, by Country

[illegible] A device entrant can evaluate specialist services and source technology instead of owning the entire capability chain. The prerequisite is an accepted integration arrangement with clear delivery responsibility; institutional access or constituent supply does not establish acceptance of the customer's complete host package or its deployment country.

Taiwan is a design-and-packaging coordination choice, not an automatic assurance of CPO readiness. [illegible] The disclosures do not establish acceptance of every resulting customer configuration.

Japan offers distinct component-development and equipment-access routes. Furukawa Electric's March 2025 announcement documents a CPO-directed connector development and planned sample exhibition, whereas Micas Networks' February xx.xx 2026 agreement with SB C&S establishes a Japanese distribution route for a portfolio discussing CPO switches. [illegible]

Singapore, Malaysia, and China require different sourcing questions. Singapore's NSTIC, hosted by A*STAR, provides a photonics R&D engagement route that includes CPO-related integration, and GlobalFoundries identifies acquired Advanced Micro Foundry as a Singapore silicon-photonics foundry. [illegible]

India offers a packaging-oriented collaboration route. Izmo Limited's March xx.xx 2026 disclosure describes a memorandum linking Bengaluru-based packaging and CPO capabilities with Swiss foundry services and Madrid-based photonic design IP. [illegible]

[redacted]

France and the Netherlands provide different insertion points. [redacted] Broad photonics production cannot automatically be assigned to the CPO configuration, and a packaging provider's wider capability does not establish interchangeability with an incumbent package.

Israel and Egypt illustrate why company location and manufacturing allocation must be separated. Israel-based Tower Semiconductor identifies CPO scale-up applications for its foundry platform; GlobalFoundries identifies Cairo-based InfiniLink as a connectivity-design contribution to its optical-engine roadmap. [redacted]

Brazilian optical-infrastructure presence should not be mistaken for a local CPO-engine supply commitment. Furukawa Electric's 2025 restructuring identifies a Brazilian optical-fiber-and-cable business, while its separate CPO connector announcement concerns parent-level development in Japan. [redacted]

[redacted] A nominated equipment configuration and authorized support arrangement would strengthen the case; an adequate alternative interconnect would weaken it. Development interest should remain separate from a confirmed CPO delivery commitment.

Figure 61. Global Co-Packaged Optics Market Size, by Country, 2025 vs 2032 (%)

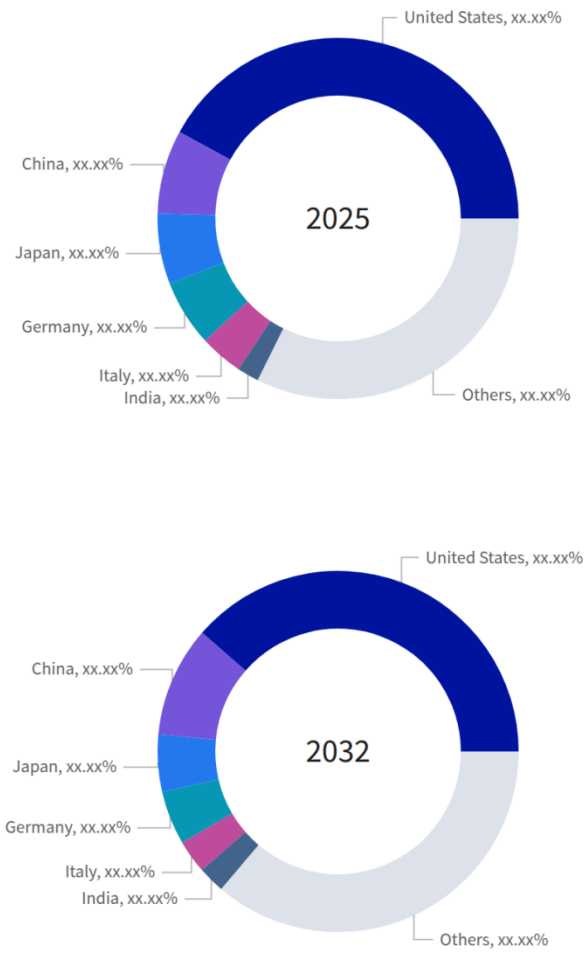


Figure 62. Global Co-Packaged Optics Market Size, by Country, 2025 vs 2026 vs 2032

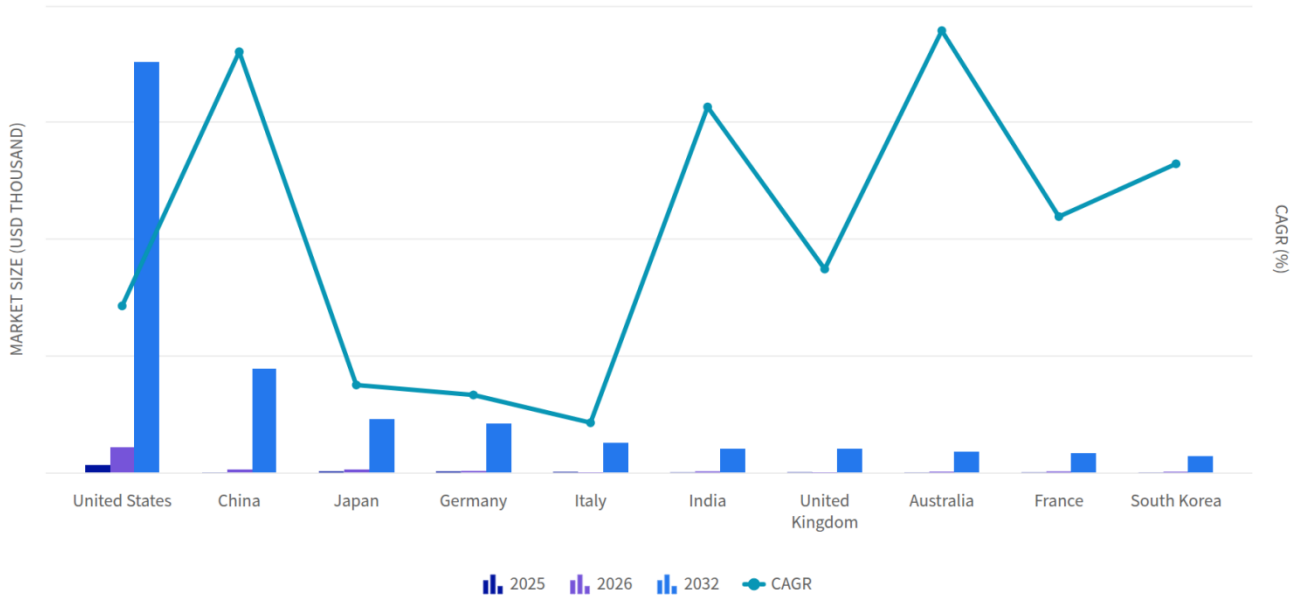


Figure 63. Global Co-Packaged Optics Market, Forecast growth by country, 2025-2032 (CAGR %)

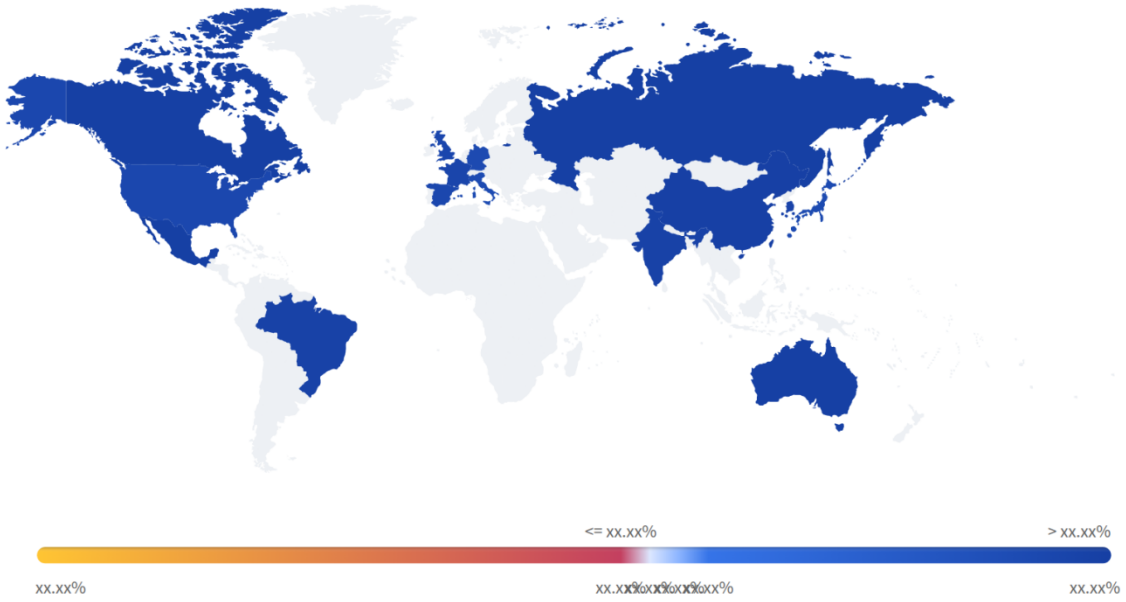


Table 594. Global Co-Packaged Optics Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Thousand)	2032 value (USD Thousand)	Added value (USD Thousand)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 595. Global Co-Packaged Optics Market Size, by Country, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Datacom / CPO - PHIX Photonics Assembly

   · PHIX describes support spanning LPO, NPO, and CPO, including engagement with multiple photonic and connectivity platforms. Its wider capability does not establish interchangeability in an individual host package. ([phix.com](https://www.phix.com/markets/datacom-cpo/))

2. AIM Photonics Test, Assembly and Packaging Services

   · AIM Photonics offers U.S. assembly, packaging, and optoelectronic testing for customer-provided chips and wafers. This supports a specialist-service access route without proving a specific CPO qualification outcome. ([aimphotonics.com](https://www.aimphotonics.com/tap))

3. Micas Networks Inc. Signs First Distributor Agreement in Japan with SB C&S Corp. to Enter Japanese Market

   · Micas Networks' February xx.xx 2026 announcement establishes distribution through SB C&S in Japan for a portfolio discussing CPO-enabled switches. It does not establish each model's availability or customer acceptance. ([micasnetworks.com](https://www.micasnetworks.com/company/news/sbcs20260226))

4. National Research Council Canada Annual Report 2024-2025 - Delivering Results for a Stronger Canada

   · Canada's research-council annual report states that Canadian Photonics Fabrication Centre lasers are used in Ottawa-based RANOVUS CPO hardware. This establishes a constituent-supply example, not another customer's package acceptance. ([publications.gc.ca](https://publications.gc.ca/collections/collection_2025/cnrc-nrc/NR1-xx.xx-2025-eng.pdf))

5. The Operational Structure of the Furukawa Electric Optical Fiber Cable Business Has Been Integrated Under a New Brand, Lightera
   - Furukawa's March xx.xx 2025 restructuring announcement identifies its Brazilian optical-fiber-and-cable operation within the Lightera structure. This is a cable-business footprint, not a CPO-engine manufacturing assignment.
   ([furukawaelectric.com](https://www.furukawaelectric.com/en/release/2025/comm_20250306.html))
6. An Epoch Compact Multi-Fiber Optical Connector Suitable for CPO
   - Furukawa Electric's March xx.xx 2025 Tokyo-based announcement reports CPO-directed connector development and planned sample exhibition. It establishes parent-level development, not a Brazilian manufacturing assignment.
   ([furukawaelectric.com](https://www.furukawaelectric.com/en/release/2025/comm_20250327.html))
7. Contact - PHIX Photonics Assembly
   - PHIX's contact page identifies PHIX B.V. in the Netherlands, grounding the country attribution of its separately evidenced packaging services. ([phix.com](https://www.phix.com/contact/))
8. Light-Speed Ambition: GlobalFoundries Acquires AMF and InfiniLink to Power the AI Data Center Revolution
   - The November xx.xx 2025 disclosure identifies AMF as a Singapore silicon-photonics foundry and InfiniLink as Cairo-based. Their manufacturing and design contributions are distinct; it does not allocate every CPO manufacturing step.
   ([gf.com](https://gf.com/news-and-events/blog/light-speed-ambition-globalfoundries-acquires-amf-and-infinilink-to-power-the-ai-datacenter-revolution/))
9. TSMC 2025 Annual Report
   - TSMC's 2025 annual report describes continuing COUPE development and CoWoS CPO development integrating optical I/O with a switch package. Development does not establish acceptance of every customer configuration.
   ([investor.tsmc.com](https://investor.tsmc.com/sites/ir/annual-report/2025/2025%20Annual%20Report.E.pdf))
10. Tower Semiconductor to Participate at OFC 2026 Highlighting Its Silicon Photonics Platform for AI, Telecom and Emerging Applications
    - Tower's March xx.xx 2026 Israel-datelined announcement identifies CPO scale-up applications for its silicon-photonics platform. It does not assign all CPO fabrication and packaging steps to Israel.
    ([towersemi.com](https://towersemi.com/wp-content/uploads/2026/xx.xx/OFC_2026_-PR_Final_AC.pdf))
11. Ayar Labs and Alchip to Scale AI Infrastructure with Co-Packaged Optics
    - Ayar Labs' September xx.xx 2025 announcement combines its optical I/O, Alchip's packaging expertise, and TSMC technologies; it identifies Alchip's Taipei headquarters. The announcement establishes a partnership, not universal customer readiness.
    ([ayarlabs.com](https://ayarlabs.com/news/ayar-labs-and-alchip-to-scale-ai-infrastructure-with-co-packaged-optics/))
12. About NSTIC
    - NSTIC identifies itself as a Singapore national platform hosted by A*STAR with local higher-learning partners, conducting advanced-photonics R&D. This supports institutional engagement, not customer qualification.
    ([nstic.sg](https://nstic.sg/about-nstic/))
13. Semiconductor & Photonics Solutions for Advanced Integration
    - NSTIC's integration offering includes semiconductor photonics, heterogeneous integration, and CPO-related development engagement. Its capability description is not evidence of accepted commercial CPO production.
    ([nstic.sg](https://nstic.sg/capabilities/semiconductor-photonics/))
14. AT&S starts High Volume Manufacturing at new plant in Kulim/Malaysia
    - AT&S announced Kulim IC-substrate manufacturing readiness on May xx.xx 2025 and knowledge sharing with Chongqing and Leoben. It does not assign CPO production or customer approval to every site.
    ([ats.net](https://ats.net/en/press/ats-starts-high-volume-manufacturing-at-new-plant-in-kulim-malaysia/))
15. Izmo Limited - Photonics Partnership Disclosure, March 16, 2026
    - The March xx.xx 2026 mandatory disclosure describes a memorandum combining Bengaluru packaging and CPO capabilities with CCRAFT's Swiss foundry and Alcyon's Madrid-based design IP. It establishes a collaboration framework.
    ([nsearchives.nseindia.com](https://nsearchives.nseindia.com/corporate/IZMO_16032026112922_Intimation.pdf))

16. Silicon photonics - STMicroelectronics
    - STMicroelectronics identifies Crolles, France, as PIC100's production location and separately describes same-substrate CPO as an integration stage. Broad PIC production is not automatically CPO production. ([st.com](https://www.st.com/content/st_com/en/about/innovation-and-technology/silicon-photonics.html))
17. Saudi Arabia and NVIDIA to Build AI Factories to Power Next Wave of Intelligence for the Age of Reasoning
    - NVIDIA's May xx.xx 2025 announcement describes planned Saudi HUMAIN computing infrastructure with InfiniBand networking. It does not independently establish a purchased CPO configuration or delivery commitment. ([nvidianews.nvidia.com](https://nvidianews.nvidia.com/news/saudi-arabia-and-nvidia-to-build-ai-factories-to-power-next-wave-of-intelligence-for-the-age-of-reasoning))

26.1. United States

Table 596. United States Co-Packaged Optics Market Size, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
United States	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 597. United States Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 598. United States Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 599. United States Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 600. United States Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 601. United States Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 602. United States Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 603. United States Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 604. United States Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 605. United States Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 606. United States Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 607. United States Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 608. United States Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 609. United States Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 610. United States Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 611. United States Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 612. United States Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 613. United States Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 614. United States Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 615. United States Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 616. United States Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 617. United States Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 618. United States Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 619. United States Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 620. United States Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

26.2. China

Table 621. China Co-Packaged Optics Market Size, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
China	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 622. China Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 623. China Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 624. China Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 625. China Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 626. China Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 627. China Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 628. China Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 629. China Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 630. China Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 631. China Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 632. China Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 633. China Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 634. China Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 635. China Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 636. China Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 637. China Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 638. China Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 639. China Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 640. China Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 641. China Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 642. China Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 643. China Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 644. China Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 645. China Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

26.3. Japan

Table 646. Japan Co-Packaged Optics Market Size, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Japan	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 647. Japan Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 648. Japan Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 649. Japan Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 650. Japan Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 651. Japan Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 652. Japan Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 653. Japan Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 654. Japan Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 655. Japan Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 656. Japan Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 657. Japan Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 658. Japan Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 659. Japan Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 660. Japan Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 661. Japan Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 662. Japan Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 663. Japan Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 664. Japan Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 665. Japan Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 666. Japan Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 667. Japan Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 668. Japan Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 669. Japan Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 670. Japan Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

26.4. Germany

Table 671. Germany Co-Packaged Optics Market Size, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Germany	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 672. Germany Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 673. Germany Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 674. Germany Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 675. Germany Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 676. Germany Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 677. Germany Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 678. Germany Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 679. Germany Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 680. Germany Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 681. Germany Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 682. Germany Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 683. Germany Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 684. Germany Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 685. Germany Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 686. Germany Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 687. Germany Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 688. Germany Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 689. Germany Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 690. Germany Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 691. Germany Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 692. Germany Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 693. Germany Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 694. Germany Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 695. Germany Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

26.5. Italy

Table 696. Italy Co-Packaged Optics Market Size, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Italy	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 697. Italy Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 698. Italy Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 699. Italy Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 700. Italy Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 701. Italy Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 702. Italy Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 703. Italy Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 704. Italy Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 705. Italy Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 706. Italy Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 707. Italy Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 708. Italy Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 709. Italy Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 710. Italy Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 711. Italy Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 712. Italy Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 713. Italy Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 714. Italy Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 715. Italy Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 716. Italy Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 717. Italy Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 718. Italy Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 719. Italy Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 720. Italy Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

26.6. United Kingdom

Table 721. United Kingdom Co-Packaged Optics Market Size, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
United Kingdom	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 722. United Kingdom Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 723. United Kingdom Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 724. United Kingdom Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 725. United Kingdom Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 726. United Kingdom Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 727. United Kingdom Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 728. United Kingdom Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 729. United Kingdom Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 730. United Kingdom Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 731. United Kingdom Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 732. United Kingdom Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 733. United Kingdom Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 734. United Kingdom Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 735. United Kingdom Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 736. United Kingdom Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 737. United Kingdom Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 738. United Kingdom Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 739. United Kingdom Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 740. United Kingdom Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 741. United Kingdom Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 742. United Kingdom Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 743. United Kingdom Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 744. United Kingdom Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 745. United Kingdom Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

26.7. India

Table 746. India Co-Packaged Optics Market Size, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
India	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 747. India Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 748. India Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 749. India Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 750. India Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 751. India Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 752. India Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 753. India Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 754. India Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 755. India Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 756. India Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 757. India Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 758. India Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 759. India Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 760. India Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 761. India Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 762. India Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 763. India Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 764. India Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 765. India Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 766. India Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 767. India Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 768. India Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 769. India Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 770. India Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

26.8. France

Table 771. France Co-Packaged Optics Market Size, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
France	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 772. France Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 773. France Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 774. France Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 775. France Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 776. France Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 777. France Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 778. France Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 779. France Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 780. France Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 781. France Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 782. France Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 783. France Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 784. France Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 785. France Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 786. France Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 787. France Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 788. France Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 789. France Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 790. France Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 791. France Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 792. France Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 793. France Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 794. France Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 795. France Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

26.9. Spain

Table 796. Spain Co-Packaged Optics Market Size, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Spain	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 797. Spain Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 798. Spain Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 799. Spain Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 800. Spain Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 801. Spain Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 802. Spain Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 803. Spain Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 804. Spain Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 805. Spain Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 806. Spain Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 807. Spain Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 808. Spain Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 809. Spain Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 810. Spain Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 811. Spain Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 812. Spain Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 813. Spain Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 814. Spain Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 815. Spain Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 816. Spain Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 817. Spain Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 818. Spain Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 819. Spain Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 820. Spain Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

26.10. Australia

Table 821. Australia Co-Packaged Optics Market Size, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 822. Australia Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 823. Australia Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 824. Australia Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 825. Australia Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 826. Australia Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 827. Australia Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 828. Australia Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 829. Australia Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 830. Australia Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 831. Australia Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 832. Australia Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 833. Australia Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 834. Australia Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 835. Australia Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 836. Australia Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 837. Australia Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 838. Australia Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 839. Australia Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 840. Australia Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 841. Australia Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 842. Australia Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 843. Australia Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 844. Australia Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 845. Australia Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

26.11. South Korea

Table 846. South Korea Co-Packaged Optics Market Size, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
South Korea	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 847. South Korea Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 848. South Korea Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 849. South Korea Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 850. South Korea Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 851. South Korea Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 852. South Korea Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 853. South Korea Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 854. South Korea Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 855. South Korea Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 856. South Korea Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 857. South Korea Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 858. South Korea Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 859. South Korea Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 860. South Korea Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 861. South Korea Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 862. South Korea Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 863. South Korea Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 864. South Korea Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 865. South Korea Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 866. South Korea Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 867. South Korea Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 868. South Korea Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 869. South Korea Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 870. South Korea Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

26.12. Brazil

Table 871. Brazil Co-Packaged Optics Market Size, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Brazil	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 872. Brazil Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 873. Brazil Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 874. Brazil Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 875. Brazil Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 876. Brazil Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 877. Brazil Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 878. Brazil Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 879. Brazil Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 880. Brazil Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 881. Brazil Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 882. Brazil Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 883. Brazil Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 884. Brazil Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 885. Brazil Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 886. Brazil Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 887. Brazil Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 888. Brazil Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 889. Brazil Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 890. Brazil Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 891. Brazil Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 892. Brazil Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 893. Brazil Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 894. Brazil Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 895. Brazil Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

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Table 896. Canada Co-Packaged Optics Market Size, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Canada	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 897. Canada Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 898. Canada Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 899. Canada Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 900. Canada Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 901. Canada Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 902. Canada Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 903. Canada Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 904. Canada Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 905. Canada Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 906. Canada Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 907. Canada Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 908. Canada Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 909. Canada Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 910. Canada Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 911. Canada Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 912. Canada Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 913. Canada Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 914. Canada Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 915. Canada Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 916. Canada Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 917. Canada Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 918. Canada Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 919. Canada Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 920. Canada Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

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Table 921. Mexico Co-Packaged Optics Market Size, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Mexico	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 922. Mexico Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 923. Mexico Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 924. Mexico Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 925. Mexico Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 926. Mexico Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 927. Mexico Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 928. Mexico Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 929. Mexico Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 930. Mexico Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 931. Mexico Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 932. Mexico Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 933. Mexico Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 934. Mexico Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 935. Mexico Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 936. Mexico Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 937. Mexico Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 938. Mexico Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 939. Mexico Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 940. Mexico Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 941. Mexico Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 942. Mexico Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 943. Mexico Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 944. Mexico Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 945. Mexico Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

26.15. Russia

Table 946. Russia Co-Packaged Optics Market Size, 2017-2032 (USD Thousand)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Russia	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 947. Russia Co-Packaged Optics Market Size, by Offering, 2017-2032 (USD Thousand)

Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Co-Packaged Optical Assemblies	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dedicated Enabling Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Specialized CPO Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 948. Russia Co-Packaged Optics Market Size, by Specialized CPO Services, 2017-2032 (USD Thousand)

Specialized CPO Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Design and Integration Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Packaging and Optical Assembly Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qualification and Test Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor Foundry Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 949. Russia Co-Packaged Optics Market Size, by Dedicated Enabling Components, 2017-2032 (USD Thousand)

Dedicated Enabling Components	2023	2024	2025	2026	2027	2032	CAGR (%)
Electronic Interface and Control ICs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Coupling and Connectivity Components	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Package Substrates and Interposers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Photonic Integrated Circuits	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 950. Russia Co-Packaged Optics Market Size, by Photonic Platform, 2017-2032 (USD Thousand)

Photonic Platform	2023	2024	2025	2026	2027	2032	CAGR (%)
Barium Titanate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Electro-Optic Polymer Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Graphene Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
III-V Laser and Modulator Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
MicroLED Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silicon and Germanium-Silicon Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thin-Film Lithium Niobate and Tantalate Photonics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 951. Russia Co-Packaged Optics Market Size, by Package Integration, 2017-2032 (USD Thousand)

Package Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
2D Substrate Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
3D Logic-Photonics Stacking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Monolithic Logic-Photonics Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
xx.xx.5D Interposer Integration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 952. Russia Co-Packaged Optics Market Size, by Light Source Integration, 2017-2032 (USD Thousand)

Light Source Integration	2023	2024	2025	2026	2027	2032	CAGR (%)
Engine-Integrated Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
External Light Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 953. Russia Co-Packaged Optics Market Size, by Fiber Mode, 2017-2032 (USD Thousand)

Fiber Mode	2023	2024	2025	2026	2027	2032	CAGR (%)
Multimode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Single-Mode Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 954. Russia Co-Packaged Optics Market Size, by Wavelength Multiplexing, 2017-2032 (USD Thousand)

Wavelength Multiplexing	2023	2024	2025	2026	2027	2032	CAGR (%)
Single-Wavelength Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wavelength-Multiplexed Channels	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 955. Russia Co-Packaged Optics Market Size, by Host Interface, 2017-2032 (USD Thousand)

Host Interface	2023	2024	2025	2026	2027	2032	CAGR (%)
Serial SerDes Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wide Parallel Die-to-Die Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 956. Russia Co-Packaged Optics Market Size, by Signal Processing, 2017-2032 (USD Thousand)

Signal Processing	2023	2024	2025	2026	2027	2032	CAGR (%)
Fully Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Half-Retimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unretimed	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 957. Russia Co-Packaged Optics Market Size, by Application, 2017-2032 (USD Thousand)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory and I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Out Networking	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scale-Up Compute Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 958. Russia Co-Packaged Optics Market Size, by Scale-Out Networking, 2017-2032 (USD Thousand)

Scale-Out Networking	2023	2024	2025	2026	2027	2032	CAGR (%)
Endpoint Network Access	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switch-to-Switch Fabrics	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 959. Russia Co-Packaged Optics Market Size, by Scale-Up Compute Connectivity, 2017-2032 (USD Thousand)

Scale-Up Compute Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Accelerator Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Processor Interconnects	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 960. Russia Co-Packaged Optics Market Size, by Memory and I/O Disaggregation, 2017-2032 (USD Thousand)

Memory and I/O Disaggregation	2023	2024	2025	2026	2027	2032	CAGR (%)
Memory Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Storage and Peripheral I/O Disaggregation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 961. Russia Co-Packaged Optics Market Size, by Telecommunications Connectivity, 2017-2032 (USD Thousand)

Telecommunications Connectivity	2023	2024	2025	2026	2027	2032	CAGR (%)
Fixed and Core Network Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Radio Access Connectivity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 962. Russia Co-Packaged Optics Market Size, by Buyer Type, 2017-2032 (USD Thousand)

Buyer Type	2023	2024	2025	2026	2027	2032	CAGR (%)
Component and Package Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Distributors and Resellers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Equipment OEMs and ODMs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Infrastructure Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Research and Development Organizations	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Semiconductor and Optical-Subsystem Developers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
System Integrators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 963. Russia Co-Packaged Optics Market Size, by End User, 2017-2032 (USD Thousand)

End User	2023	2024	2025	2026	2027	2032	CAGR (%)
Cloud, Internet, and Data Center Service Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Enterprise Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Government and Research Institutions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Telecommunications Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 964. Russia Co-Packaged Optics Market Size, by Cloud, Internet, and Data Center Service Providers, 2017-2032 (USD Thousand)

Cloud, Internet, and Data Center Service Providers	2023	2024	2025	2026	2027	2032	CAGR (%)
Hosting and Colocation Network Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Internet Platform Operators	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Cloud Providers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 965. Russia Co-Packaged Optics Market Size, by Customization Model, 2017-2032 (USD Thousand)

Customization Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Custom Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Platform-Adapted Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standard Designs	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 966. Russia Co-Packaged Optics Market Size, by Serviceability Model, 2017-2032 (USD Thousand)

Serviceability Model	2023	2024	2025	2026	2027	2032	CAGR (%)
Host-Package Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Light Source Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Optical Engine Replacement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 967. Russia Co-Packaged Optics Market Size, by Sales Channel, 2017-2032 (USD Thousand)

Sales Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Direct Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediated Sales	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 968. Russia Co-Packaged Optics Market Size, by Optical Engine Capacity, 2017-2032 (USD Thousand)

Optical Engine Capacity	2023	2024	2025	2026	2027	2032	CAGR (%)
Higher Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Intermediate Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lower Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sub-Terabit Capacity	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 969. Russia Co-Packaged Optics Market Size, by Interface Standardization, 2017-2032 (USD Thousand)

Interface Standardization	2023	2024	2025	2026	2027	2032	CAGR (%)
Partially Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Proprietary Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Standardized Interfaces	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 970. Russia Co-Packaged Optics Market Size, by Optical Detection, 2017-2032 (USD Thousand)

Optical Detection	2023	2024	2025	2026	2027	2032	CAGR (%)
Coherent Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Detection	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

27. Competitive Landscape

27.1. Market Share Analysis, 2025

[redacted] An infrastructure operator seeking supported equipment faces a different choice from a developer retaining host-design authority. Suppliers should identify the funded deliverable, design approver, purchasing counterparty, and acceptance owner before treating requirements discussions as account access.

For developers needing optical-package coordination, named partnerships offer more specific access routes than broad ecosystem membership. [redacted] Direct constituent engagement remains preferable when the customer already controls an accepted integration path and another coordinator would add little.

[redacted] Cisco's G300 announcement supplies a concrete pluggable-optics alternative to the package-integrated route. Where a supported pluggable configuration meets the binding requirement, CPO suppliers must justify the additional integration commitment rather than assume inevitable replacement.

Figure 64. Global Co-Packaged Optics Market Share, by Key Player, 2025

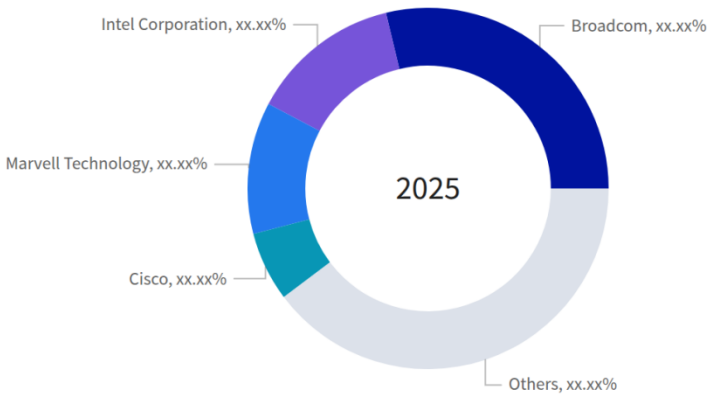


Table 971. Global Co-Packaged Optics Market Share, by Key Player, 2025

Key Player	Share (%)
Ayar Labs	xx.xx
Broadcom	xx.xx
Cisco	xx.xx
Coherent	xx.xx
Intel Corporation	xx.xx
Lightwave Logic, Inc.	xx.xx
Lumentum Holdings Inc.	xx.xx
Marvell Technology, Inc.	xx.xx
NVIDIA	xx.xx
OpenLight	xx.xx
Pilot Photonics	xx.xx
RANOVUS	xx.xx
TE Connectivity	xx.xx
Others	xx.xx

Sources & Evidence

1. Implementation Agreement for a 3.2Tb/s Co-Packaged (CPO) Module - OIF-Co-Packaging-3.2T-Module-01.0
   · OIF specifies electrical, mechanical, optical, and management aspects of a CPO building block. Product interchangeability is a separate configuration-specific inference. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-Co-Packaging-xx.xx.2T-Module-xx.xx.pdf))
2. Micas Networks Announces Industry's First 51.2T Co-Packaged Optics Network Switch System Now in Volume Production
   · Micas identifies Broadcom Bailly within its finished Ethernet CPO switch, establishing an equipment-access route. ([micasnetworks.com](https://www.micasnetworks.com/company/news/xx.xx))

3. Marvell Announces Breakthrough Co-Packaged Optics Architecture for Custom AI Accelerators
   · Marvell offers CPO integration for customers' custom-XPU designs and reports evaluation, supporting a semiconductor-program route rather than finished-equipment procurement. ([marvell.com](https://www.marvell.com/company/newsroom/marvell-co-packaged-optics-architecture-custom-ai-accelerators.html))
4. Cisco Announces New Silicon One G300, Advanced Systems and Optics to Power and Scale AI Data Centers for the Agentic Era
   · Cisco's G300 announcement includes OSFP and linear pluggable optics, establishing an adjacent architecture rather than a CPO release. ([newsroom.cisco.com](https://newsroom.cisco.com/c/r/newsroom/en/us/a/y2026/m02/cisco-announces-new-silicon-one-g300.html))
5. NVIDIA Announces Spectrum-X Photonics, Co-Packaged Optics Networking Switches to Scale AI Factories to Millions of GPUs
   · NVIDIA distinguishes Spectrum-X Ethernet Photonics and Quantum-X InfiniBand Photonics system routes. Only its own platform descriptions support the comparison. ([nvidianews.nvidia.com](https://nvidianews.nvidia.com/news/nvidia-spectrum-x-co-packaged-optics-networking-switches-ai-factories))
6. Lightmatter and GUC Partner to Produce Co-Packaged Optics (CPO) Solutions for AI Hyperscalers
   · The GUC-Lightmatter collaboration combines Passage with ASIC design and advanced-packaging workflows. Its customer-access implication is conditional on host approval and contracted responsibility. ([guc-asic.com](https://www.guc-asic.com/en/news/PressRelease/PR_ENG_20260128))
7. Alchip and Ayar Labs Unveil Co-Packaged Optics for AI Datacenter Scale-Up
   · Alchip describes Ayar optical-I/O integration with ASIC packaging and TSMC technologies, while explicitly identifying the exhibited implementation as a scale model. ([alchip.com](https://www.alchip.com/en/Newsroom/AlchipandAyarLabsUnveilCPOforAIDatacenterScale-Up))

27.2. Market Concentration Analysis, 2025

CPO control points lie in architecture approval and the accepted fabrication-packaging-connectivity combination. NVIDIA's coordinated platform illustrates how host, photonics, manufacturing, and optical-interface choices can be governed together. ■■■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■ ■■■ ■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■■■■■■ ■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■ ■■■ ■ ■■■■■■■■■ ■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■ ■■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■■■■■

Corporate independence must be separated from operating and product choice. SPIL belongs within ASE Technology Holding; Alphawave belongs within Qualcomm following the completed acquisition; and Ansys is within Synopsys. ■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■ ■■■■■ ■■■■■■■■ ■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■ ■■■■■■■ ■■■ ■■■ ■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■ ■■■■ ■■■■■■■■■■ ■■■■ ■■■■■■■■■■■ ■■■■ ■■ ■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■

Connectivity demonstrates a second distinction: manufacturing diversity can coexist with shared technology dependence. ■■ ■■■■■■■■ ■■■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■

RESEARCH SAMPLE REPORT

[redacted] The appropriate choice depends on whether the binding concern is manufacturing continuity, corporate exposure, or control of the interface itself.

Sources & Evidence

1. Implementation Agreement for a 3.2Tb/s Co-Packaged (CPO) Module - OIF-Co-Packaging-3.2T-Module-01.0
   · The agreement describes constituent-to-host integration and separate interface domains, supporting analysis of accepted-combination dependencies rather than measured bargaining power. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-Co-Packaging-xx.xx.2T-Module-xx.xx.pdf))
2. How Industry Collaboration Fosters NVIDIA Co-Packaged Optics
   · NVIDIA describes coordinated foundry, photonics, packaging, connectivity, and illumination contributions. Control-point implications are analytical, not measured market power. ([developer.nvidia.com](https://developer.nvidia.com/blog/how-industry-collaboration-fosters-nvidia-co-packaged-optics))
3. GlobalFoundries accelerates adoption of co-packaged optics for advanced AI data centers with SCALE optical module solution
   · GlobalFoundries SCALE combines photonic devices, electronic integration, detachable fibers, and testability. These are platform capabilities, not acceptance of every customer's host package. ([gf.com](https://gf.com/news-and-events/news/globalfoundries-accelerates-adoption-of-co-packaged-optics-for-advanced-ai-data-centers-with-scale-optical-module-solution/))
4. HyperLight, UMC, and Wavetek Announce Strategic Partnership for High-Volume Foundry Production of TFLN Chiplet Platform
   · HyperLight supplies platform architecture while UMC and Wavetek supply foundry infrastructure, establishing an alternative platform engagement without host-package interchangeability. ([umc.com](https://www.umc.com/en/News/press_release/Content/corporate/xx.xx))
5. About ASE Technology Holding
   · ASE Technology Holding identifies ASE, SPIL, and USI within its group, supporting separation of operating choice from corporate independence. ([aseglobal.com](https://www.aseglobal.com/about/))
6. US Conec, Corning Incorporated, Fujikura and Sumitomo Electric Lightwave Announce Multi-Source Framework for PRIZM TMT Expanded Beam Ferrules and Associated MMC Connectors
   · The March xx.xx 2026 framework enables Corning, Fujikura, and Sumitomo Electric Lightwave manufacturing of shared-platform components and identifies US Conec's shareholder relationships. ([usconec.com](https://www.usconec.com/media/h4zopm3k/us-conec-corning-fujikura-and-sumitomo-electric-joint-press-release_3-xx.xx-2026_final.pdf))
7. Synopsys Completes Acquisition of Ansys
   · Synopsys completed its Ansys acquisition on July xx.xx 2025. The corporate announcement identifies Synopsys, Inc. and the shorter Synopsys name as the same provider. ([investor.synopsys.com](https://investor.synopsys.com/news/news-details/2025/Synopsys-Completes-Acquisition-of-Ansys/default.aspx))
8. QUALCOMM Incorporated - Second Quarter Fiscal 2026 Form 10-Q
   · Qualcomm's mandatory filing confirms completion of the Alphawave acquisition on December xx.xx 2025, establishing common corporate exposure rather than independent supplier ownership. ([s204.q4cdn.com](https://s204.q4cdn.com/xx.xx/files/doc_financials/2026/q2/QCOM-Q2FY26-xx.xx-Q_Final.pdf))

27.3. Recent Developments & Impact Analysis, 2025

Equipment commercialization has advanced beyond demonstration-only alternatives in specific configurations. [redacted] Procurement should follow the named switch revision, accepted infrastructure configuration, and contracted restoration responsibility.

[redacted] Customers can assess whether the combined businesses reduce separately negotiated design contributions, but common ownership does not make earlier products interchangeable or transfer customer qualification. Existing development and supply agreements warrant review for interface authority, continuation rights, and support allocation.

Coherent's September xx.xx 2026 PhotonLink launch extends competition between constituent sourcing and coordinated optical-assembly engagement. [redacted] A platform launch and reported customer engagements are not acceptance of a buyer's intended host package; component specialists should seek a defined incorporation role rather than presume access to the complete assembly.

Open coordination and manufacturing commitments create further development options without settling substitution. Lightmatter's August xx.xx 2026 announcement established the Open Silicon Photonics for AI Systems workstream within OCP and publication of its architectural vision. [redacted]

Sources & Evidence

1. American AI Networking Company Micas Networks Expands Company-Operated Manufacturing to Scale Commercial CPO
   · Micas' September xx.xx 2026 announcement describes Malaysian optical-integration and system-test expansion and Bailly-based switch delivery through Supermicro within validated infrastructure configurations. ([micasnetworks.com](https://www.micasnetworks.com/company/news/xx.xx))
2. NVIDIA GTC Taipei at COMPUTEX: Live Updates on What's Next in AI
   · NVIDIA's June xx.xx 2026 update reports Spectrum-X Ethernet Photonics in production and identifies fabrication, packaging, illumination, and system-assembly contributions. ([blogs.nvidia.com](https://blogs.nvidia.com/blog/nvidia-gtc-taipei-computex-2026-news/))
3. Marvell Completes Acquisition of Celestial AI
   · Marvell completed the Celestial AI acquisition on February xx.xx 2026, bringing Photonic Fabric and its team into the Data Center Group. Qualification-transfer benefits are not established. ([marvell.com](https://www.marvell.com/company/newsroom/marvell-completes-acquisition-of-celestial-ai.html))
4. GlobalFoundries and Marvell expand collaboration for next-generation optical connectivity
   · The September xx.xx 2026 GF-Marvell agreement announces additional Burlington SiGe capacity spanning pluggable, NPO, and CPO uses. It does not establish completed CPO-specific capacity. ([gf.com](https://gf.com/news-and-events/news/globalfoundries-and-marvell-expand-collaboration-fornext-generation-optical-connectivity/))
5. Molex Completes Acquisition of Teramount Ltd.
   · Molex completed its Teramount acquisition on May xx.xx 2026, adding detachable fiber-to-chip technology within its optical business. Customer-specific acceptance remains separate. ([molex.com](https://www.molex.com/en-us/news/molex-completes-acquisition-of-teramount-ltd))
6. Industry Leaders Formally Launch CPO System Architecture Initiative Within the Open Compute Project
   · Lightmatter's August xx.xx 2026 announcement identifies the official OCP workstream and publication of an architectural vision for subsequent shared development, not certified engine interchangeability. ([lightmatter.co](https://lightmatter.co/press-release/industry-leaders-formally-launch-cpo-system-architecture-initiative-within-the-open-compute-project/))
7. Coherent Launches PhotonLink Integrated Optics Platform for AI Infrastructure
   · Coherent launched PhotonLink on September xx.xx 2026 for CPO and adjacent formats. The announcement supports a bundling proposition, not buyer-specific host-package acceptance. ([ir.coherent.com](https://ir.coherent.com/news-releases/news-release-details/coherent-launches-photonlinktm-integrated-optics-platform-ai))

27.4. Product Portfolio Analysis, 2025

[illegible] Selecting a wide parallel connection can require a different host-interface commitment; selecting a linear-drive engine leaves compatibility with the combined channel consequential. Neither route is an interchangeable upgrade solely because both are marketed for CPO.

Illumination portfolios also represent different deliverables. [illegible]

[illegible] Buyers should specify the accepted source-engine pairing and supported replacement unit.

Alternative photonic platforms change different parts of the solution. [illegible] Development commitments should address the actual requirement that the alternative resolves and the integration dependencies it introduces.

Portfolio breadth can shift the purchasing boundary from individual components toward coordinated optical assemblies. Coherent's PhotonLink combines optical constituents with assembly and test, whereas PHIX offers CPO co-design and packaging services around a customer's selected architecture. [illegible]

Sources & Evidence

1. Intel Demonstrates First Fully Integrated Optical I/O Chiplet
   · Intel's demonstrated OCI combines photonic circuitry containing lasers and amplifiers with electronic circuitry, supporting an integrated-illumination comparison. ([intel.com](https://www.intel.com/content/www/us/en/newsroom/news/intel-unveils-first-integrated-optical-io-chiplet.html))
2. Datacom / CPO - PHIX Photonics Assembly
   · PHIX offers CPO co-design, optical coupling, heterogeneous integration, source assembly, and manufacturing support, establishing a contracted-service alternative to broader optical-assembly sourcing. ([phix.com](https://www.phix.com/markets/datacom-cpo/))
3. External vs. Integrated Light Sources for Intra-Data Center Co-Packaged Optical Interfaces
   · The peer-reviewed study models external and integrated illumination while considering optical-connection losses, thermal behavior, and reliability. Modeled results are not commercial operating comparisons. ([ee.stanford.edu](https://ee.stanford.edu/~jmk/pubs/ext.vs.integ.light.sources.jlt.xx.xx-xx.xx.pdf))
4. HyperLight, UMC, and Wavetek Announce Strategic Partnership for High-Volume Foundry Production of TFLN Chiplet Platform
   · The TFLN platform includes CPO among its applications. Constituent manufacturing access is distinct from acceptance of the complete electronics-packaging combination. ([umc.com](https://www.umc.com/en/News/press_release/Content/corporate/xx.xx))

5. Lightmatter Announces Passage L200, the Fastest Co-Packaged Optics for AI
   · Passage L200 describes a UCIe host connection and electronic-photonic integration. Host-interface commitment remains distinct from internal engine circuitry. ([lightmatter.co](https://lightmatter.co/press-release/lightmatter-announces-passage-l200-the-fastest-co-packaged-optics-for-ai/))
6. Vesta 200 6.4T CPX Optical Engine - Ciena Infobrief
   · Vesta CPX specifies serial electrical signaling, linear-drive applications, standards-based host interfaces, and external illumination. The documentation spans CPO and NPO uses. ([ciena.com](https://www.ciena.com/__data/assets/pdf_file/xx.xx/xx.xx/vesta_200_6-4T_cpx_optical_engine_IB.pdf))
7. Ayar Labs - A Complete Co-Packaged Optics Solution
   · Ayar markets TeraPHY with a UCIe host interface and suitable external illumination, including SuperNova. The claims do not establish arbitrary host acceptance. ([ayarlabs.com](https://ayarlabs.com/products/))
8. Technology - Avicena
   · Avicena describes parallel microLED arrays connected through multicore fiber bundles to silicon detectors, supporting a distinct endpoint-and-connectivity architecture comparison. ([avicena.tech](https://avicena.tech/technology-2024-xx.xx/))
9. FalconX
   · Xscape markets FalconX as a comb-based ELSFP module for CPO and adjacent architectures with configurable wavelength plans. Interchangeability remains a separate acceptance question. ([xscapephotonics.com](https://www.xscapephotonics.com/falconx))
10. UHP Laser Sources for CPO - Lumentum
    · Lumentum markets InP laser devices for external-source systems supplying CPO engines. Device procurement and complete-module responsibility are distinct commercial boundaries. ([lumentum.com](https://www.lumentum.com/en/products/data-center/cw-lasers/uhp-lasers-cpo))
11. Coherent Launches PhotonLink Integrated Optics Platform for AI Infrastructure
    · PhotonLink combines optical constituents with assembly and test, offering individual components and optical assemblies tailored to customer architectures. ([ir.coherent.com](https://ir.coherent.com/news-releases/news-release-details/coherent-launches-photonlinktm-integrated-optics-platform-ai))

27.5. Benchmarking Analysis, 2025

Defensible peer groups follow the delivered scope and application. ■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■ ■■■■■■■■ ■■■■ ■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■ ■ ■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■ ■■ ■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■ ■■■■ ■■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■ ■■■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■ Where only broader photonics or switching capability is established, a dedicated CPO deliverable and accountable acceptance owner are prerequisites to like-for-like comparison.

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■■■■■■ Efficiency comparisons likewise require equivalent complete configurations, including illumination and cooling. Cisco's announced linear-pluggable route is a relevant adjacent alternative, while academic source-location comparisons show why an isolated optical benefit cannot establish a universal system advantage.

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Sources & Evidence

1. Micas Networks Announces Industry’s First 51.2T Co-Packaged Optics Network Switch System Now in Volume Production
   · The March xx.xx 2025 announcement reports order acceptance, supporting an equipment milestone distinct from prototype development. ([micasnetworks.com](https://www.micasnetworks.com/company/news/xx.xx))
2. Intel Demonstrates First Fully Integrated Optical I/O Chiplet
   · The June xx.xx 2024 disclosure explicitly describes the CPU-co-packaged OCI as a prototype and selected-customer development; it does not establish subsequent status. ([intel.com](https://www.intel.com/content/www/us/en/newsroom/news/intel-unveils-first-integrated-optical-io-chiplet.html))
3. How Industry Collaboration Fosters NVIDIA Co-Packaged Optics
   · Quantum-X uses maintainable socket-based subassemblies; Spectrum-X uses soldered engines and detachable connectivity. External-source replacement is a separate boundary. ([developer.nvidia.com](https://developer.nvidia.com/blog/how-industry-collaboration-fosters-nvidia-co-packaged-optics))
4. TRITON™ High-Volume Silicon Photonics Production Test Cell System
   · TRITON combines FormFactor, Advantest, and Tokyo Electron contributions for optical-electrical wafer testing and integrates Advantest's tester with FormFactor probing products. ([formfactor.com](https://www.formfactor.com/product/probe-systems/high-volume-manufacturing/triton/))
5. Photon 100
   · Photon xx.xx combines optical-electrical instrumentation with UltraFLEXplus, declares wafer, engine, and co-packaged-module coverage, and permits preferred surrounding test-cell partners. ([teradyne.com](https://www.teradyne.com/products/photon-xx.xx/))
6. External vs. Integrated Light Sources for Intra-Data Center Co-Packaged Optical Interfaces
   · Its complete-illumination comparison supports assessing supporting-system effects rather than transferring an isolated optical benefit into a universal equipment conclusion. ([ee.stanford.edu](https://ee.stanford.edu/~jmk/pubs/ext.vs.integ.light.sources.jlt.xx.xx-xx.xx.pdf))
7. Cisco Announces New Silicon One G300, Advanced Systems and Optics to Power and Scale AI Data Centers for the Agentic Era
   · The announced pluggable systems provide a concrete complete-configuration comparison alternative; supplier performance claims do not establish universal superiority. ([newsroom.cisco.com](https://newsroom.cisco.com/c/r/newsroom/en/us/a/y2026/m02/cisco-announces-new-silicon-one-g300.html))

28. Company Profiles

28.1. Broadcom

Broadcom provides an Ethernet-switch-centered CPO integration route through its Tomahawk platforms. ▪▪▪ ▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪ An equipment developer can therefore evaluate a coordinated switching-and-optics package rather than assemble independent optical building blocks around a separately selected switch.

A named equipment route exists for its earlier Bailly platform: Micas Networks' March 2025 CPO switch incorporates that Broadcom device. This establishes a specific equipment integration, not interchangeability with Davisson. ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪

OEMs should establish the supported device revision, illumination compatibility, package acceptance obligations, and warranty replacement boundary with Broadcom and the equipment supplier. ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ A change in optical configuration or authorized replacement unit should trigger renewed acceptance review.

Sources & Evidence

1. **Micas Networks Announces Industry’s First 51.2T Co-Packaged Optics Network Switch System Now in Volume Production**
   · Micas' March 2025 equipment announcement identifies Broadcom Bailly within its CPO switch, supporting a named equipment-integration route rather than interchangeability with a different Broadcom device. ([micasnetworks.com](https://www.micasnetworks.com/company/news/xx.xx))
2. **Broadcom Announces Tomahawk 6 - Davisson, the Industry's First 102.4-Tbps Ethernet Switch with Co-Packaged Optics**
   · The October xx.xx 2025 Davisson announcement describes COUPE optical engines, substrate-level packaging, and field-replaceable external laser modules. Its opening shipping statement and BCM78919 early-access sampling notice establish differing commercialization wording requiring configuration-specific interpretation. ([investors.broadcom.com](https://investors.broadcom.com/node/xx.xx/pdf))
3. **Broadcom Showcases Industry-Leading Solutions for Scaling AI Infrastructure at OFC 2026**
   · Broadcom's OFC 2026 announcement includes Tomahawk xx.xx-Davisson CPO in its Ethernet portfolio. Its separate production statement about Tomahawk xx.xx is not treated as configuration-specific confirmation of Davisson availability. ([investors.broadcom.com](https://investors.broadcom.com/node/xx.xx/pdf))

28.2. NVIDIA

NVIDIA offers CPO through coordinated networking systems: Spectrum-X Photonics addresses Ethernet fabrics, while Quantum-X Photonics addresses InfiniBand. ▪▪▪▪▪▪▪▪▪ ▪▪▪

[redacted] This establishes a manufacturer-reported production milestone beyond the initial availability plan, without settling acceptance of every customer configuration.

Maintenance requirements differ within NVIDIA's portfolio. Its technical description identifies field-maintainable socketed optical subassemblies for Quantum-X, compared with soldered Spectrum-X engines using detachable optical connections. [redacted]

[redacted] Where individual-engine replacement is a procurement requirement, the buyer needs an explicit support commitment rather than an architectural inference. Production announcements and supplier efficiency claims should remain separate from the installation's accepted operating and support requirements.

Sources & Evidence

1. How Industry Collaboration Fosters NVIDIA Co-Packaged Optics
   · NVIDIA describes field-maintainable socketed Quantum-X optical subassemblies, soldered Spectrum-X engines with detachable optical connectivity, and field-replaceable external illumination. These are distinct maintenance boundaries, not individual-engine replacement entitlements. ([developer.nvidia.com](https://developer.nvidia.com/blog/how-industry-collaboration-fosters-nvidia-co-packaged-optics))
2. NVIDIA Announces Spectrum-X Photonics, Co-Packaged Optics Networking Switches to Scale AI Factories to Millions of GPUs
   · NVIDIA's March xx.xx 2025 introduction distinguishes Spectrum-X Photonics Ethernet from Quantum-X Photonics InfiniBand and describes a liquid-cooled Quantum-X design. The announcement establishes platform scope rather than universal customer acceptance. ([nvidianews.nvidia.com](https://nvidianews.nvidia.com/news/nvidia-spectrum-x-co-packaged-optics-networking-switches-ai-factories))
3. NVIDIA GTC Taipei at COMPUTEX: Live Updates on What's Next in AI
   · The June xx.xx 2026 update reports Spectrum-X Ethernet Photonics in full production and identifies fabrication, packaging, laser-module, and system-assembly contributions. This is a manufacturer-reported milestone, not proof of every buyer's configuration acceptance. ([blogs.nvidia.com](https://blogs.nvidia.com/blog/nvidia-gtc-taipei-computex-2026-news/))

28.3. Marvell Technology, Inc.

[redacted] Its fiscal 2026 filing places CPO within both custom-ASIC capabilities and its interconnect portfolio. The commercial proposition is

therefore customer-specific semiconductor integration rather than a finished networking-system purchase.

Marvell completed its acquisition of Celestial AI on February xx.xx 2026, bringing Photonic Fabric technology and the associated team into its Data Center Group. This broadens its optical connectivity options but does not make acquired and existing architectures interchangeable. ■■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■ ■■■■■■■■■ ■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■ ■■ ■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■ ■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■■■■ ■■ ■■■■■■■■■

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Sources & Evidence

1. Marvell Announces Breakthrough Co-Packaged Optics Architecture for Custom AI Accelerators
   · Marvell's January xx.xx 2025 announcement offers a custom-XPU architecture combining compute, memory, chiplets, and optical engines on a common substrate with SerDes, die-to-die interfaces, and packaging. Its customer-evaluation disclosure supports a design-engagement route. Embedded commercial-analyst estimates are excluded. ([marvell.com](https://www.marvell.com/company/newsroom/marvell-co-packaged-optics-architecture-custom-ai-accelerators.html))
2. Marvell Technology, Inc. - Form 10-K for the Fiscal Year Ended January 31, 2026
   · Marvell's fiscal 2026 mandatory filing identifies CPO within its customer-specific ASIC platform and interconnect portfolio, supporting a custom-semiconductor capability rather than treating the offering as finished networking equipment. ([investor.marvell.com](https://investor.marvell.com/sec-filings/all-sec-filings/content/xx.xx-xx.xx-xx.xx/mrvl-xx.xx.htm))
3. Marvell Completes Acquisition of Celestial AI
   · Marvell completed the Celestial AI acquisition on February xx.xx 2026. Photonic Fabric technology and the acquired team became part of its Data Center Group, expanding optical connectivity capabilities without establishing interchangeability with existing products. ([marvell.com](https://www.marvell.com/company/newsroom/marvell-completes-acquisition-of-celestial-ai.html))
4. GlobalFoundries and Marvell expand collaboration for next-generation optical connectivity
   · The September xx.xx 2026 agreement addresses additional GlobalFoundries silicon-germanium capacity at Burlington, Vermont, for connectivity spanning pluggable, NPO, and CPO applications. The additional capacity is prospective and is not attributed wholly to CPO. ([investors.gf.com](https://investors.gf.com/node/xx.xx/pdf))

28.4. Intel Corporation

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[redacted] Its product description also addresses CPU, GPU, and other host integration, alongside possible on-board implementations. The offered package arrangement must therefore be verified separately from the OCI name.

[redacted]
Intel describes detachable optical connectivity as a development path, not an established individual-engine replacement entitlement. Experience with its pluggable photonics platform does not independently qualify a new host-package implementation.

Engagement should initially define the intended host, electrical interface, package responsibility, and applicable qualification deliverables. [redacted] A bounded integration engagement preserves access to Intel's capability while avoiding the assumption that a successful prototype supplies customer-ready equipment.

Sources & Evidence

1. Intel Demonstrates First Fully Integrated Optical I/O Chiplet
   · Intel's June xx.xx 2024 disclosure describes a CPU-co-packaged OCI demonstration, integrated illumination and electrical circuitry, and work with selected customers. It explicitly identifies the demonstrated chiplet as a prototype.
   ([intel.com](https://www.intel.com/content/www/us/en/newsroom/news/intel-unveils-first-integrated-optical-io-chiplet.html))
2. Intel® Silicon Photonics
   · Intel describes OCI's photonic/electrical die stack, integrated lasers and amplifiers, host-package and on-board options, and a path toward detachable connectivity. Its established pluggable-platform experience is distinct from acceptance of a new CPO implementation.
   ([intel.com](https://www.intel.com/content/www/us/en/products/details/network-io/silicon-photonics.html))

28.5. AMD

AMD's May 2025 Enosemi announcement documents the internalization of an existing photonics development partner. The acquired team supports AMD's photonics and CPO work for next-generation AI systems. [redacted]

A system sponsor should engage AMD over the specific compute architecture and optical integration commitment rather than infer CPO readiness from an accelerator or rack-platform announcement. The relevant questions are which optical configuration is supported, who owns package acceptance, and which manufacturing and support parties are contracted. [redacted]

[redacted] The trade-off is dependence on the associated host roadmap and its qualification milestones. Buyers requiring an immediately supportable installation should separate development engagement from equipment procurement until the offered CPO configuration and delivery obligations are explicit.

Sources & Evidence

1. AMD Acquires Enosemi to Accelerate Co-Packaged Optics Innovation for AI Systems
   - AMD's May xx.xx 2025 announcement identifies Enosemi as an acquired former photonics development partner whose team supports AMD's next-generation photonics and CPO development. It establishes acquired engineering capability rather than a named product release. ([amd.com](https://www.amd.com/en/blogs/2025/amd-acquires-enosemi-to-accelerate-co-packaged-optics-innovation.html))
2. Advanced Micro Devices, Inc. - 2025 Form 10-K
   - AMD's 2025 Form xx.xx-K corroborates photonics and CPO development acquisitions. It states that AMD retained ZT design capabilities and sold the manufacturing business to Sanmina in October 2025; this does not establish a CPO-specific manufacturing assignment. ([ir.amd.com](https://ir.amd.com/financial-information/sec-filings/content/xx.xx-xx.xx-xx.xx/amd-xx.xx.htm))

28.6. Cisco

Cisco combines switching silicon, optical-device expertise, and system engineering in its CPO development. [redacted] These establish relevant integration capabilities, not a universally available CPO system.

Cisco also provides an adjacent architectural route. Its February 2026 Silicon One G300 announcement included N9000 and Cisco xx.xx systems with linear pluggable and OSFP optics, with shipment planned during 2026. [redacted]

For a Cisco-oriented installation, the practical choice is between a supported pluggable configuration and a specifically committed CPO development or equipment offer. Integrated silicon, optics, and software can support coordinated acceptance, but the exact model and maintenance entitlement remain decisive. [redacted]

Sources & Evidence

1. Cisco Announces New Silicon One G300, Advanced Systems and Optics to Power and Scale AI Data Centers for the Agentic Era
   · Cisco's February 2026 announcement includes G300-powered N9000 and Cisco xx.xx systems, linear pluggable optics, OSFP optics, and coordinated management. It plans shipment during 2026; these pluggable offerings are not CPO configurations. ([newsroom.cisco.com](https://newsroom.cisco.com/c/r/newsroom/en/us/a/y2026/m02/cisco-announces-new-silicon-one-g300.html))
2. Cisco Demonstrates Co-packaged Optics (CPO) System at OFC 2023
   · Cisco's 2023 CPO demonstration describes Silicon One G100 with optical tiles, remote illumination, integrated wavelength multiplexing, and air-cooled thermal design. These establish demonstration capabilities rather than general commercial availability. ([blogs.cisco.com](https://blogs.cisco.com/sp/cisco-demonstrates-co-packaged-optics-cpo-system-at-ofc-2023))
3. Cisco connectivity delivers performance and reliability for AI networking
   · Cisco's September xx.xx 2025 discussion reaffirms CPO commitment following 2023 demonstrations and describes a strategy spanning multiple foundries, optical engines, and geographies. Its sourcing strategy is not proof of engine interchangeability. External market-research claims are excluded. ([blogs.cisco.com](https://blogs.cisco.com/sp/transforming-infrastructure-for-the-ai-era))

28.7. Ayar Labs

Ayar Labs offers a matched optical-engine and illumination proposition through TeraPHY and SuperNova. ■■ ■■■■■■■ ■■■■■■■ ■■■■ ■ ■■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■■ ■■■■ ■■■ ■■■ ■■ ■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■ ■■ ■■■■■ ■■■■■■■■■■■■■■■■ ■■■■ ■■■■■■■■ These capabilities give a host developer an optical building-block route, while source replacement remains distinct from replacing the integrated engine.

■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■■ ■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■ ■■■■■■■ ■■■ ■■■■ ■■■■■■■■ ■■■■ ■■■■■■■■■ ■■■ ■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■ ■■■■ ■■■■■■ ■■■■■■■■■■■■■ ■■■■ ■ ■■■■■■■■■■■■■ ■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■ The former addresses host-package incorporation; the latter addresses system-level integration. Neither announcement makes every resulting configuration a customer-approved turnkey product.

An ASIC sponsor lacking optical-package integration expertise can assess the Alchip-supported route, subject to host-interface and assembly acceptance. A rack buyer should instead establish the supported system configuration and restoration obligations through the system integrator. ■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■ ■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■

Sources & Evidence

1. Ayar Labs and Alchip to Scale AI Infrastructure with Co-Packaged Optics
   · The September xx.xx 2025 partnership combines Ayar optical I/O with Alchip advanced-packaging expertise and TSMC technologies, supporting a host-package integration route subject to customer acceptance. ([ayarlabs.com](https://ayarlabs.com/news/ayar-labs-and-alchip-to-scale-ai-infrastructure-with-co-packaged-optics/))
2. Ayar Labs - A Complete Co-Packaged Optics Solution
   · Ayar markets TeraPHY with a UCIe host interface, detachable connector options, and suitable external illumination, including SuperNova. SuperNova uses ELSFP. These are marketed building-block capabilities, not universal host compatibility or individual-engine replacement rights. ([ayarlabs.com](https://ayarlabs.com/products/))
3. Ayar Labs and Wiwynn Partner to Bring Co-Packaged Optics to Rack-Scale AI Systems
   · The March xx.xx 2026 Wiwynn collaboration describes a liquid-cooled rack reference design incorporating TeraPHY and SuperNova. A reference-design preview is distinct from acceptance and delivery of every proposed customer system. ([ayarlabs.com](https://ayarlabs.com/news/ayar-labs-and-wiwynn-partner-to-bring-co-packaged-optics-to-rack-scale-ai-systems))

28.8. RANOVUS

[redacted] Its platform covers both near-packaged and co-packaged integration. Monolithic integration within the optical engine does not establish monolithic integration with the compute host; buyers must verify the host-to-optics arrangement for the offered configuration.

The March 2025 Jabil collaboration provides an announced manufacturing route for ODIN, including its integrated-source architecture. Canada's National Research Council separately reports that its photonics fabrication-center lasers are used in Ottawa-based RANOVUS CPO hardware. [redacted]

A host developer can assess an application-specific ODIN engagement with coordinated manufacturing support when it needs an optical engine rather than a complete networking fabric. [redacted] Customer-approved configuration and delivery milestones, rather than the manufacturing partnership alone, should govern the supply commitment.

Sources & Evidence

1. National Research Council Canada Annual Report 2024-2025 - Delivering Results for a Stronger Canada
   · Canada's research-council annual report states that Canadian Photonics Fabrication Centre lasers are used in Ottawa-based RANOVUS CPO hardware. This independently corroborates a specific constituent relationship, not complete customer-package acceptance. ([publications.gc.ca](https://publications.gc.ca/collections/collection_2025/cnrc-nrc/NR1-xx.xx-2025-eng.pdf))
2. Ranovus® announces collaboration with Jabil® for mass production of ODIN® optical engine
   · RANOVUS' March xx.xx 2025 announcement describes ODIN's integrated photonic/electronic engine and illumination capabilities, CPO and NPO applications, and an intended Jabil manufacturing route. The collaboration is not customer-specific qualification evidence. ([ranovus.com](https://ranovus.com/ranovus-collaborates-with-jabil/))
3. About RANOVUS
   · RANOVUS markets near-packaged and co-packaged architectures alongside system modeling, thermal and packaging alignment, and serviceability frameworks. This supports platform-engagement scope without equating NPO and CPO implementations. ([ranovus.com](https://ranovus.com/about/))

28.9. Lightmatter

[redacted] The L200 announcement identifies a UCIe host connection, external Guide illumination, and manufacturing relationships spanning photonic fabrication and outsourced packaging. Its M1000 evaluation platform adds a photonic interposer, detachable fiber interfaces, an SDK, and thermal and optical telemetry, providing a distinct route for assessing broader package integration.

[redacted] This creates an announced coordinated development route for customers combining custom compute or switching silicon with optical I/O. A developer already using compatible GUC workflows can assess whether the arrangement consolidates interface responsibility; the partnership does not independently establish acceptance or delivery of a particular customer package.

Lightmatter is consequently a candidate for design sponsors retaining host-architecture authority, not a substitute for an accountable equipment supplier. [redacted] The principal trade-off is package-design flexibility against dependence on the supported Passage integration path; customer configuration release, rather than an evaluation platform or announced availability year, should govern broader supply commitments.

Sources & Evidence

1. Passage M1000 EVK - 3D Photonic Interconnect for AI Infrastructure
   · The M1000 evaluation-platform offering includes a photonic interposer, detachable fibers, an SDK, and thermal and optical telemetry. It directs prospective customers to integration discussions rather than establishing acceptance of their production packages. ([lightmatter.co](https://lightmatter.co/products/passage-m1000-evk/))
2. Lightmatter Announces Passage L200, the Fastest Co-Packaged Optics for AI
   · The March xx.xx 2025 L200 announcement identifies a UCIe host connection, Guide illumination, and photonic-fabrication and packaging partners. Its 2026 availability statement is an announced commercialization expectation, not customer deployment evidence. ([lightmatter.co](https://lightmatter.co/press-release/lightmatter-announces-passage-l200-the-fastest-co-packaged-optics-for-ai/))
3. Passage L200 - 3D Co-Package Optics
   · Passage L200 documentation describes vertical PIC/EIC integration, detachable fiber connectors, and access through design partnerships. It does not establish direct stacking with the customer's compute logic or customer-specific maintenance rights. ([lightmatter.co](https://lightmatter.co/products/l200/))
4. Lightmatter and GUC Partner to Produce Co-Packaged Optics (CPO) Solutions for AI Hyperscalers
   · GUC's January xx.xx 2026 announcement combines Lightmatter's Passage platform with GUC's ASIC design and advanced-packaging workflows. It establishes a partnership to bring solutions to market, not acceptance of an individual customer configuration. ([guc-asic.com](https://www.guc-asic.com/en/news/PressRelease/PR_ENG_20260128))

28.10. Ciena

Ciena's CPO capability is anchored in the Vesta optical-engine portfolio acquired through Nubis Communications, rather than inferred from its broader optical-transport business. Its March xx.xx 2026 portfolio announcement identifies the acquired CPO/NPO technologies and Vesta xx.xx xx.xx.4T CPX. ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪

That sourcing discretion carries integration obligations. ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪ ▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ Monitor configuration approval and maintenance commitments rather than transfer readiness from Ciena's other networking products.

Sources & Evidence

1. Vesta 200 6.4T CPX Optical Engine - Ciena Infobrief
   · The Vesta xx.xx xx.xx.4T CPX infobrief describes optical conversion, standards-based host electrical interfaces, linear-drive applications, external illumination, and both CPO/NPO uses. Its CPX connectivity also supports optical and copper configurations, requiring layout-specific assessment. ([ciena.com](https://www.ciena.com/__data/assets/pdf_file/xx.xx/xx.xx/vesta_200_6-4T_cpx_optical_engine_IB.pdf))
2. Optics for co-packaged applications
   · Ciena markets Vesta engines for CPO and NPO, identifies LGA and CPX attachment options, and describes external-source laser serviceability and independent ASIC/interconnect selection. These are offered capabilities, not universal integration approval. ([ciena.com](https://www.ciena.com/products/interconnects/optics-for-co-packaged-applications))
3. Ciena Solidifies AI Networking Leadership, Unveils New Innovations for High-Speed Connectivity
   · Ciena's March xx.xx 2026 announcement identifies acquired Nubis CPO/NPO technologies and the introduction of Vesta xx.xx xx.xx.4T CPX, establishing the portfolio's company attribution. ([ciena.com](https://www.ciena.com/about/newsroom/press-releases/ciena-solidifies-ai-networking-leadership-unveils-new-innovations-for-high-speed-connectivity))

28.11. Credo Technology Group Holding Ltd

Credo added silicon-photonics PIC capability through the completed acquisition of DustPhotonics on May xx.xx 2026. The combination places photonic circuitry alongside Credo's SerDes, DSP, and system-integration capabilities within one corporate group. ■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■ ■■■■ ■■ ■■■■■■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■ ■■■ ■■■■■ ■■■■ ■■■■■ ■■■■■ ■ ■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■ ■■■■ ■■■ ■■ ■■■■■■ ■■■■■■■■■ ■ ■■■■■■■■■ ■■■ ■■■■■■ ■■ ■■■■■■■■ ■■■■ ■■■■■■■■

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Sources & Evidence

1. Credo Completes Acquisition of DustPhotonics
   · Credo announced completion of its DustPhotonics acquisition on May xx.xx 2026, adding silicon-photonics PIC capability alongside SerDes, DSP, and system integration. The disclosed portfolio addresses both NPO and CPO. ([investors.credosemi.com](https://investors.credosemi.com/news-events/news/news-details/2026/Credo-Completes-Acquisition-of-DustPhotonics/default.aspx))

2. Credo Agrees to Acquire DustPhotonics, Accelerating Expansion into Silicon Photonics and Next Generation Optical Connectivity

   · Credo's April xx.xx 2026 acquisition announcement distinguishes PICs deployed in transceivers from designs targeting NPO and CPO. Only the company's product and transaction disclosures are used; attributed commercial-research estimates are excluded. ([investors.credosemi.com](https://investors.credosemi.com/news-events/news/news-details/2026/Credo-Agrees-to-Acquire-DustPhotonics-Accelerating-Expansion-into-Silicon-Photonics-and-Next-Generation-Optical-Connectivity/default.aspx))

3. Credo Expands ZeroFlap Portfolio with 224G-Based 1.6T Optical Transceivers, Addressing the Growing Demand for AI Network Infrastructure

   · The September xx.xx 2026 ZeroFlap announcement combines Credo's optical DSP, Kfir200 PIC, and PILOT diagnostics in optical transceivers. This demonstrates announced transceiver integration, not a first-level host-package CPO implementation. ([investors.credosemi.com](https://investors.credosemi.com/news-events/news/news-details/2026/Credo-Expands-ZeroFlap-Portfolio-with-224G-Based-xx.xx-6T-Optical-Transceivers-Addressing-the-Growing-Demand-for-AI-Network-Infrastructure/))

4. Kfir200 | Silicon Photonics PIC

   · Kfir200 is offered as a silicon-photonics PIC using external illumination; listed applications include QSFP-DD, OSFP, and short-reach transceivers. The product classification does not independently establish CPO package availability. ([credosemi.com](https://credosemi.com/products/silicon-photonics/kfir200/))

28.12. POET Technologies Inc.

POET's directly documented CPO role is external illumination. ▪▪▪▪▪▪ ▪▪ ▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ These source products should be evaluated separately from POET's data-transceiver optical engines.

▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪ The agreement supports a customer-funded development role; the expectation is not evidence of an accepted, immediately deliverable Blazar configuration. Buyers should distinguish the offered Starlight and Blazar versions rather than transfer a milestone between them.

Optical-engine vendors can assess POET where a separately sourced illumination subsystem avoids developing every laser-related capability internally. Commitments should be staged against the selected source's engine compatibility, qualification, delivered form factor, and support responsibilities. ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪

Sources & Evidence

1. External Laser Small Form Factor Pluggable Implementation Agreement - OIF-ELSFP-02.0
   · ELSFP defines external illumination and field replacement of the laser module. This supports distinguishing a POET source-module integration route from optical-engine replacement rights, without establishing POET product conformity. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-ELSFP-xx.xx-xx.xx.pdf))
2. POET to Demonstrate Extraordinary Hybrid Laser and Next-Generation High-Powered Light Sources for AI Applications at OFC Conference
   · POET's March xx.xx 2026 announcement identifies Blazar as an external source intended for CPO and chip-to-chip optical links, and Starlight as a source intended to demonstrate ELSFP applicability. It announced planned demonstrations rather than completed qualification. ([poet-technologies.com](https://www.poet-technologies.com/news/poet-to-demonstrate-extraordinary-hybrid-laser-and-next-generation-high-powered-light-sources-for-ai-applications-at-ofc-conference))
3. The Laser Problem in AI Hardware and How POET Can Solve It
   · POET's April xx.xx 2026 account reports public demonstrations of Blazar and Starlight and describes Starlight's Optical Interposer-based illumination role. Manufacturing advantages are supplier claims, not independently established comparative outcomes. ([poet-technologies.com](https://www.poet-technologies.com/blog/the-laser-problem-in-ai-hardware-and-how-poet-can-solve-it))
4. POET Technologies Recaps Highlights of CEO's Update on Commercial Activities and Provides Results of 2026 AGM
   · The company-issued June xx.xx 2026 update reports an external-light-source engineering agreement with a new customer and retains 2028 as the expectation for Blazar deployment at scale. Neither fact establishes immediate delivery of an accepted Blazar configuration. ([globenewswire.com](https://www.globenewswire.com/news-release/2026/xx.xx/xx.xx/xx.xx/xx.xx/en/poet-technologies-recaps-highlights-of-ceo-s-update-on-commercial-activities-and-provides-results-of-2026-agm.html))

28.13. Avicena

Avicena offers a distinct laser-free optical-interconnect architecture through LightBundle. Its technology uses parallel microLED arrays, multicore fiber bundles, and silicon photodetectors, and is marketed as aligned with wide internal processor interfaces. ■■■■ ■■ ■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■ ■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■ ■■ ■ ■■■■■■■■ ■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■ ■■■■■■■ ■■■ ■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■

On August xx.xx 2026, Avicena reported that it had begun shipping LightBundle evaluation kits to customers and partners. This establishes a tangible evaluation milestone beyond a planned demonstration, without establishing acceptance of a production CPO host package. ■ ■■■■■■■■ ■■■■■■■■■■■■ ■■ ■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■ ■ ■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■ ■ ■■■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■ ■ ■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■ ■■■■■ ■■ ■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■

Sources & Evidence

1. Technology - Avicena

   · Avicena describes LightBundle as parallel microLED arrays connected through multicore fiber bundles to silicon photodetectors, marketed as aligned with wide internal processor interfaces. Host and optical-path compatibility remain configuration-specific. ([avicena.tech](https://avicena.tech/technology-2024-xx.xx/))

2. Avicena Ships World's First 1Tbps Evaluation Kits, Extending Its Leadership in microLED Optical Interconnects

   · Avicena's August xx.xx 2026 announcement reports that LightBundle evaluation-kit deliveries had begun. The company's own delivery disclosure supports evaluation access, not production CPO acceptance; embedded commercial-analyst commentary is not used. ([avicena.tech](https://avicena.tech/avicena-ships-worlds-first-1tbps-evaluation-kits-extending-its-leadership-in-microled-optical-interconnects/))

28.14. Xscape Photonics

[redacted] Its July xx.xx 2026 update reports a March product launch and continuing commercialization work. These disclosures establish a marketed external-source offering, not customer acceptance of every supported optical-engine combination.

FalconX is relevant to optical-engine developers seeking a separately supplied multi-wavelength source and to equipment providers requiring an external illumination boundary. Buyers should establish the offered wavelength plan, connector and management profile, redundancy configuration, and delivery commitment before assuming interchangeability with another ELSFP source. [redacted]

Sources & Evidence

1. External Laser Small Form Factor Pluggable Implementation Agreement - OIF-ELSFP-02.0

   · The ELSFP replacement objective concerns external lasers supplying optical engines. It supports the source-maintenance distinction in FalconX assessment, not customer-specific interchangeability or engine-maintenance authorization. ([oiforum.com](https://www.oiforum.com/wp-content/uploads/OIF-ELSFP-xx.xx-xx.xx.pdf))

2. FalconX

   · FalconX is marketed as a comb-based ELSFP module supporting CPO, NPO, and pluggable optics, with customizable wavelength plans, redundancy support, and claimed OIF ELSFP-xx.xx conformity. These descriptions do not establish accepted interchangeability. ([xscapephotonics.com](https://www.xscapephotonics.com/falconx))

3. An Update from Xscape Photonics: Product, Milestones and What Comes Next
   · Xscape's July xx.xx 2026 update reports FalconX's March launch and continuing commercialization, and expressly identifies external-source applications for CPO and NPO. Externally attributed market commentary is not used.
   ([xscapephotonics.com](https://www.xscapephotonics.com/blog-post/an-update-from-xscape-photonics-product-milestones-and-what-comes-next))

28.15. OpenLight

OpenLight provides custom Photonic Application-Specific Integrated Circuit design and platform access rather than a complete CPO networking system. ■■■ ■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■ Consolidating these functions within a PIC changes the component-selection boundary: a customer evaluates the integrated platform instead of independently sourcing every active optical element.

On August xx.xx 2026, Tower Semiconductor announced availability of OpenLight's PDK in Cadence tools for the PH18DA InP-on-silicon platform. ■■■ ■■■■■■■■■■■■ ■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■ ■ ■■■■■■■ ■■■■■■ ■■■■■■■■■■■■■ ■■ ■■■■■■ ■ ■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■ ■■■ ■■■■ ■■■ ■■■■ ■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■ ■■ ■■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■■ OpenLight's August 2025 transition from a Synopsys subsidiary to a venture-backed company also means the operating business should not be treated simply as a Synopsys product division.

A developer should assess OpenLight when a custom integrated PIC fits the intended architecture and the supported foundry-design path is acceptable. ■■■ ■■■■■■■■■ ■■ ■■■■■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■ ■■■ ■■■■■■■■■ ■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■ ■■■■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■ ■■■■■■■■■■■■■■ ■■■■■ ■■■■■ ■■■■■■■■■■■■ ■■■■■■■ Manufacturing acceptance, package-level reliability, and configuration-specific delivery commitments remain the milestones for progressing beyond design access.

Sources & Evidence

1. 3.2T and 1.6T
   · OpenLight's PASIC platform integrates active III-V functions, including lasers and modulators, with silicon photonics and explicitly addresses CPO/NPO transmitter applications. Integrated-device capability is distinct from complete host-package acceptance.
   ([openlightphotonics.com](https://openlightphotonics.com/xx.xx.6t-pasic))
2. OpenLight and Tower Semiconductor Expand PH18DA Photonics Ecosystem to Accelerate Photonic IC Development
   · Tower's August xx.xx 2026 announcement establishes availability of OpenLight's PDK in Cadence tools for PH18DA and links OpenLight IP with Tower's manufacturing platform. It establishes a defined design-enablement route rather than arbitrary foundry portability.
   ([ir.towersemi.com](https://ir.towersemi.com/node/xx.xx/pdf))

3. OpenLight Raises $34M Series A to Scale Next-Gen Integrated Photonics for AI Data Centers
   · OpenLight's August xx.xx 2025 announcement states that its financing completed the transition from a Synopsys subsidiary to a venture-backed company, supporting separate operating-business treatment without assumptions about every investor's ownership. ([openlightphotonics.com](https://openlightphotonics.com/newsroom/openlight-raises-34m-series-a-to-scale-next-gen-integrated-photonics-for-ai-data-centers))

28.16. NewPhotonics Ltd.

NewPhotonics' specific CPO contribution is Syncra, a silicon-photonics micro-ring modulator introduced on March xx.xx 2026 alongside Niox monitoring and calibration technology. ■■■ ■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■ ■■■■■■■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■■ This is a device-level proposition, not evidence that a complete CPO package eliminates cooling or has achieved customer qualification.

The company's September 2026 product presentation distinguishes CPO-oriented Syncra from its laser-integrated NPC505 NPO chipsets and pluggable-transceiver products. ■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■ ■■ ■■■■ ■■ ■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■ ■■ ■■■■■■■■■■■ ■■■■■■■■■■■■ ■■ ■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■ ■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■ ■■ ■ ■■■■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■ ■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■ ■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■ An already accepted modulation approach remains preferable when the proposed change does not resolve a consequential requirement or creates disproportionate integration obligations.

Sources & Evidence

1. NewPhotonics Introduces Syncra Self Calibrating Heaterless MRM Solution to Drive Next Generation High Density CPO Performance
   · NewPhotonics introduced Syncra and Niox on March xx.xx 2026 as heaterless modulation, monitoring, and calibration technologies for CPO engines. Thermal and efficiency advantages are supplier device claims, not complete-package qualification outcomes. ([prnewswire.com](https://www.prnewswire.com/news-releases/newphotonics-introduces-syncra-self-calibrating-heaterless-mrm-solution-to-drive-next-generation-high-density-cpo-performance-xx.xx.html))
2. NewPhotonics optical IC chips for pluggables and CPO
   · NewPhotonics' September 2026 product presentation separately identifies Syncra for CPO, NPC505 NPO chipsets, and pluggable-transceiver offerings. This supports configuration-specific comparison rather than transferring adjacent-product readiness or serviceability. ([newphotonics.com](https://newphotonics.com/ecoc2026-stand2009/))

28.17. Quintessent

Quintessent offers a quantum-dot DWDM comb laser through customer-sampling evaluation kits, establishing a component-development proposition rather than a finished CPO package. Its architecture consolidates multiple optical wavelengths into a single laser source. ■■■■■ ■■■■■■■■■ ■■ ■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■ ■ ■■■■■■■■■■■■■■■

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For a CPO developer, the defensible engagement is source evaluation tied to the intended engine, wavelength requirements, and integration responsibilities. Consolidated illumination may simplify the source arrangement, but requires applicable reliability evidence and an accepted source-engine pairing. ■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■ ■■■ ■■ ■■■■■■■ ■■ ■■ ■■■■■■■■■■ ■■■■■■■ ■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■

Sources & Evidence

1. Quintessent Raises $40 Million Series A and Begins Sampling First Product for AI Optical Interconnects
   · Quintessent announces customer sampling of its quantum-dot DWDM comb laser as an evaluation kit. Its optical-engine work is described as a development roadmap rather than an available CPO engine. ([businesswire.com](https://www.businesswire.com/news/home/xx.xx/en/Quintessent-Raises-%xx.xx-Million-Series-A-and-Begins-Sampling-First-Product-for-AI-Optical-Interconnects))
2. IQE announces purchase agreement with Quintessent as Quantum Dot Laser technology moves to customer sampling
   · IQE's September xx.xx 2026 announcement identifies a purchase agreement supplying quantum-dot laser material to support Quintessent's customer sampling. It does not establish acceptance of a complete CPO configuration. ([iqep.com](https://www.iqep.com/media/press-releases/2026/iqe-announces-purchase-agreement-with-quintessent-as-quantum-dot-laser-technology-moves-to-customer-sampling))

28.18. SCINTIL Photonics

SCINTIL Photonics supplies a defined external-illumination proposition through LEAF Light, combining a DWDM laser-source PIC with dedicated control electronics. ■■■ ■■■■■■ ■■■■■■ ■■■■■■■ ■■■ ■■■■■ ■■■■ ■■■■■■■ ■■■ ■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■ ■■ ■■■■■■■■ ■■■ ■■■■■ ■■■■■■■ ■■■ ■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■ ■■■ ■■■■ ■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■ This establishes an offering and fabrication relationship, not acceptance of every customer's CPO configuration.

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Sources & Evidence

1. PRODUCTS | SCINTIL Photonics
   · SCINTIL markets LEAF Light as a DWDM laser-source PIC with dedicated control electronics. The module design targets the ELSFP form factor for remote illumination of co-packaged optical I/O. ([scintil-photonics.com](https://www.scintil-photonics.com/products))
2. LEAFLight™ Evaluation Kit | SCINTIL Photonics
   · The LEAF Light evaluation-kit offering explicitly addresses CPO scale-up networks and incorporates optical subassemblies, control electronics, and monitoring capabilities. Evaluation access is distinct from customer production acceptance. ([scintil-photonics.com](https://www.scintil-photonics.com/evkleaflight))
3. Tower Semiconductor and Scintil Photonics Announce Availability of World's First Heterogeneously Integrated DWDM Lasers for AI Infrastructure
   · The February xx.xx 2026 joint announcement reports DWDM-source availability and SHIP validation on Tower's silicon-photonics platform, supporting SCINTIL's manufacturing relationship. Only the companies' own offering and collaboration facts are used. ([scintil-photonics.com](https://www.scintil-photonics.com/post/tower-semiconductor-and-scintil-photonics-announce-availability-of-world-s-first-heterogeneously-int))

28.19. Quantex Tech Limited

Quantex Tech Limited markets silicon-photonic PICs using micro-ring and Mach-Zehnder modulation, with integrated modulation, multiplexing, routing, and detection functions. Its dedicated CPO page describes optical transceivers integrated with switching silicon, while its company description also offers transceiver solutions and consultation services. ■■■■■ ■■■■■■■■■ ■ ■■■■■■■■ ■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■ ■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■■■

A prospective customer should first distinguish a supplied PIC, engineering engagement, optical engine, and completed host-package assembly. ■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■ ■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■ ■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■ ■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■ ■■ ■■ ■■■■■■■■■■ Production selection remains unresolved until the contracting supplier, deliverable, qualification evidence, and delivery commitment are established; website capability descriptions should not substitute for those commitments.

Sources & Evidence

1. OIO/CPO Solutions
   · Quantex's dedicated CPO page markets optical transceivers integrated with switching silicon and identifies micro-ring PICs as an enabling contribution. The page does not establish customer-specific package acceptance or delivery obligations. ([quantextech.com](https://quantextech.com/Customized-Solutions.html))
2. AI and Hyperscale Data Center Networking
   · Quantex markets micro-ring and Mach-Zehnder PIC architectures and describes integrated modulation, multiplexing, routing, and detection functions. These are supplier offering descriptions, not independently established comparative performance. ([quantextech.com](https://quantextech.com/SiliconPhotonicICs.html))

3. About

· Quantex identifies its business under the captured company name, offers optical-transceiver solutions and consultation services, and lists a Hong Kong commercial address. Those disclosures do not assign fabrication or optical assembly to that location. ([quantextech.com](https://quantextech.com/aboutus.html))

28.20. Taiwan Semiconductor Manufacturing Company Limited

Taiwan Semiconductor Manufacturing Company Limited provides a fabrication-and-packaging integration route rather than a finished networking-system proposition. Its COUPE platform combines photonic circuitry and electrical control through engine-level stacking. ■■■ ■■■■ ■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■ ■■■■ ■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■ ■■■ ■■ ■■■■■■■■ ■■■■ ■■■■■■■ ■■■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■ ■ ■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■ ■■■■■ ■■■■■■■■■ ■■■■■■■■

A host developer can assess TSMC where coordinated photonic fabrication and advanced packaging fit its intended architecture. The prerequisite is a released platform and an accepted host-engine-package combination with explicit integration responsibility. ■■■■ ■■■■■ ■■■ ■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■ ■■■ ■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■ ■■■■■■ ■■■■ ■ ■■■■■■■■ ■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■■ ■■ ■■■■■■■■ ■■■ ■ ■■■■■■■■■■ ■■■ ■■■■■■■■

Sources & Evidence

1. TSMC 2025 Annual Report

· TSMC's 2025 annual report describes COUPE photonic-electrical engine stacking and separately identifies CoWoS CPO switch-package development. The distinction supports separating internal engine integration from the host-to-optics topology. ([investor.tsmc.com](https://investor.tsmc.com/sites/ir/annual-report/2025/2025%20Annual%20Report.E.pdf))

2. TSMC Debuts A13 Technology at 2026 North America Technology Symposium

· TSMC's April 2026 symposium announcement describes COUPE-on-substrate CPO production beginning in 2026 as a prospective milestone. It does not document acceptance of each customer package or a configuration-specific supplying facility. ([pr.tsmc.com](https://pr.tsmc.com/english/news/xx.xx))

28.21. GlobalFoundries

GlobalFoundries offers a CPO-specific integration platform through SCALE, introduced on May xx.xx 2026. The platform combines silicon-photonic devices, electronic-IC integration, detachable optical interfaces, and known-good-die testability. ■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■ ■■■ ■■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■■ ■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■■ ■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■

[redacted] Coordinated engagement may reduce fragmented design interfaces, but retains dependence on approved contributors. Buyers should distinguish platform-device qualification from acceptance of their assembled host package, and identify the actual supplying sites before relying on geographic diversification claims.

Sources & Evidence

1. GlobalFoundries accelerates adoption of co-packaged optics for advanced AI data centers with SCALE optical module solution
   · GlobalFoundries introduced SCALE on May xx.xx 2026. Its disclosed capabilities include silicon-photonic devices, electronic-IC integration, detachable optical interfaces, and known-good-die testability; these do not independently establish customer host-package acceptance. ([gf.com](https://gf.com/news-and-events/news/globalfoundries-accelerates-adoption-of-co-packaged-optics-for-advanced-ai-data-centers-with-scale-optical-module-solution/))
2. Light-Speed Ambition: GlobalFoundries Acquires AMF and InfiniLink to Power the AI Data Center Revolution
   · GlobalFoundries identifies acquired AMF as Singapore-based photonic manufacturing capability and InfiniLink as Cairo-based connectivity design and IP. The disclosed combined roadmap includes optical-engine modules for pluggable and CPO uses. ([gf.com](https://gf.com/news-and-events/blog/light-speed-ambition-globalfoundries-acquires-amf-and-infinilink-to-power-the-ai-datacenter-revolution/))
3. GlobalFoundries and Marvell expand collaboration for next-generation optical connectivity
   · The September xx.xx 2026 Marvell agreement identifies GlobalFoundries' Burlington SiGe manufacturing for optical connectivity spanning pluggable, NPO, and CPO applications. It does not establish a complete CPO-package assembly assignment there. ([gf.com](https://gf.com/news-and-events/news/globalfoundries-and-marvell-expand-collaboration-fornext-generation-optical-connectivity/))

28.22. Tower Semiconductor

Tower Semiconductor provides silicon-photonic foundry and design-enablement capabilities, with CPO scale-up explicitly included in its platform applications. [redacted] This is a released design-access milestone, not proof that a customer's assembled CPO package is qualified.

[redacted] Established design-tool access can make a foundry engagement more executable, but switching platforms can require renewed compatibility work. Tower's multinational fabrication footprint

does not establish automatic process portability or a CPO allocation at every site; the approved fabrication and packaging combination remains the deciding condition.

Sources & Evidence

1. Tower Semiconductor to Participate at OFC 2026 Highlighting Its Silicon Photonics Platform for AI, Telecom and Emerging Applications
   · Tower's March xx.xx 2026 announcement explicitly includes CPO scale-up among silicon-photonics applications and describes complementary SiGe offerings and design enablement. Its wider fabrication footprint is not a CPO-specific site allocation.
   ([towersemi.com](https://towersemi.com/wp-content/uploads/2026/xx.xx/OFC_2026_-PR_Final_AC.pdf))
2. Tower Semiconductor and Scintil Photonics Announce Availability of World's First Heterogeneously Integrated DWDM Lasers for AI Infrastructure
   · The joint announcement identifies Tower's manufacturing-platform contribution to SCINTIL's DWDM-source offering and customer evaluation route. It does not allocate every CPO manufacturing step to Tower's individual sites.
   ([scintil-photonics.com](https://www.scintil-photonics.com/post/tower-semiconductor-and-scintil-photonics-announce-availability-of-world-s-first-heterogeneously-int))
3. Tower Semiconductor Ltd. - Form 6-K, August 11, 2026
   · Tower's August xx.xx 2026 Form xx.xx-K announces OpenLight's PH18DA design kit availability in Cadence tools. The platform supports integrated active photonic components and electronic-photonic co-design for NPO/CPO development, not automatic assembled-package qualification.
   ([ir.towersemi.com](https://ir.towersemi.com/static-files/04accebb-13ea-4f42-93de-128e2fa56c04))

28.23. ASE Technology Holding Co., Ltd.

[redacted] It establishes assembly-development capability, not acceptance of a production configuration for another customer. The holding company encompasses ASE, Siliconware Precision Industries, and USI; SPIL therefore should not be treated as an economically independent alternative to the group.

[redacted] Buyers should establish the contracting operation and approved manufacturing site before commitment. The meaningful next milestone is customer acceptance of the intended assembly, rather than assuming that a demonstrated package or the group's wider footprint establishes transferable qualification.

Sources & Evidence

1. ASE Demonstrates CPO that Improves Energy Efficiency for AI applications
   · Advanced Semiconductor Engineering's April xx.xx 2025 announcement identifies its membership in ASE Technology Holding and a CPO assembly demonstration integrating optical engines and an ASIC, including optical-attachment compatibility work. No embedded analyst estimates are used.
   ([ase.aseglobal.com](https://ase.aseglobal.com/press-room/ase-demonstrates-cpo-for-ai-applications/))

2. About ASE Technology Holding
   · ASE Technology Holding identifies ASE, Siliconware Precision Industries, and USI within its group and describes packaging, testing, and system-assembly capabilities. The ownership relationship supports group-aware treatment of SPIL rather than an independent economic alternative. ([aseglobal.com](https://www.aseglobal.com/about/))

28.24. Amkor Technology, Inc.

Amkor Technology, Inc. provides semiconductor package design, assembly, and test services and identifies CPO among its customer co-development activities. ■■■ ■■■■■■■■ ■■■■ ■■■■■■■■■■■■■ ■■■■ ■■■■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■ ■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■ ■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■ ■■■■■■■■■■■ ■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■ ■■■■■■■■■ ■■■■■■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■ Amkor's direct customer-support teams include assembly and test program managers, supported across Asia, Europe, and the United States.

A developer can assess Amkor when outsourcing package integration is preferable to owning the required assembly capabilities. ■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■ ■■■■■■■■■■■■■ ■■ ■■■■■■■■ ■■■ ■■■■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■ Selection should follow an executable program-specific offer, not inference from the Lightmatter partnership or Amkor's general manufacturing footprint.

Sources & Evidence

1. Amkor Technology, Inc. - 2025 Form 10-K
   · Amkor's 2025 Form xx.xx-K identifies CPO co-development, package design and test services, and direct technical-support teams across Asia, Europe, and the United States. Its broader qualification disclosures state that facility changes can require renewed customer approval. ([sec.gov](https://www.sec.gov/Archives/edgar/data/xx.xx/xx.xx/amkr-xx.xx.htm))
2. Lightmatter and Amkor Partner to Build World’s Largest 3D Photonics Package
   · The November xx.xx 2024 company announcement pairs Amkor's multi-die packaging expertise with Lightmatter's Passage platform and describes continuing development and validation. It establishes a platform-specific collaboration rather than universal CPO-package availability. ([amkor.com](https://amkor.com/company-news/lightmatter-and-amkor-partner-to-build-worlds-largest-3d-photonics-package/))

28.25. Global Unichip Corp.

Global Unichip Corp. provides an ASIC integration route for developers adopting optical interconnects, rather than a finished networking-equipment alternative. Its January xx.xx 2026 partnership with Lightmatter combines ASIC design and advanced packaging expertise with the Passage photonic-interconnect platform. ■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■ ■■ ■■■■■■■

RESEARCH SAMPLE REPORT

[redacted]

A custom-silicon sponsor can evaluate GUC when it needs coordinated ASIC and package engineering around the selected Passage architecture. [redacted] Customer-specific qualification and an executable delivery commitment should govern progression beyond design engagement.

Sources & Evidence

1. Lightmatter and GUC Partner to Produce Co-Packaged Optics (CPO) Solutions for AI Hyperscalers
   · The January xx.xx 2026 announcement combines GUC ASIC design and packaging services with Lightmatter Passage in a joint commercialization program; it does not establish customer-qualified delivery. ([guc-asic.com](https://www.guc-asic.com/en/news/PressRelease/PR_ENG_20260128))
2. Advanced Packaging Technology - GUC
   · GUC markets interposer, package, and substrate design with electrical, thermal, and mechanical co-simulation. Applying these capabilities to coordinated CPO engagement is a conditional commercial inference. ([guc-asic.com](https://www.guc-asic.com/en/solutions/ASICDesignService/APT))
3. Worldwide Offices - GUC
   · GUC lists its Hsinchu headquarters and offices in the United States, Europe, and Japan; the page does not establish location-specific CPO delivery obligations. ([guc-asic.com](https://www.guc-asic.com/en/about/locations))

28.26. Alchip

[redacted] Importantly, Alchip identified the exhibited object as a scale model and described engagement with selected customers. This supports an integration architecture and customer-development route, not a completed operating deployment.

[redacted]

■■■ ■■■■ ■■■■■■■■■■■■ A staged engineering engagement is appropriate when that architecture addresses an unmet accelerator-connectivity requirement; it is not a substitute for obtaining qualification and delivery commitments. A working customer configuration and accepted package evidence, rather than the scale model or general ASIC production experience, should determine readiness for supply.

Sources & Evidence

1. Ayar Labs and Alchip to Scale AI Infrastructure with Co-Packaged Optics
   · The September xx.xx 2025 joint partnership announcement links Ayar Labs optical I/O and Alchip packaging expertise with TSMC packaging and process technologies. ([ayarlabs.com](https://ayarlabs.com/news/ayar-labs-and-alchip-to-scale-ai-infrastructure-with-co-packaged-optics/))
2. Alchip and Ayar Labs Unveil Co-Packaged Optics for AI Datacenter Scale-Up
   · Alchip's September xx.xx 2025 disclosure identifies a scale model, common-substrate TeraPHY integration, UCIe support, and selected-customer engagement. It also identifies Taipei-based ASIC, packaging, and manufacturing-management capabilities. ([alchip.com](https://www.alchip.com/en/Newsroom/AlchipandAyarLabsUnveilCPOforAIDatacenterScale-Up))
3. Advanced Packaging Services - Alchip
   · Alchip offers package evaluation, package and substrate layout, and electrical and thermal simulation; these service capabilities do not independently qualify a customer CPO assembly. ([alchip.com](https://www.alchip.com/en/ASIC_Turnkey_Solutions/Production_Services/Advanced_Packaging_Services))

28.27. Samsung Electronics

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A semiconductor developer seeking combined foundry, memory, and packaging engagement can evaluate Samsung when those capabilities fit the intended host architecture. ■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■ ■■ ■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■ ■■■■■■■■■■ ■■■ ■■■ ■■ ■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■ ■■ ■■■■■■■■■■ ■■ ■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■ ■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■ ■■■■ ■■■■■■■■■■ A customer-specific release and applicable reliability evidence should trigger procurement progression; the mockup alone cannot establish either readiness or support coverage at the deployment destination.

Sources & Evidence

1. HPC/AI Application-Specific Service - Samsung Foundry
   · Samsung Foundry markets tailored pluggable and co-packaged optical solutions and distinguishes switch-package and XPU integration concepts. The offering description does not establish customer-specific qualification.
   ([semiconductor.samsung.com](https://semiconductor.samsung.com/kr/foundry/application-specific-service/hpc-ai/))
2. Integrated Packaging Solutions and Ecosystem Innovation for the AI Era - Samsung
   · Samsung describes coordinated memory, foundry, and packaging capabilities at its August xx.xx-xx.xx 2026 Suwon exhibition and explicitly identifies the integrated CPO optical-engine structure as a mockup.
   ([semiconductor.samsung.com](https://semiconductor.samsung.com/kr/news-events/tech-blog/integrated-packaging-solutions-and-ecosystem-innovation-for-the-ai-era/))

28.28. NTT, Inc.

NTT's CPO proposition combines packet-switch development with preparation for device commercialization. ■■ ■■■■■■■■ ■■ ■■■■■ ■■■ ■■■■■■■■■ ■ ■■■■■■■■■■■ ■■■■ ■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■ ■■ ■■■ ■■■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■ ■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■ ■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■■■ ■■ ■■■■■ ■■■■■■■■■■■■■ ■■■■■ ■■■■■■■■■ ■■■ ■■■ ■■■■■■■ ■■ ■■■■■■ ■■■■■■■■■■■■ The deployment objective and modular architecture should therefore remain distinct from a verified release commitment.

NTT also presents its investment in optical circuit switching as complementary to its CPO packet-switch strategy, not as delivery of the same product. An infrastructure buyer evaluating NTT should first identify whether the offered engagement concerns packet switching, optical circuit switching, or their proposed combination. ■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■ ■■■■■■■ ■■■■■■ ■■■ ■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■ ■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■ ■■■■■■■■■■ ■■■■■■■

Sources & Evidence

1. Financial Results for the Third Quarter of FY2025 - NTT CEO Press Conference
   · NTT's February xx.xx 2026 communication states a fiscal-year 2026 commercial-deployment objective involving Broadcom and Accton and identifies manufacturing-readiness work at NTT Innovative Devices. This is a plan, not completed deployment evidence.
   ([group.ntt](https://group.ntt/en/corporate/press_conference/2026/xx.xx/xx.xx.html))
2. IOWN AI Fund Makes First Investment in iPronics to Advance Next-Generation AI Infrastructure and Build the IOWN Ecosystem
   · NTT's September xx.xx 2026 announcement describes its CPO switch as under development and explains the intended complementary relationship with its optical-circuit-switching investment strategy.
   ([group.ntt](https://group.ntt/en/newsrelease/2026/xx.xx/xx.xx/260909a.html))

3. Meet Us at ECOC 2026 - NTT Innovative Devices
   · The September xx.xx 2026 exhibition announcement advertises an open CPO switch platform with socketed, detachable optical engines. It does not establish a customer's release commitment or maintenance entitlement. ([ntt-innovative-devices.com](https://ntt-innovative-devices.com/en/exhibition/ECOC.html))
4. Profile & History - NTT Innovative Devices
   · NTT Innovative Devices identifies its headquarters in Yokohama, supporting the geographic attribution of the device-commercialization access point. ([ntt-innovative-devices.com](https://www.ntt-innovative-devices.com/en/about/profile.html))

28.29. Lumentum Holdings Inc.

[redacted] Initial availability of the new module is expected in the first half of calendar 2027; this is a product-introduction expectation, not present availability. Lumentum separately announced a board-level VCSEL interconnect showcase with Qualcomm and Corning aimed at future CPO and NPO implementations.

An optical-engine developer should distinguish sourcing an existing laser platform from committing to the new complete-module roadmap. External illumination can provide a separate source-maintenance boundary, but the offered wavelength arrangement, optical interface, management behavior, and host support must be accepted together. [redacted]

Sources & Evidence

1. UHP Laser Sources for CPO - Lumentum
   · Lumentum markets its indium-phosphide UHP laser platform for external-source modules supplying silicon-photonics CPO engines. The described architecture separates illumination from the host package. ([lumentum.com](https://www.lumentum.com/en/products/data-center/cw-lasers/uhp-lasers-cpo))
2. Lumentum to Demonstrate DWDM ELSFP Laser Module for OCI MSA Applications at ECOC 2026
   · The September xx.xx 2026 announcement distinguishes the UHP platform already in production from the new OCI MSA-interface DWDM ELSFP module, whose initial availability is expected in the first half of calendar 2027. ([investor.lumentum.com](https://investor.lumentum.com/financial-news-releases/news-details/2026/Lumentum-to-Demonstrate-DWDM-ELSFP-Laser-Module-for-OCI-MSA-Applications-at-ECOC-2026/default.aspx))

3. Lumentum, Qualcomm, and Corning to Demonstrate High-Density 1060 nm VCSEL Optical D2D Connectivity for AI Scale-Up at ECOC 2026
   · The September xx.xx 2026 joint announcement specifies a board-level VCSEL proof-of-concept showcase with Qualcomm and Corning intended for future CPO and NPO implementations, not a qualified host-package product.
   ([investor.lumentum.com](https://investor.lumentum.com/financial-news-releases/news-details/2026/Lumentum-Qualcomm-and-Corning-to-Demonstrate-High-Density-xx.xx-nm-VCSEL-Optical-D2D-Connectivity-for-AI-Scale-Up-at-ECOC-2026/default.aspx))

28.30. Coherent

[redacted] Its fiscal 2026 filing also places CPO within the Datacenter & Communications product portfolio. These disclosures establish relevant engine, illumination, and active-device capabilities without making the announced configurations commercially equivalent.

[redacted] Buyers should require the specific supplying operation, qualification evidence, and supported replacement arrangement. Procurement should follow an accepted configuration, not the breadth of the portfolio or an exhibition milestone.

Sources & Evidence

1. Coherent Demonstrates Multiple Technologies for Co-packaged Optics (CPO) at OFC 2026
   · Coherent's March xx.xx 2026 announcement identifies planned silicon-photonics/external-source, multimode VCSEL, and InP-on-silicon CPO demonstrations. It does not establish equivalent commercialization across those architectures.
   ([coherent.com](https://www.coherent.com/news/press-releases/coherent-co-packaged-optics-cpo-technologies-ofc-2026))
2. Coherent Corp. - Fiscal 2026 Form 10-K
   · Coherent's fiscal 2026 filing lists CPO within Datacenter & Communications and identifies segment locations including the United States, China, Malaysia, and Vietnam without configuration-specific CPO allocation.
   ([ir.coherent.com](https://ir.coherent.com/static-files/268405dc-xx.xx-44c0-9e35-ad8a7f93ef5e))

28.31. Sivers Semiconductors AB

[redacted]

■■■■■■■■■■■■■■ The March xx.xx 2026 collaboration with O-Net and Enablence instead targets an external light-source module: Sivers contributes laser arrays, Enablence contributes optical distribution components, and O-Net acts as the module ODM. These are announced integration programs, not interchangeable finished products.

An engine or module developer should choose between array-level engagement and the jointly developed external-source route according to the integration responsibilities it intends to retain. Array sourcing preserves more module-design discretion; the ODM route delegates assembly integration while adding dependence on the partner configuration and its qualification schedule. ■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■ ■■■■■ ■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■ ■■■■■ ■■■■■■■■■■■ ■■ ■■■■ ■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■ ■ ■■■■ ■■■ ■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■ ■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■

Sources & Evidence

1. Sivers & GlobalFoundries Advance AI Data Center Optical Solutions

   · Sivers' June xx.xx 2026 announcement describes planned laser-array integration in GlobalFoundries reference designs and SCALE, covering CPO alongside other optical architectures. Embedded external market estimates are not used.
   ([sivers-semiconductors.com](https://www.sivers-semiconductors.com/press/sivers-globalfoundries-advance-ai-data-center-optical-solutions/))

2. Sivers Semiconductors, O-Net and Enablence Technologies Announce External Light Sources for AI Datacenters

   · The March xx.xx 2026 collaboration assigns laser arrays to Sivers, optical distribution components to Enablence, and module ODM responsibility to O-Net. It establishes development intent, not completed customer qualification; attributed commercial-research estimates are excluded.
   ([sivers-semiconductors.com](https://www.sivers-semiconductors.com/press/sivers-semiconductors-o-net-and-enablence-technologies-announce-external-light-sources-for-ai-datacenters/))

3. Contact Us - Sivers Semiconductors

   · Sivers identifies its Swedish parent, wholly owned Sivers Photonics Ltd., and the photonics operation in Blantyre near Glasgow, supporting ownership-aware and location-specific orientation.
   ([sivers-semiconductors.com](https://www.sivers-semiconductors.com/contact-us/))

28.32. SENKO Advanced Components, Inc.

SENKO Advanced Components supplies the detachable optical interface around CPO engines, not the data-conversion engine itself. The company, wholly owned by Japan-headquartered SENKO Advance, announced connector supply for NVIDIA's Spectrum-X Photonics and Quantum-X Photonics platforms in March 2025. ■■■ ■■■■■■■■■ ■■■■ ■■■■■■■■■■■■■■ ■■■■■■■ ■■■■ ■■■■ ■■■■■■■ ■■■■■■■■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■ ■■■■■■■■■ ■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■■ ■ ■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■ ■■ ■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■

A photonic-module manufacturer can evaluate a consistent SENKO interface across assembly, package testing, and final integration when the selected platform accepts it. ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪ ▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ Operators must separately obtain authorized replacement boundaries: detachable fibers and an announced pathway toward serviceability do not establish permission to replace an individual optical engine in installed equipment.

Sources & Evidence

1. SENKO Advanced Components Joins NVIDIA Photonics Ecosystem
   · SENKO's March xx.xx 2025 announcement identifies detachable optical connector supply for NVIDIA Spectrum-X Photonics and Quantum-X Photonics switches. Supplier participation does not establish separate engine capability.
   ([senko.com](https://www.senko.com/senko-advanced-components-joins-nvidia-photonics-ecosystem/))
2. SENKO and PHIX Advance European Photonics Packaging with a Serviceable Optical Interface for Multi-Chip Modules
   · The September xx.xx 2026 PHIX-SENKO framework connects optical interfaces across assembly, package testing, and system integration, positioning PHIX as a European packaging access point and field serviceability as a prospective pathway.
   ([phix.com](https://www.phix.com/senko-and-phix-advance-european-photonics-packaging/))
3. SENKO, Advantest, and VIAVI Collaborate to Address a Hidden Bottleneck in CPO Module Level Testing
   · The September xx.xx 2026 announcement identifies SEAT and SAM-T connectivity within a simulated CPO production-test environment involving Advantest and VIAVI, and identifies SENKO as wholly owned by Japan-headquartered SENKO Advance.
   ([senko.com](https://www.senko.com/senko-advantest-and-viavi-collaborate-to-address-a-hidden-bottleneck-in-cpo-module-level-testing/))

28.33. Corning Incorporated

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GlassBridge adds a detachable, glass-based fiber-to-PIC interface offered as both a precision component and a connector assembly. These capabilities give package developers alternatives for connecting photonic devices to the surrounding optical infrastructure.

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RESEARCH SAMPLE REPORT

[redacted] This strengthens the prospective U.S. delivery platform for broader AI optical connectivity, not proof that a particular CPO component is already qualified at a new facility. Buyers should connect sourcing commitments to the contracted component, approved manufacturing location, and actual facility readiness rather than infer availability from the expansion announcement.

Sources & Evidence

1. Fiber Array Units | FAUs for Next-Generation (Next-Gen) Connectivity
   · Corning markets configurable fiber-array units for CPO, including edge and vertical coupling and assemblies incorporating detachable interfaces. These are company-described capabilities, not independent qualification outcomes.
   ([corning.com](https://www.corning.com/oem-solutions/worldwide/en/home/products-solutions/optical-communication-components/fiber-arrays.html))
2. Corning GlassBridge Optical Connector Platform | Fiber-to-PIC Connector Technology
   · GlassBridge is offered as a glass component and complete detachable fiber-to-PIC connector assembly, with a TMT-compatible interface and customizable geometry for CPO and NPO.
   ([corning.com](https://www.corning.com/oem-solutions/worldwide/en/home/products-solutions/optical-communication-components/next-generation-optics/glassbridge-connector.html))
3. NVIDIA and Corning Announce Long-Term Partnership To Strengthen U.S. Manufacturing for AI Infrastructure
   · The May xx.xx 2026 announcement establishes a multiyear Corning-NVIDIA partnership and planned U.S. optical-connectivity manufacturing expansion, including new facilities in North Carolina and Texas; it does not establish completed facility readiness.
   ([corning.com](https://www.corning.com/worldwide/en/about-us/news-events/news-releases/2026/xx.xx/nvidia-and-corning-announce-long-term-partnership-to-strengthen-us-manufacturing-for-ai-infrastructure.html))

28.34. Molex

[redacted] The acquired operation continues as a Jerusalem design and engineering hub within Molex's Optical Solutions Business. The capability is relevant to developers seeking an optical attachment architecture supported by a broader connectivity supplier, rather than a finished CPO switching platform.

Molex's March 2026 toolkit announcement connects Teramount's TeraVERSE interface with VersaBeam expanded-beam backplane connectivity, the Versatile Format Interconnect optical backplane, and ELSFP optical connectors. [redacted] The announcement described sampling ahead of general availability, so release and acceptance must be verified for the actual configuration.

[redacted] Coordinated sourcing may reduce interface handoffs but limits freedom to substitute individual connections. A separable fiber interface alone does not establish that the optical engine or host package can be replaced independently.

Sources & Evidence

1. Molex Completes Acquisition of Teramount Ltd.
   · Molex completed its Teramount acquisition on May xx.xx 2026, adding detachable fiber-to-chip technology. Teramount continues as a Jerusalem engineering hub within Molex's Optical Solutions Business. ([molex.com](https://www.molex.com/en-us/news/molex-completes-acquisition-of-teramount-ltd))
2. Molex Accelerates AI Cluster Deployment with One-Stop Optical Interconnect Architecture and Debut of High-Radix Optical Circuit Switch Platform
   · Molex's March xx.xx 2026 announcement identifies VersaBeam backplane connectivity, TeraVERSE detachable fiber-to-chip connectivity, VFI optical backplanes, and ELSFP optical connectors. It describes sampling ahead of general availability, not universal customer acceptance. ([molex.com](https://www.molex.com/en-us/news/molex-accelerates-ai-cluster-deployment-with-one-stop-optical-interconnect-architecture-and-debut-of-high-radix-optical-circuit-switch-platform))

28.35. FIT Hon Teng Limited

[redacted] A March xx.xx 2026 announcement subsequently described a modular, hot-pluggable ELSFP laser-source platform entering ecosystem validation. FIT reported technical validation by NTT Innovative Devices; that company-reported milestone is not equivalent to acceptance in every customer's switching system.

The external-source platform is relevant when a design requires illumination that can be serviced separately from the optical engine. [redacted] The appropriate commercial trigger is configuration-specific system approval rather than an exhibition or component-validation milestone.

FIT is a subsidiary of Hon Hai Technology Group. [redacted] Group affiliation can facilitate a broader engagement, but cannot replace a product-specific qualification or support agreement.

Sources & Evidence

1. FIT Hong Teng Teams Up with MediaTek to Develop High-Speed Connectivity Solutions Using CPO
   · The March xx.xx 2024 Hon Hai announcement identifies FIT as a group subsidiary and assigns it CPO socket and integration contributions within the announced MediaTek collaboration. ([foxconn.com](https://www.foxconn.com/en-us/press-center/events/industry-events/xx.xx))
2. FIT Advances 102.4T CPO External Laser Platform into Validation - FIT Deepens Its Commitment to AI Optical Interconnect Infrastructure
   · FIT's March xx.xx 2026 announcement describes a modular hot-pluggable external laser-source platform entering ecosystem validation and reports technical validation by NTT Innovative Devices. The validation attribution is FIT's own disclosure. ([fit-foxconn.com](https://www.fit-foxconn.com/mainssl/modules/MySpace/BlogInfo.php?xmlid=xx.xx))

28.36. Browave

Browave is a Hsinchu-based optical-component supplier with a specific passive-interface portfolio for CPO. Its March 2025 investor presentation identifies fiber-array assemblies, detachable collimator arrays, and polarization-maintaining collimators incorporating isolators for external-source coupling. ■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■ ■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■ ■■ ■ ■■■■■■■■ ■■■■■■■

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NVIDIA names Browave in its silicon-photonics ecosystem, corroborating a platform relationship without identifying Browave's exact supplied component. Buyers should seek a defined attachment or source-coupling assignment rather than interpret ecosystem membership as complete-package qualification. ■■■ ■■■■■■ ■■■■■■■■■■ ■■ ■ ■■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■ ■■ ■■■■■■■■■■■ ■■■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■

Sources & Evidence

1. NVIDIA Announces Spectrum-X Photonics, Co-Packaged Optics Networking Switches to Scale AI Factories to Millions of GPUs
   · NVIDIA names Browave in the silicon-photonics ecosystem supporting its announced CPO networking platforms. This establishes the disclosed relationship, not Browave's exact component assignment. ([nvidianews.nvidia.com](https://nvidianews.nvidia.com/news/nvidia-spectrum-x-co-packaged-optics-networking-switches-ai-factories))
2. Browave Corporation - Investors Conference Call 2025
   · Browave's March xx.xx 2025 presentation identifies CPO fiber-array products, detachable collimator arrays, and polarization-maintaining collimators with isolators for external-source coupling. ([browave.com](https://www.browave.com/uploads/images/Investors%20Conference%20Call%xx.xx.pdf))
3. Fiber Arrays - Browave Corporation
   · Browave markets customizable fiber-array geometry, fiber types, connector terminations, and integrated lenses or isolators. Customer-specific CPO acceptance is a separate question. ([browave.com](https://www.browave.com/product/category/xx.xx))
4. Company Profile - Browave Corporation
   · Browave identifies its headquarters in Hsinchu, Taiwan, and describes optical-component development, manufacturing, and customer-specific products. ([browave.com](https://www.browave.com/Pages/xx.xx))

28.37. TFC Communication

■■■ ■■■■■■■■■■■■ ■■■■■■ ■ ■■■■■■■■■■ ■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■ ■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■■ Its January 2026 announcement specifically identifies FAU components, POSA optical-engine offerings, and electronic-optical integration for NPO, CPO, and optical-I/O

applications. This supports engagement at either the constituent or integrated-subassembly layer.

A developer can evaluate TFC when combining several optical interfaces under a defined integration scope is preferable to coordinating separate component suppliers. The prerequisite is a configuration-specific agreement covering the active and passive content, host-package relationship, and acceptance owner. ■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■ ■■ ■ ■■■■■■■ ■■■■■■■■■■■ ■■ ■■■ ■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■ ■■■ ■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■ ■■■■■ ■■■■■■ ■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■ ■■■■■■■■■ ■■ ■■■ ■■■■■■■■■■ ■■■■■■■■

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Sources & Evidence

1. TFC Shines at ECOC 2025: Enabling Photonics Integration
   · TFC's ECOC 2025 account describes customized optical engines, passive optical subassemblies, fiber-array units, and connector receptacles serving both pluggable and CPO integration. ([tfcsz.com](https://www.tfcsz.com/en/news/xx.xx.html))
2. 〖OFC2026〗天孚通信将携高速光引擎方案精彩亮相#1825 展位
   · TFC's January xx.xx 2026 announcement identifies FAU components, POSA optical-engine offerings, electronic-optical integration, and packaging capabilities for NPO, CPO, and optical-I/O applications. ([tfcsz.com](https://www.tfcsz.com/news/xx.xx.html))
3. About TFC
   · TFC identifies headquarters in Suzhou and Singapore, research centers in China and Japan, and manufacturing bases in China and Thailand. These corporate locations do not allocate a particular CPO program. ([tfcsz.com](https://www.tfcsz.com/en/about.html))

28.38. Fabrinet

Fabrinet's relevant role is precision optical-electronic manufacturing and integration. ■■■ ■■■■■■ ■■■ ■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■ ■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■■ These capabilities support manufacturing engagement; they do not establish ownership of a standalone CPO engine architecture.

Fabrinet also offers process development and prototyping for optical subassemblies and complete modules, including silicon-photonics assemblies and component sourcing. An engine developer can evaluate this route when it retains product-design authority but needs manufacturing and supply-chain execution. ■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■■

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The company distinguishes quick-turn new-product-introduction capabilities in California and Israel from precision packaging and assembly operations in Thailand, with additional custom-optics operations in China and New Jersey. ■■■ ■■■■■■■■■■ ■■■■■■■■ ■ ■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■ ■■■ ■■■■■■■ ■ ■■■■■■■■■■ ■■■ ■■■■■■■■ ■■ ■■■■■■ ■■■■■■ Buyers should verify the approved transition between development and manufacturing locations rather than assume that prototype acceptance transfers automatically.

Sources & Evidence

1. Fabrinet - Company Overview, August 17, 2026
   - Fabrinet's August xx.xx 2026 overview includes CPO and silicon photonics among data-center offerings. It distinguishes California and Israel new-product-introduction capabilities, Thailand packaging and assembly, and China and New Jersey custom optics. ([investor.fabrinet.com](https://investor.fabrinet.com/static-files/3946ab0d-d45b-48f2-881e-46a16fb0ae9a))
2. Optical Computing - Fabrinet
   - Fabrinet offers optical integration and alignment, fiber connectivity, hybrid packaging, wafer characterization, and system integration and test. These service capabilities do not establish a particular customer's CPO acceptance. ([fabrinet.com](https://fabrinet.com/services/optical-computing))
3. Process Development - Fabrinet
   - Fabrinet markets process development and prototyping for optical subassemblies and modules, component sourcing, and silicon-photonics assembly experience. Contractual design and acceptance allocation remains program-specific. ([fabrinet.com](https://fabrinet.com/services/process-development))

28.39. Sumitomo Electric Industries

Sumitomo Electric offers distinct CPO capabilities in optical coupling and illumination. Its marketed FlexBeamGuidE-UM fiber-array family explicitly addresses CPO and supports customizable fiber-to-PIC connectivity. ■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■ ■■■■■■■■■■■■■■■ ■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■ ■■ ■■■■■ ■■ ■■■■■■ ■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■ ■■■ ■■ ■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■

The group's 2025 data-center strategy presentation identifies optical-IC connection components, external-source connectors, and high-density optical connectors, while retaining development status for the illustrated CPO connection work. This creates an engagement route across several optical interfaces, but leaves the product-specific release and qualification question with the customer's program. ■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■ ■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■■ ■■■ ■■■■■ ■■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■

A package developer can evaluate coordinated sourcing where the group's coupling and source capabilities fit the intended architecture. ■■■ ■■■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■ Monitor release commitments

and customer approval of the actual interface combination, not the breadth of the group's optical portfolio.

Sources & Evidence

1. Ultra Multi Channel Fiber Array, FBGE-UM
   · Sumitomo Electric markets FlexBeamGuidE-UM fiber arrays for CPO, with customizable fiber connectivity and a direct sample-inquiry route. The listing does not establish acceptance in a particular host package. ([sumitomoelectric.com](https://sumitomoelectric.com/products/FlexBeamGuidE-UM))
2. Sumitomo Electric to Showcase Advanced Optical Solutions at OFC 2023
   · The March xx.xx 2023 announcement identifies Sumitomo Electric Device Innovations as demonstrating a continuous-wave laser suitable for an ELSFP module in a CPO system. It establishes that dated device demonstration, not subsequent module qualification. ([sumitomoelectric.com](https://sumitomoelectric.com/press/2023/xx.xx/prs012))
3. Growth strategy for data center-related business
   · The company's own product-development slide identifies optical-IC connection components, external-source connectors, and high-density optical connectors, explicitly retaining development status for its illustrated CPO connection work. Unrelated external market estimates are not used. ([sumitomoelectric.com](https://sumitomoelectric.com/sites/default/files/2025-xx.xx/download_documents/Growth%20strategy%20for%20data%20center-related%20business_2025.pdf))

28.40.HUBER+SUHNER

[redacted] Its September 2024 capital-market presentation explicitly positioned optical-engine assemblies for chip-on-board and co-packaged applications. Its March 2026 company presentation continues to identify optical coupling modules for communication-equipment manufacturers, although that broader offering does not establish the release status of a particular CPO configuration.

The Cube Optics business markets ACTIVE-Cube receiver and transmitter optical subassemblies combining wavelength-management components with detectors, lasers, and related electronics. [redacted] The marketed subassemblies also serve conventional transceivers and other applications; those configurations cannot automatically be assigned to the host-package CPO architecture.

An optical-engine developer can evaluate HUBER+SUHNER for customized multiplexing, coupling, or optoelectronic subassembly work when those functions fit the intended package. Before commitment, it should obtain the named CPO configuration, continuation and release commitment, integration scope, and acceptance evidence. [redacted]

Sources & Evidence

1. HUBER+SUHNER - Capital Market Day 2024
   · HUBER+SUHNER's September xx.xx 2024 presentation explicitly describes optical coupling and optical-engine assemblies for chip-on-board and co-packaged applications. It does not establish subsequent customer-specific release status. ([hubersuhner.com](https://www.hubersuhner.com/Asset/eyJpZGVudGlmaWVyIjoxMjgyMTMsInR5cGUiOiJhc3NldCJ9/D65qheJgF8kecT0Y/Presentation_CMD_2024.pdf))
2. Opto-Electrical Sub-Assemblies - HUBER+SUHNER Cube Optics
   · HUBER+SUHNER Cube Optics markets ACTIVE-Cube transmitter and receiver subassemblies integrating wavelength management with active optical and electronic functions, including customized transceiver configurations. ([components.cubeoptics.com](https://components.cubeoptics.com/sub-assemblies))
3. HUBER+SUHNER - Company Presentation | FYR 2025
   · The March 2026 company presentation identifies optical coupling modules for communication-equipment manufacturers. This corroborates the continuing broader capability without establishing a particular CPO configuration. ([hubersuhner.com](https://www.hubersuhner.com/Asset/eyJpZGVudGlmaWVyIjoxMzkzNjcsInR5cGUiOiJhc3NldCJ9/GElApGR_Iu1k_5tv/Company_presentation_full_year_2025.pdf))

28.41. IQE

IQE's defensible contribution is upstream laser-material supply rather than a complete CPO engine or illumination module. ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ These disclosures establish material-supply capability and continuing commercialization activity, but do not identify the particular CPO configuration using those wafers.

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Sources & Evidence

1. IQE announces purchase agreement with Quintessent as Quantum Dot Laser technology moves to customer sampling
   · The September xx.xx 2026 agreement extends IQE's supply of quantum-dot laser epitaxy through its foundry-ready service to support Quintessent's customer sampling. The announcement does not identify a particular accepted CPO configuration. ([iqep.com](https://www.iqep.com/media/press-releases/2026/iqe-announces-purchase-agreement-with-quintessent-as-quantum-dot-laser-technology-moves-to-customer-sampling))

2. IQE and Quintessent partner on Quantum Dot for AI
   · IQE's January xx.xx 2025 announcement establishes a commercial epitaxial-wafer supply relationship with Quintessent for quantum-dot lasers and semiconductor optical amplifiers. It supports an upstream materials role, not a complete CPO module offering. ([iqep.com](https://www.iqep.com/media/press-releases/2025/iqe-and-quintessent-partner-on-quantum-dot-for-ai/))

28.42. Wiwynn

[illegible] Wiwynn also identifies an in-house liquid-cooling solution for external light sources and chassis-level fiber management. The relevant differentiation is coordination of optical I/O, illumination, cooling, and server integration-not an independently established advantage in optical-engine performance.

Wiwynn's broader delivery model includes regional rack integration in Mexico, Czechia, and Malaysia and deployment services across the Americas, Europe, and Asia-Pacific. That footprint does not establish CPO qualification at each location. [illegible]

Sources & Evidence

1. Wiwynn and Ecosystem Partners to Showcase Co-Packaged Optics Innovations at Computex 2026
   · Wiwynn's May xx.xx 2026 announcement describes Ayar Labs optical-engine and external-source integration, GUC collaboration, chassis fiber management, and Wiwynn's source-cooling design. It announces a demonstration rather than customer acceptance. ([wiwynn.com](https://www.wiwynn.com/news/wiwynn-and-ecosystem-partners-to-showcase-co-packaged-optics-innovations-at-computex-2026?hs_amp=true))
2. Logistics & Distribution - Wiwynn
   · Wiwynn describes regional rack-integration hubs in Mexico, Czechia, and Johor Bahru and localized deployment services across the Americas, Europe, and Asia-Pacific. This broader footprint does not assign CPO qualification to each site. ([wiwynn.com](https://www.wiwynn.com/global-services/logistics-and-distribution))

28.43. Qualcomm Technologies, Inc.

Qualcomm Technologies, Inc. has an evidenced electrical-interface role in optical compute connectivity. The September xx.xx 2026 announcement with Lumentum and Corning identifies Qualcomm's die-to-die interface IP subsystem in a planned board-level demonstration intended to inform future CPO and NPO implementations. [illegible]

RESEARCH SAMPLE REPORT

[redacted]

The corporate capability perimeter also changed when Qualcomm Incorporated completed its acquisition of Alphawave IP Group plc on December xx.xx 2025. [redacted] Qualcomm and the separately named Alphawave business therefore require ownership-aware comparison, not treatment as automatically independent sourcing alternatives.

Host developers should evaluate Qualcomm for a defined interface-IP contribution when the selected optical engine, physical host connection, and integration responsibilities are compatible. This preserves a specialist electrical contribution while leaving photonics, fiber attachment, and package acceptance with complementary partners. [redacted]

Sources & Evidence

1. Lumentum, Qualcomm, and Corning to Demonstrate High-Density 1060 nm VCSEL Optical D2D Connectivity for AI Scale-Up at ECOC 2026
   · The September xx.xx 2026 joint announcement specifies Qualcomm Technologies' die-to-die interface IP in a planned board-level demonstration with Lumentum and Corning for future CPO and NPO implementations. It does not establish a released same-package product. ([investor.lumentum.com](https://investor.lumentum.com/financial-news-releases/news-details/2026/Lumentum-Qualcomm-and-Corning-to-Demonstrate-High-Density-xx.xx-nm-VCSEL-Optical-D2D-Connectivity-for-AI-Scale-Up-at-ECOC-2026/default.aspx))
2. Qualcomm Completes Acquisition of Alphawave Semi
   · Qualcomm Incorporated completed its acquisition of Alphawave IP Group plc on December xx.xx 2025. The announcement identifies Qualcomm Technologies as its engineering and products subsidiary without allocating every acquired activity to that exact entity. ([qualcomm.com](https://www.qualcomm.com/news/releases/2025/xx.xx/qualcomm-completes-acquisition-of-alphawave-semi))

28.44.TE Connectivity

[redacted] Its March xx.xx 2026 announcement also identifies newly acquired RAM Photonics capabilities in high-density fiber-array units and proposed demonstrations combining CPO/NPO sockets, external-source connectivity, optical backplanes, and cooling. These establish constituent and interconnect-integration capabilities, not supply of the laser or complete optical engine merely because the ELSFP interface is offered.

Package and equipment developers can assess TE for a defined source interface, fiber-array, or rack-connectivity responsibility. Combining these interfaces under one contributor may reduce coordination boundaries, while separately sourcing them preserves more component

choice. ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■■■ ■ ■■■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■ ■■ ■■■■■ ■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■ ■■■■■■■ ■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■ ■ ■■■■■■■■■ ■■■■■■■■■■■■

Sources & Evidence

1. Advancing end-to-end optical infrastructure for next-generation AI data centers at OFC 2026
   · TE's March xx.xx 2026 announcement identifies acquired RAM Photonics fiber-array capabilities and proposed CPO connectivity demonstrations spanning sockets, external-source interfaces, optical backplanes, and cooling. Demonstration plans do not establish product-specific qualification. ([te.com](https://www.te.com/en/about-te/news-center/te-ofc-2026.html))
2. ELSFP Connector and Cage
   · TE markets an ELSFP connector-and-cage offering for external-source packaging, including faceplate pluggability and blind-mate connectivity. These functions concern the source interface and do not independently establish engine replacement rights. ([te.com](https://www.te.com/en/products/connectors/high-speed-pluggable-io-connectors-and-cages/intersection/elsfp.html?tab=pgp-story))

28.45. FOCI

FOCI's identifiable CPO capability is optical attachment through its ReLFACon reflow-compatible lensed fiber-array connector. ■■■ ■■■■■■■ ■■■ ■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■ ■■■■■■■■ ■■■■■■■ ■■ ■■■■ ■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ That statement describes customer and partner validation and a target of production readiness during 2026; it does not establish that the target was achieved.

Optical-engine and package developers can evaluate FOCI where the selected assembly requires its optical-coupling interface. ■■■ ■■■■■■■■■ ■■■■■■■ ■■ ■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■ ■■■ ■■ ■■■■■■■■■■■■ ■■■■ ■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■ ■■■ ■■■ ■■■■■■ ■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■ ■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■ ■■■■ ■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■ Reflow compatibility is not evidence of installed-equipment replacement rights or automatic interchangeability with another fiber attachment.

Sources & Evidence

1. FOCI releases advanced new CPO connector: ReLFACon
   · FOCI's January xx.xx 2023 announcement identifies its ReLFACon lensed fiber-array connector for silicon-photonics CPO incorporation and describes compatibility with semiconductor packaging requirements. ([foci.com.tw](https://www.foci.com.tw/ReLFACon_news))

2. Himax Confirm CPO Collaboration and Strategic Partnership with FOCI Remain Ongoing and Unchanged
   · Himax's January xx.xx 2026 statement confirms continuing CPO collaboration with FOCI, describes customer and partner validation, and identifies production readiness during 2026 as an objective rather than a completed outcome. ([himax.com.tw](https://www.himax.com.tw/wp-content/uploads/2026/xx.xx/PR-Himax-Confirm-CPO-Collaboration-and-Strategic-Partnership-with-FOCI-Remain-Ongoing-and-Unchanged.pdf))

28.46. Celestica

Celestica has a customer-sponsored CPO equipment assignment rather than only a standards-collaboration role. ■■■ ■■■■■ ■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■ ■■ ■■■■■ ■■ ■■■■■■ ■■■ ■■■■■■■■■■■ ■ ■■■ ■■■■■■■■ ■■■■■■ ■■■ ■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■ ■■■ ■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■ ■■■■■ ■■■ ■■■■■■■■■■ ■■■■ ■■ ■■■■■ An awarded development program is stronger evidence of commercial engagement than a general roadmap, but does not establish a catalog switch available to unrelated customers.

Celestica's broader rack-integration offering encompasses hardware and software configuration, cabling, tested systems, and regional delivery. ■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■ ■■■ ■■■■■■■ ■■ ■■■■■ ■■■■■■■■■■■ ■■■■■ ■ ■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■■ ■■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■■■ ■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■ ■■■■■ ■■■■■■■■ ■■■■■■■ ■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■ Qualification and permissions from one program should not be presumed transferable to another.

Sources & Evidence

1. Celestica Inc. - April 27, 2026 Form 8-K, Exhibit 99.1
   · Celestica's April xx.xx 2026 disclosure reports an awarded hyperscaler program for CPO Ethernet-switch design and manufacturing using liquid cooling. It expects the program's production ramp to begin in 2027; that remains a company expectation. ([corporate.celestica.com](https://corporate.celestica.com/node/xx.xx/html))
2. Rack Integration Services - Celestica
   · Celestica offers rack design, hardware integration, software configuration, cabling, and tested systems using its own or third-party platforms. The service page does not allocate the separate CPO program to a particular site. ([celestica.com](https://www.celestica.com/our-expertise/platform-solutions/rack-integration-services))

28.47. Dell Technologies, Inc.

Dell Technologies, Inc. offers an equipment-and-integration route for customers that do not intend to sponsor chip-level CPO development. ■■■ ■■■■■■■ ■■ ■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■ ■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■ ■■■ ■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■ ■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■ The relevant capability is coordinating networking, compute, power, and cooling within a supported equipment configuration-not evidence that Dell independently manufactures the embedded photonic engine.

Model distinctions are consequential. ▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪ ▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ Announced CPO options alone do not establish availability or operational superiority for every proposed system.

Sources & Evidence

1. Dell Uplevels AI Infrastructure With NVIDIA at CES
   · Dell's January xx.xx 2026 communication announces a planned Spectrum-xx.xx-based PowerSwitch expansion with CPO. Only its own product-roadmap facts are used, not embedded leadership claims or numerical comparisons.
   ([dell.com](https://www.dell.com/en-us/blog/dell-unveils-ai-solutions-with-nvidia-at-ces))
2. Deploy AI Faster with Integrated Compute and Networking from Dell and NVIDIA
   · Dell's March xx.xx 2026 communication describes SN6000-series CPO options, integrated rack infrastructure, and deployment support. It separately identifies Quantum-X800 Q3300-LD as OSFP-pluggable, supporting model-specific architecture verification.
   ([dell.com](https://www.dell.com/en-us/blog/deploy-ai-faster-with-integrated-compute-and-networking-from-dell-and-nvidia/))

28.48.Flex

Flex's evidenced CPO role is customer collaboration and potential system-level manufacturing integration, not a named finished optical-engine offering. In the March xx.xx 2026 open-reference-architecture announcement, Flex describes existing customer collaboration on CPO and support for interoperability frameworks. ▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪

A developer retaining host-design authority can evaluate Flex for a defined equipment or rack-integration engagement when the approved optical assembly and acceptance responsibilities are explicit. ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ Require the supplying site, permitted design changes, system acceptance, and support duties before treating general integration capability as a customer-qualified CPO deliverable.

Contract continuity also warrants attention. ▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪

■■■ ■■■■■■■■■■■■ The proposed separation is not a completed transfer, and the allocation of specific CPO engagements should not be assumed.

Sources & Evidence

1. Lightmatter Announces Reference Architecture Initiative with Industry Leaders in the Open Compute Project for Co-Packaged Optics
   · In the March xx.xx 2026 reference-architecture announcement, Flex's own statement identifies customer collaboration on CPO and support for interoperability frameworks. The initiative is proposed; commercial-analyst commentary is excluded. ([lightmatter.co](https://lightmatter.co/press-release/lightmatter-announces-reference-architecture-initiative-with-industry-leaders-in-the-open-compute-project-for-co-packaged-optics/))
2. Unlock value with integrated services across the product lifecycle
   · Flex describes its own integrated ORv3 rack manufacturing, IT components, power and cooling products, and fulfillment services. These broader capabilities are not represented as verified CPO production; third-party market figures are excluded. ([flex.com](https://flex.com/resources/unlock-value-with-integrated-services-across-the-product-lifecycle))
3. Liquid-cooled rack solutions
   · Flex markets customizable liquid-cooled server and rack designs for customer-specific AI architectures. This establishes a complementary infrastructure offering rather than CPO content in every rack. ([flex.com](https://flex.com/resources/liquid-cooled-rack-solutions))
4. Flex Announces New Company Name for the Planned Cloud and Power Infrastructure Spin-Off and Files Form 10 Registration Statement
   · On September xx.xx 2026, Flex named its planned Cloud and Power Infrastructure spin-off Axiom Solutions International, Inc. and filed a preliminary registration statement. Completion is expected in the first calendar quarter of 2027, subject to approvals. ([investors.flex.com](https://investors.flex.com/news/news-details/2026/Flex-Announces-New-Company-Name-for-the-Planned-Cloud-and-Power-Infrastructure-Spin-Off-and-Files-Form-xx.xx-Registration-Statement/default.aspx))

28.49. Hyve Solutions

Hyve Solutions offers a system-development and manufacturing route rather than a standalone optical-engine proposition. The TD SYNNEX subsidiary combines design, contract manufacturing, system integration, and deployment services. ■■■ ■■■■■■■■■■■■ ■■ ■■■ ■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■ ■■ ■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■ ■■ ■■■■■■■ ■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■ ■■■■■■■■■■■■ ■■ ■■■■ ■■■ ■■■■■ ■■■ ■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■ ■■■■■■■ ■■■■■■

A hyperscale design owner can evaluate Hyve when the requirement is to coordinate CPO-containing infrastructure with surrounding compute and networking hardware. ■■■ ■■■■■■■■■■■■ ■■ ■ ■■■■■■■ ■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■ ■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■ ■ ■■■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■ ■■ ■■■ ■■■■■■■■■ ■■ ■■■■■■■■ ■■■ ■■■■■■■■ Direct

component sourcing remains appropriate for customers retaining the necessary integration authority.

Sources & Evidence

1. About Hyve Solutions | Our Story, Model, and Scale
   · Hyve describes integrated design, engineering, manufacturing, system integration, and deployment services, and identifies itself as wholly owned by TD SYNNEX. ([hyvesolutions.com](https://www.hyvesolutions.com/overview))
2. Hyve Solutions Expands Manufacturing Footprint with Reno and North Las Vegas Campuses
   · Hyve announced Reno and North Las Vegas manufacturing campuses on August xx.xx 2026; the announcement does not assign CPO production to them. ([hyvesolutions.com](https://www.hyvesolutions.com/newsroom/hyve-solutions-reno-north-las-vegas-expansion))
3. Industry Leaders Formally Launch CPO System Architecture Initiative Within the Open Compute Project
   · The August xx.xx 2026 announcement names Hyve in the formally launched OCP silicon-photonics initiative; participation is not product acceptance. ([lightmatter.co](https://lightmatter.co/press-release/industry-leaders-formally-launch-cpo-system-architecture-initiative-within-the-open-compute-project/))

28.50. Quanta Cloud Technology

[illegible] QCT also participates in the OCP silicon-photonics initiative formally launched in August 2026. Quanta Computer's affiliated-company disclosure places QCT entities within its corporate group, including businesses in the United States, Germany, Japan, and Singapore; those entities do not independently establish country-specific CPO support.

[illegible] Consolidated infrastructure procurement can simplify acceptance while constraining component substitution. Buyers should distinguish models announced for future platform support from configurations with executable delivery obligations.

Sources & Evidence

1. Industry Leaders Formally Launch CPO System Architecture Initiative Within the Open Compute Project
   · The same initiative names Quanta Cloud Technology, supporting architectural engagement rather than availability of a particular QCT CPO system. ([lightmatter.co](https://lightmatter.co/press-release/industry-leaders-formally-launch-cpo-system-architecture-initiative-within-the-open-compute-project/))
2. Quanta Computer Inc. - Summaries of Affiliated Companies
   · Quanta Computer's affiliated-company disclosure places QCT entities in its group and identifies United States, German, Japanese, and Singaporean entities; CPO support assignments are not established. ([quantatw.com](https://www.quantatw.com/quanta/english/about/organize25en.pdf))

3. QCT Builds the Next Frontier of AI With NVIDIA at GTC 2026
   · QCT's March xx.xx 2026 company-issued release describes AI POD hardware/software integration, provisioning, and workload automation, while distinguishing upcoming platform support. It does not establish every configuration as CPO.
   ([einpresswire.com](https://www.einpresswire.com/article/xx.xx/qct-builds-the-next-frontier-of-ai-with-nvidia-at-gtc-2026))

28.51. Keysight

[redacted] The completed acquisition of VPIphotonics on June xx.xx 2026 added system-level photonic simulation to its portfolio. Keysight describes an electrical-optical-electrical link simulation within ADS that connects with its digital-design tools and measurement instruments.

The commercial distinction is the ability to evaluate device, circuit, and complete-link behavior within a broader verification environment. Design owners can assess this approach where their models, interfaces, and acceptance requirements are compatible with the offered tools. [redacted]

Sources & Evidence

1. AI Infrastructure | Keysight
   · Keysight markets PIC and package simulation, electrical/optical CPO-interface validation, and wafer-level optoelectrical characterization. These capabilities do not independently establish customer qualification.
   ([keysight.com](https://www.keysight.com/zz/en/industries/data-center-networking/ai-infrastructure.html))
2. Keysight Expands Photonic Design Automation Portfolio with System-Level Simulation
   · Keysight completed its VPIphotonics acquisition on June xx.xx 2026 and describes system-level simulation and an ADS electrical-optical-electrical link environment connected to design tools and instruments. Productivity benefits remain supplier claims.
   ([keysight.com](https://www.keysight.com/us/en/about/newsroom/catalog/news-release.2026.0616_pr26-xx.xx-keysight-expands-photonic-design-automation-portfolio-with-system-level-simulation.html))

28.52. InnoLight

InnoLight brings optical-transceiver development, engineering, manufacturing, and customer-support capabilities to a prospective CPO engagement. [redacted] These are broader optical-business capabilities, not facility-specific CPO qualification.

[redacted]

[redacted] Its broader optical capabilities support engagement, but do not settle same-package readiness. Retaining an accepted adjacent optical arrangement avoids transferring demonstration evidence across packaging boundaries; reconsideration is warranted when a CPO-specific configuration receives applicable customer acceptance.

Sources & Evidence

1. Overview - InnoLight
   - InnoLight identifies Suzhou development/production, Singapore headquarters functions, U.S. research/customer service, and Thai manufacturing. Its overview does not assign CPO qualification to those operations. ([innolight.com](https://www.innolight.com/about))
2. 中际旭创股份有限公司 2026 年半年度报告全文
   - Zhongji Innolight's 2026 half-year disclosure identifies CPO development priorities and describes NPO/XPO demonstrations; these do not establish an orderable CPO configuration from the exact InnoLight supplying unit. ([static.cninfo.com.cn](https://static.cninfo.com.cn/finalpage/2026-xx.xx-xx.xx/xx.xx.PDF))

28.53. Eoptolink

Eoptolink combines silicon-photonics and thin-film lithium-niobate module capabilities with CPO technical reserves, according to its 2026 half-year disclosure. [redacted]

Developers should request a CPO-specific proposal defining host-package integration, acceptance evidence, the supplying entity, and delivery obligations before design commitment. This preserves access to its reported technology portfolio without assuming portability from pluggable or near-packaged products. [redacted]

Sources & Evidence

1. 成都新易盛通信技术股份有限公司 2026 年半年度报告全文
   - Eoptolink reports silicon-photonics/TFLN module capabilities, NPO/XPO introductions, and CPO technical reserves; the disclosure does not settle customer acceptance of a same-package CPO configuration. ([static.cninfo.com.cn](https://static.cninfo.com.cn/finalpage/2026-xx.xx-xx.xx/xx.xx.PDF))

28.54. SPIL

[redacted] SPIL's December 2025 capability milestone explicitly identifies CPO assembly and testing, establishing a more specific role than general advanced-packaging participation. The company's promotional claim of being first is not necessary to establish that capability.

A host-package developer can evaluate SPIL for an assembly-and-test engagement, provided the proposed optical attachment, package configuration, and acceptance obligations are

supported. Outsourcing can reduce the capabilities the developer must own, while leaving design changes and constituent compatibility to be allocated contractually. ■■■■■■ ■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■■ ■■■■■■ ■■■■■ ■■■■■ ■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■ ■■■ ■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■■■■ ■■■ ■■■ ■■ ■■■ ■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■ ■■■■■ ■■■■■ ■■■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■

Sources & Evidence

1. About ASE Technology Holding
   · ASE Technology Holding identifies SPIL within its corporate group, corroborating operating-company versus parent-group treatment without establishing a separate independent source. ([aseglobal.com](https://www.aseglobal.com/about/))
2. SPIL Overview & Fact Sheet
   · SPIL identifies turnkey wafer bumping, wafer sorting, assembly, and final-test services. These broader services do not qualify every facility or customer CPO package. ([spil.com.tw](https://spil.com.tw/About/Overview))
3. Milestones - SPIL
   · SPIL's December 2025 milestone identifies CPO assembly and testing. Its April 2018 entry identifies SPIL and ASE as wholly owned subsidiaries of ASE Technology Holding; promotional priority claims are excluded. ([spilglobal.com](https://www.spilglobal.com/About/Milestones))

28.55. Foxconn

Foxconn's CPO relevance combines a group-level manufacturing proposition with unresolved operating-supplier allocation. ■■■ ■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■ ■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■ ■■ ■■■ ■■■■■ ■■■■■■■■ ■■ ■■■■■■ That statement establishes a commercialization target, not its completion or acceptance of a particular configuration.

The OCP silicon-photonics collaboration separately names Foxconn Interconnect Technology. Buyers should not assume that this contribution and the Foxconn group announcement describe the same contract or interchangeable deliverables. ■ ■■■■■■ ■■■■■ ■■■■■■ ■■■■■■■ ■■■ ■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■ ■■■ ■■■ ■■■ ■■■■■ ■■ ■ ■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■ ■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■ ■■■■■■■■■ ■■■■■■■ ■■■■■ ■■■■■■■■■ ■ ■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■■ ■■■ ■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■

Sources & Evidence

1. Industry Leaders Formally Launch CPO System Architecture Initiative Within the Open Compute Project
   · The initiative names Foxconn Interconnect Technology specifically; it does not allocate the group's CPO supply contracts. Commercial-analyst commentary is excluded. ([lightmatter.co](https://lightmatter.co/press-release/industry-leaders-formally-launch-cpo-system-architecture-initiative-within-the-open-compute-project/))

2. Hon Hai Technology Group (Foxconn) Announces Second Quarter 2026 Financial Results
   · Foxconn's August xx.xx 2026 disclosure describes integrated system delivery and anticipates third-quarter 2026 CPO switch production. It does not establish completion, configuration acceptance, or the exact supplying operation.
   ([honhai.com.tw](https://www.honhai.com.tw/en-us/press-center/press-releases/latest-news/2095))

28.56. HyperLight Corporation

[redacted] Its March xx.xx 2026 partnership assigns platform architecture to HyperLight and manufacturing infrastructure to UMC and its wholly owned Wavetek subsidiary. The platform addresses CPO alongside pluggable and coherent optical applications; a shared manufacturing architecture does not establish equivalent host-package qualification across those uses.

[redacted] This route preserves design customization but adds dependence on the selected material platform and manufacturing partners. An already accepted platform remains preferable when it satisfies the requirement; broader supply commitments should follow evidence for the actual CPO configuration rather than the manufacturing partnership alone.

Sources & Evidence

1. HyperLight, UMC, and Wavetek Announce Strategic Partnership for High-Volume Foundry Production of TFLN Chiplet Platform
   · The March xx.xx 2026 partnership assigns TFLN platform architecture to HyperLight and manufacturing infrastructure to UMC/Wavetek, with CPO among intended applications. It does not establish every CPO host-package qualification.
   ([umc.com](https://www.umc.com/en/News/press_release/Content/corporate/xx.xx))
2. HYPERLIGHT | Custom
   · HyperLight markets custom design, modeling, testing, reliability support, and multi-project-wafer access delivering bare dies or wafers. These services support staged development, not automatic acceptance of finished CPO hardware. ([hyperlightcorp.com](https://www.hyperlightcorp.com/custom))

28.57. Nexus Photonics

Nexus Photonics markets heterogeneous photonic integrated circuits combining sources, amplification, modulation, and detection. Its AI and communications offering specifically includes III-V-integrated modulators for CPO and multi-wavelength sources with integrated power control. [redacted]

[illegible] Retaining an adequate qualified PIC is preferable when the additional functionality does not resolve a binding requirement. The decisive milestones are acceptance of the selected device and its package integration, rather than broad platform-performance claims.

Sources & Evidence

1. Markets - Nexus Photonics
   · Nexus markets III-V-integrated modulators for next-generation CPO and multi-wavelength sources with integrated power control; its page identifies Goleta, California. These are supplier capability claims, not customer-package acceptance. ([nexusphotonics.com](https://www.nexusphotonics.com/markets))
2. Technology - Nexus Photonics
   · Nexus describes heterogeneous PIC integration combining waveguides, lasers, amplifiers, photodetectors, and modulators. Platform-specific integration dependencies are analytical implications, not independently established superiority. ([nexusphotonics.com](https://www.nexusphotonics.com/technology))

28.58. Analog Photonics

[illegible] SBIR award separately records wavelength-generation transceiver development. These establish optical-interconnect capabilities and development activity, not acceptance of a complete switching or compute-host CPO assembly.

A host or optical-engine developer can assess Analog Photonics for integrated PIC functions and complementary electronic integration. The purchasing decision should resolve the presently offered chipset, host-package topology, fabrication route, supply rights, and applicable package qualification. [illegible]

Sources & Evidence

1. Technology | Analog Photonics
   · Analog Photonics describes proprietary silicon-photonics and electronic circuits and an optical-data-communications engine integrating photonic functions with electronics. Its promotional performance comparisons are not adopted. ([analogphotonics.com](https://www.analogphotonics.com/technology/))

2. 400G Silicon Photonics Integrated Circuit Transceiver Chipsets for CPO, OBO, and Pluggable Modules
   · The OFC 2020 paper reports demonstrated Analog Photonics transmit-and-receive chipsets compatible with CPO, on-board optics, and pluggable form factors. It does not establish customer acceptance of a complete host-package implementation. ([analogphotonics.com](https://www.analogphotonics.com/wp-content/uploads/2021/xx.xx/3_OFC_AP_2020.pdf))
3. SBIR Award - On-Chip Wavelength Generation for DWDM Photonic Transceivers
   · The official 2026 SBIR award identifies Analog Photonics LLC and proposed integrated wavelength-generation transceiver development. Awarded development is distinct from a released customer-qualified CPO assembly. ([sbir.gov](https://www.sbir.gov/awards/xx.xx))

28.59. Dream Photonics

Dream Photonics offers silicon-photonics process-design kits, IP, and photonic-wire-bonding services, including fiber-to-chip, chip-to-chip, and laser integration. It identifies operations in Vancouver, Canada, and Woodinville, Washington, and publishes a fiber-attachment offering for the AMF platform. ■■■ ■■■■■■■■■■ ■■■■ ■■ ■■■■■■ ■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■ ■■■ ■ ■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■■■■■■ ■■ ■■■ ■■■■■■■■■ ■ ■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■ ■■■■■■ ■■ ■■■■ ■■■■■■■■

A CPO developer retaining its chips and architecture can evaluate a bounded attachment or design engagement matched to the selected foundry platform. This preserves constituent selection while obtaining complementary integration expertise, but does not automatically transfer package qualification or installed-equipment support obligations. ■■■■■■■■ ■■■■ ■■■■■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■ ■■■■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■■■ ■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■■■■■ ■■■■ ■■■ ■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■■■■■

Sources & Evidence

1. About Us - Dream Photonics
   · Dream Photonics identifies process-design-kit and IP activities, photonic-wire-bonding services for fiber, chip, and laser integration, and Vancouver and Woodinville operating locations. These support a specialized-service assessment rather than a complete-CPO-product claim. ([dreamphotonics.com](https://dreamphotonics.com/about-us/))
2. Fiber-to-Chip Packaging of AMF Chips with Photonic Wire Bonds
   · Dream Photonics publishes a fiber-to-chip attachment offering for AMF chips and invites custom-solution engagement. This establishes a specific platform-linked service, not qualification across arbitrary foundry or host-package configurations. ([dreamphotonics.com](https://dreamphotonics.com/wp-content/uploads/2022/xx.xx/DP-AMF-PWB-Advertisement.pdf))

28.60. Enablence Technologies Inc.

Enablence Technologies contributes wavelength-distribution components and planar-lightwave-circuit design and fabrication to CPO-related illumination. Its March xx.xx 2026 collaboration assigns an NxN star coupler to external-light-source development with Sivers laser arrays and O-Net module integration. ■■■■■■■■■ ■■■■■■■■■■ ■ ■■■■■■■■

[redacted] The collaboration establishes a development route, not a universally accepted CPO light-source configuration. Prefer an existing qualified distribution arrangement when the proposed integration offers no necessary benefit.

Sources & Evidence

1. Sivers Semiconductors, O-Net and Enablence Technologies Announce Collaboration on Co-Packaged Optics
   · Enablence's March xx.xx 2026 announcement assigns its NxN star coupler, Sivers laser arrays, and O-Net module integration to external-light-source development for CPO-related applications. It identifies Enablence's Fremont wafer fab. The development announcement does not establish configuration-specific customer acceptance. ([newsfilecorp.com](https://www.newsfilecorp.com/release/xx.xx/Sivers-Semiconductors-ONet-and-Enablence-Technologies-Announce-Collaboration-on-CoPackaged-Optics))
2. Custom Fab Services - Enablence
   · Enablence markets PLC fabrication services extending to chip finishing, testing, and hybrid packaging. These are constituent-manufacturing capabilities, not evidence that a particular CPO illumination module is qualified. ([enablence.com](https://www.enablence.com/custom-fab-services))
3. Custom Design Services - Enablence
   · Enablence offers custom PLC design using its optical-subcomponent library. This supports a design-engagement route distinct from procuring an integrated external-light-source module. ([enablence.com](https://www.enablence.com/custom-design-services))

28.61. Aeluma, Inc.

[redacted] An executed agreement announced September xx.xx 2026 adds wafer-production collaboration with Sumitomo Chemical Advanced Technologies in Phoenix, Arizona. That agreement strengthens the development and manufacturing route without itself establishing acceptance of a particular CPO device.

[redacted]

RESEARCH SAMPLE REPORT

[redacted] An already accepted component remains preferable when delivery requirements cannot accommodate that uncertainty. Monitor qualification applicable to the intended CPO configuration, distinguishing it from progress in broader datacom development or execution of a manufacturing agreement.

Sources & Evidence

1. Aeluma, Inc. - Form 10-K for the Fiscal Year Ended June 30, 2026
   - Aeluma's fiscal 2026 filing describes photodetector and quantum-dot-laser platforms being developed for potential datacom and CPO applications. Its manufacturing strategy depends on external foundries, packaging providers, integration partners, and customer qualification. ([sec.gov](https://www.sec.gov/Archives/edgar/data/xx.xx/xx.xx/ea0305364-10k_aeluma.htm))
2. Aeluma Executes Strategic Agreement with Sumitomo Chemical Advanced Technologies for Wafer Production for AI Datacom
   - Aeluma announced an executed manufacturing agreement on September xx.xx 2026 with Sumitomo Chemical Advanced Technologies, initially using its Phoenix facility. The stated purpose includes development and qualification of AI-datacom photonics products; it does not establish acceptance of a named CPO device. ([aeluma.com](https://www.aeluma.com/investors/news-events/press-releases/detail/xx.xx/aeluma-executes-strategic-agreement-with-sumitomo-chemical))

28.62. Jabil

Jabil markets optical manufacturing, advanced photonics packaging, design services, and platform engagement explicitly extending from transceivers to CPO. [redacted] Its engineering services include prototyping, manufacturing-test development, new-product introduction, and sustaining engineering, providing a potential alternative to owning each enabling capability.

An optical-engine developer can assess a program-specific engineering and manufacturing engagement before design freeze when attachment, process-transfer, or verification responsibilities remain unsettled. [redacted] Monitor approved transfer and customer-release milestones rather than general manufacturing credentials.

Sources & Evidence

1. Photonics | Jabil
   - Jabil explicitly describes photonics capability extending to CPO and offers optical manufacturing, advanced photonics packaging, design services, platform engagement, and broader turnkey or white-label options. Those options do not establish a particular turnkey CPO host-package offering. ([jabil.com](https://www.jabil.com/industries/photonics.html))

2. Engineering Solutions | Jabil
   · Jabil's broader engineering offering includes prototyping, new-product introduction, sustaining engineering, verification, and manufacturing-test development linked to its manufacturing structure. Applying these capabilities to a CPO contract remains conditional on the specified scope and site acceptance. ([jabil.com](https://www.jabil.com/solutions/engineering.html))

28.63. Lightwave Logic, Inc.

[redacted] It makes CPO applicability conditional on customer qualification and system integration. Its May 2024 AMF collaboration demonstrated polymer-modulator integration on a silicon-photonics foundry platform for pluggable applications; that milestone supports a manufacturing-enablement route, not automatic acceptance of same-package CPO.

PIC developers and foundries should evaluate material-and-license engagement where the intended CPO modulation requirement justifies changing the accepted platform. Define process and design-kit access, permitted uses, reliability acceptance, and responsibility for requalification. [redacted]

Sources & Evidence

1. Lightwave Logic, Inc. - Form 10-K for the Year Ended December 31, 2025
   · Lightwave Logic's 2025 filing describes polymer-material supply, IP licensing, and PDK enablement rather than finished-module manufacture. CPO applicability depends on qualification and integration; product or process changes can require renewed qualification. ([sec.gov](https://www.sec.gov/Archives/edgar/data/xx.xx/xx.xx/lwlg_10k-xx.xx.htm))
2. Lightwave Logic and Advanced Micro Foundry (AMF) Partner to Accelerate Development of Silicon Photonics Modulators Using Electro-Optic Polymers
   · Lightwave Logic's May xx.xx 2024 announcement reports polymer-modulator development with AMF using its silicon-photonics platform for pluggable applications. This supports foundry-linked enablement, not customer acceptance of a same-package CPO implementation. ([prnewswire.com](https://www.prnewswire.com/news-releases/lightwave-logic-and-advanced-micro-foundry-amf-partner-to-accelerate-development-of-silicon-photonics-modulators-using-electro-optic-polymers-xx.xx.html))

28.64. Samtec

Samtec offers Si-Fly HD CPX electrical socket interfaces for co-packaged copper or optical arrangements and connections to package substrates. [redacted] Its contribution is electrical attachment and connectivity around optical integration: an electrically pluggable interface is not itself an optical engine, and a copper demonstration does not establish an accepted CPO optical configuration.

[redacted] Fixed attachment remains an alternative when required by the accepted package architecture or when the socketed candidate remains unqualified. Monitor configuration release and system-level maintenance authorization before making supply commitments.

Sources & Evidence

1. Si-Fly HD 224 Gbps PAM4, Co-Packaged & Near-Chip Systems
   · Samtec describes Si-Fly HD CPX substrate interfaces and separately identifies SFCC as co-packaged copper. Selected CPX and optical-module connector variants are labeled in development, requiring configuration-specific release verification.
   ([samtec.com](https://www.samtec.com/high-speed-cable/flyover/si-fly-hd/))
2. Innovations in Co-Packaged Interconnects for 224 Gbps PAM4 and Beyond
   · Samtec's March xx.xx 2026 article describes a substrate-based socket supporting electrically pluggable copper and optical arrangements. Its demonstration descriptions distinguish copper connectivity from optics-capable interfaces; electrical removability does not establish complete-system maintenance entitlement.
   ([blog.samtec.com](https://blog.samtec.com/post/innovations-in-co-packaged-interconnects-for-xx.xx-gbps-pam4-and-beyond/))

28.65. US Conec Ltd.

US Conec contributes optical-connectivity components rather than the complete CPO engine. [redacted] US Conec is also an equity venture of Corning Optical Communications, Fujikura, and NTT-AT, making ownership relationships relevant to supplier-independence assessments.

[redacted] Buyers should confirm the contracted seller and supported replacement boundary before assigning diversification or maintenance benefits. The route becomes unsuitable when the selected connector variant cannot satisfy the equipment's access or accepted optical-interface requirements.

Sources & Evidence

1. US Conec, Corning Incorporated, Fujikura and Sumitomo Electric Lightwave Announce Multi-Source Framework for PRIZM TMT Expanded Beam Ferrules and Associated MMC Connectors
   · The March xx.xx 2026 announcement enables Corning, Fujikura, and Sumitomo Electric Lightwave to manufacture US Conec-designed PRIZM TMT ferrules and associated MMC components. ([usconec.com](https://www.usconec.com/media/h4zopm3k/us-conec-corning-fujikura-and-sumitomo-electric-joint-press-release_3-xx.xx-2026_final.pdf))
   · It identifies US Conec as an equity venture of Corning Optical Communications, Fujikura, and NTT-AT. Manufacturing alternatives therefore require ownership-aware assessment, not an assumption of wholly independent technology sources. ([usconec.com](https://www.usconec.com/media/h4zopm3k/us-conec-corning-fujikura-and-sumitomo-electric-joint-press-release_3-xx.xx-2026_final.pdf))
2. A Very Small Form Factor Connector Solution Designed for Space Constrained Applications
   · US Conec's paper describes MMC Jr. for space-constrained applications, including CPO connectivity, and distinguishes protected internal connections from externally accessible connector environments. It supports configuration-specific connectivity assessment, not optical-engine replacement rights. ([usconec.com](https://www.usconec.com/media/bhzpwv2z/a-very-small-form-factor-connector-solution-designed-for-space-constrained-applications.pdf))

28.66. MACOM

[illegible] The broader data-center portfolio advertises coordinated component characterization, firmware, and consolidated support. These capabilities give an optical-engine developer a potential combined component-sourcing route, but the broader portfolio's support features should not automatically be assigned to every CPO configuration.

MACOM's September xx.xx 2026 announcement identifies MACOM Technology Solutions Inc. and design centers and sales offices across North America, Europe, and Asia. [illegible] A host-interface change or failure to obtain package-specific acceptance should trigger reassessment, and regional sales coverage should not be mistaken for a local CPO manufacturing assignment.

Sources & Evidence

1. Lasers
   · MACOM markets continuous-wave semiconductor lasers and single-device or array options, explicitly identifying CPO among their applications. No promotional performance superiority or broad laser-business activity is treated as CPO package qualification. ([macom.com](https://www.macom.com/products/optical/lasers))

2. 1.6 Tbps Optical Modules
   · MACOM explicitly markets optical chipsets for CPO alongside optical-module applications. This establishes a constituent-electronics offering, not qualification of a complete host package. ([macom.com](https://www.macom.com/applications/data-center/xx.xx-xx.xx-tbps-optical-modules))
3. Data Center
   · MACOM's broader data-center offering describes coordinated component characterization, firmware, consolidated ordering, and support. Applying those features to an individual CPO configuration requires confirmation. ([macom.com](https://www.macom.com/applications/data-center))
4. MACOM Demonstrates Technologies Enabling the Future of High Speed Connectivity at ECOC 2026
   · The September xx.xx 2026 announcement identifies MACOM Technology Solutions Inc., describes planned component and NPO demonstrations, and identifies design centers and sales offices across North America, Europe, and Asia. It does not establish complete CPO-engine release or local CPO manufacturing allocation. ([ir.macom.com](https://ir.macom.com/static-files/88d0771f-ea50-474d-bb26-449c0f6f5dd3))

28.67. IBM

IBM's relevant capability is optical interconnect packaging and development. ■■■ ■■■■■■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■ ■■■■■■■■■■■ ■■■■ ■■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■ ■■■ ■■■■■■■■ ■■■■■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■■■ ■■ ■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ An earlier RANOVUS collaboration identified IBM optical-packaging and assembly-and-test contributions, while IBM continues to identify CPO within its semiconductor research themes.

A host developer can assess a defined IBM development engagement when optical attachment, package connectivity, or reliability acceptance is the unresolved integration problem. The engagement should identify available deliverables, design rights, acceptance ownership, and the production handoff rather than assume that historical collaboration terms remain available. ■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■■ ■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■■ ■■■■■ ■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■ ■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■■ ■■ ■■ ■■■■■■■■■■■ ■■■ ■ ■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■

Sources & Evidence

1. Co-packaged optics can supercharge generative AI computing
   · IBM's December xx.xx 2024 disclosure describes polymer-waveguide CPO prototypes and reliability-development activity in Yorktown Heights and Bromont. It also describes supplier and customer engagement toward subsequent commercialization; prototype results do not establish another customer's finished-package acceptance. ([research.ibm.com](https://research.ibm.com/blog/co-packaged-optics-to-supercharge-generative-ai-computing))
2. Semiconductors - IBM Research
   · IBM identifies CPO among its semiconductor design, packaging, and connectivity research themes. This corroborates a research capability without establishing a particular commercial supply commitment. ([research.ibm.com](https://research.ibm.com/semiconductors))

3. Ranovus announces a strategic collaboration with IBM, TE Connectivity and Senko Advanced Components for design and delivery of multi-vendor Co-Packaged Optics solutions for Data Centers
   • The 2020 joint-development announcement identifies IBM optical-packaging and assembly-and-test contributions to the RANOVUS CPO collaboration. This establishes a historical integration role, not continuation of identical service terms. ([ranovus.com](https://ranovus.com/ranovus-announces-a-strategic-collaboration-with-ibm-te-connectivity-and-senko-advanced-components-for-design-and-delivery-of-multi-vendor-co-packaged-optics-solutions-for-data-centers/))

28.68. Micas Networks

Micas Networks provides a finished CPO Ethernet-switch route built around Broadcom's Bailly platform. [redacted] The relevant capability is converting the integrated switch platform into supported networking equipment, not independent control of every embedded optical technology.

Infrastructure buyers can evaluate Micas when they prefer equipment procurement over coordinating constituent optical integration. [redacted] Reported validation results should remain tied to the tested system rather than generalized into a fleet-wide reliability advantage.

Sources & Evidence

1. Micas Networks Announces Industry’s First 51.2T Co-Packaged Optics Network Switch System Now in Volume Production
   • Micas' March 2025 announcement identifies its Bailly-based finished CPO switch, order acceptance, Malaysian manufacturing, and support for open networking operating systems including SONiC. Its own availability statement is not independent customer-deployment evidence. ([micasnetworks.com](https://www.micasnetworks.com/company/news/xx.xx))
2. Micas Networks Inc. Signs First Distributor Agreement in Japan with SB C&S Corp. to Enter Japanese Market
   • The February xx.xx 2026 announcement establishes Japanese distribution through SB C&S for a Micas portfolio discussing CPO switches and open operating-system support. It establishes a channel arrangement, not every model's contracted availability or restoration entitlement. ([micasnetworks.com](https://www.micasnetworks.com/company/news/sbcs20260226))
3. American AI Networking Company Micas Networks Expands Company-Operated Manufacturing to Scale Commercial CPO
   • The September 2026 announcement describes expanded company-operated Malaysian assembly, optical integration, and system testing, identifies the M2-W6940-128X1-FR4, and describes delivery through Supermicro. Reported validation outcomes are expressly configuration-specific. ([micasnetworks.com](https://www.micasnetworks.com/company/news/xx.xx))

28.69. Super Micro Computer, Inc.

[redacted] Separately, Micas' September 2026 disclosure identifies Supermicro as a delivery route for its Bailly-based CPO switch. These are system-integration relationships, not evidence that the compute packages themselves contain optical I/O.

[redacted] The NVIDIA integration communication and the Micas equipment-delivery disclosure establish different commercial milestones; neither should be transferred automatically to another configuration. Independently sourced networking remains an alternative when architectural flexibility outweighs the benefit of consolidated rack accountability.

Sources & Evidence

1. American AI Networking Company Micas Networks Expands Company-Operated Manufacturing to Scale Commercial CPO
   · Micas identifies Supermicro as a delivery route for its Bailly-based CPO switch within validated infrastructure configurations. This supports a system-delivery relationship without establishing compute-package optical I/O. ([micasnetworks.com](https://www.micasnetworks.com/company/news/xx.xx))
2. Building More Efficient, Reliable AI Infrastructure with NVIDIA's Photonics Switches and NVIDIA Vera Rubin
   · Supermicro's June xx.xx 2026 communication describes NVIDIA Photonics-switch integration with Vera Rubin platforms through DCBBS, coordinating compute, networking, storage, and cooling. This is a supplier-described integration role, not independent deployment or universal performance evidence. ([learn-more.supermicro.com](https://learn-more.supermicro.com/data-center-stories/ai-infrastructure-cpo-nvidia-photonics-switches-vera-rubin-supermicro-dcbbs?hs_amp=true))

28.70. NLM Photonics

NLM Photonics supplies hybrid organic electro-optic technology for integrated modulators. [redacted] These are reported device-level milestones, not acceptance of a complete customer CPO package.

[redacted]

[redacted] Buyers should stage commitments against the intended host-package implementation and reassess when the foundry or packaging combination changes. An existing qualified modulator remains preferable when it already meets the requirement and the additional integration obligation cannot be justified.

Sources & Evidence

1. Hybrid Organic Electro-Optic Technology
   · NLM markets Selerion organic electro-optic materials and associated modulation architectures for multiple integrated-photonics platforms, including silicon. These are its own capability descriptions rather than complete customer-package qualification outcomes. ([nlmphotonics.com](https://www.nlmphotonics.com/technology/))
2. NLM Photonics Validates Silicon-Organic Hybrid Performance at 200G and Beyond in Third-Party Multi-Channel Testing
   · NLM's September 2025 announcement reports silicon-organic-hybrid PIC results involving Enosemi design collaboration, Advanced Micro Foundry fabrication, and testing involving VLC Photonics and Keysight. Attribution remains to NLM's announcement; independent CPO-package acceptance is not inferred. ([nlmphotonics.com](https://www.nlmphotonics.com/2025/xx.xx/xx.xx/silicon-organic-hybrid-performance-at-200g-and-beyond/))
3. Partner With Us!
   · NLM invites foundries, component vendors, and PIC designers to engage directly and states that it participates in direct contracts. This supports a development-engagement route rather than an assumed turnkey CPO product. ([nlmphotonics.com](https://www.nlmphotonics.com/technology/partners/))
4. Transatlantic Partnerships for Hybrid Electro-Optic Modulation
   · NLM's October xx.xx 2023 company presentation explicitly connects hybrid electro-optic modulation with CPO and heterogeneous integration. Only its own enabling-technology context is used, not operational guidance or third-party commercial estimates. ([nlmphotonics.com](https://www.nlmphotonics.com/wp-content/uploads/2024/xx.xx/LEJ_NLM_ECOC_2023_v1c_nobackup.pdf))

28.71. Alfalume, Inc.

Alfalume's documented CPO contribution is quantum-dot laser development with Innolume. [redacted] These disclosures establish a relevant illumination-development role, but joint branding does not establish common ownership or the present allocation of delivery obligations.

[redacted] Present contracting responsibility remains unsettled by

the dated joint disclosures. A current configuration-specific offer and agreed warranty allocation would strengthen the sourcing case; without them, engagement should remain focused on verification rather than presumed production readiness.

Sources & Evidence

1. Alfalume releases 1.3 µm High-Power Uncooled QD Lasers
   · The March xx.xx 2023 joint announcement identifies Alfalume Inc. and Innolume GmbH, reports quantum-dot laser sample availability, and names remote laser modules for CPO among intended applications. It does not allocate present contracting and warranty duties. ([innolume.com](https://www.innolume.com/news/alfalume-releases-xx.xx-mm-high-power-uncooled-qd-lasers/))
2. Quantum Dot Lasers: A Step Toward Easier Integration with PICs
   · The presentation dated October xx.xx 2024 carries Alfalume, Innolume, and Axalume branding and includes external-laser-source development. Joint branding is not evidence of common corporate control. Its commercial-research forecasts and operating details are not used. ([epic-photonics.com](https://epic-photonics.com/wp-content/uploads/2024/xx.xx/Alfalume-Alexey-Kovsh.pdf))

28.72. Aloe Semiconductor, Inc.

Aloe Semiconductor offers silicon-photonic modulator design as a CPO-enabling capability. ■■■ ■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■ ■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■ ■■ ■■■■■■■■ ■■■ ■■■ ■■■ ■■■■■■■■■■■■■ ■■■■ ■■■■■■■■ ■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■ ■■■■■■■■■■ ■■■■■■■ ■■■■ ■ ■■■■■■ ■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■■ This supports a device-development route that seeks to preserve the existing fabrication platform, not qualification of a finished host-integrated CPO engine.

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Sources & Evidence

1. Aloe Semiconductor showcases 160-Gbaud PAM4 from a silicon-photonic modulator at OFC 2025
   · Aloe's April xx.xx 2025 announcement identifies conventional-silicon modulator development for optical I/O and CPO, with Advanced Micro Foundry, MACOM, and Broadcom support. Its claimed commercialization benefits are not treated as independently established outcomes. ([aloesemi.com](https://aloesemi.com/aloe-semiconductor-showcases-xx.xx-gbaud-pam4-from-a-silicon-photonic-modulator-at-ofc-2025/))
2. 180-Gbaud PAM4 from a pure silicon-photonic modulator to be shown at ECOC 2025
   · Aloe's September xx.xx 2025 announcement describes conventional silicon-photonics fabrication and a MACOM-driver pairing on a printed circuit board. This supports a device-development milestone, not a complete host-package CPO qualification. ([aloesemi.com](https://aloesemi.com/xx.xx-gbaud-pam4-from-a-pure-silicon-photonic-modulator-to-be-shown-at-ecoc-2025/))

28.73. FormFactor, Inc.

FormFactor contributes CPO-enabling wafer-test equipment rather than optical engines or finished networking systems. Its TRITON silicon-photonics test cell combines optical and electrical wafer testing and was developed with Advantest and Tokyo Electron. ■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■ ■■■■ ■■■■■■■■■■ ■■■■■ ■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■ ■■■■■ ■■■■■■■■■■■■■ ■ ■■■■■■■ ■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■ ■■■ ■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■ ■ ■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■

■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■ FormFactor advertises probe-system maintenance agreements, upgrades, applications training, service certification, and fleet asset management. Manufacturing buyers should establish which services cover the proposed TRITON configuration and installation location rather than assume that general service availability settles responsibility across the participating suppliers.

TRITON warrants evaluation when its tester architecture and optical interfaces fit the buyer's device and factory requirements. Procurement should name the integrated-cell acceptance owner and cross-supplier escalation responsibilities. ■■■ ■■■■■■■■■■ ■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■ ■■■ ■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■■■ ■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■ ■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■ ■■ ■■■■■■■ ■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■■

Sources & Evidence

1. TRITON™ High-Volume Silicon Photonics Production Test Cell System
   · TRITON is a marketed silicon-photonics test cell developed by FormFactor, Advantest, and Tokyo Electron; it combines optical and electrical wafer testing and integrates the Advantest 93k tester with FormFactor probes for applications including CPO.
   ([formfactor.com](https://www.formfactor.com/product/probe-systems/high-volume-manufacturing/triton/))
2. Probe Systems Support | FormFactor, Inc.
   · FormFactor advertises probe-system service agreements, upgrades, maintenance and applications training, service certification, and fleet asset management. These are general service capabilities, not configuration-specific TRITON support entitlements.
   ([formfactor.com](https://www.formfactor.com/sales-service/probe-systems-support/))

28.74. Teradyne

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A separate production-cell offering combines UltraFLEXplus and IG-XL with ficonTEC's photonics capabilities. Manufacturers already aligned with Teradyne's equipment environment can evaluate these routes when both constituent and assembled-module

coverage are required. ■■■■ ■■■■■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■ ■■■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■ ■■■■■■ ■■■■ ■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■

Corporate relationships also affect supplier-independence assessments. ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■ ■■ ■■■■■ ■■ ■■■■ ■■■ ■■■ ■■■■■■■■■ ■■ ■■■ ■■■■■■■ ■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■ ■■■■■■■■■■■■ Buyers should identify the legal supplier and support owner for each product: the transferred activities are not independent diversification from Teradyne, but neither should all MultiLane activities be treated as acquired.

Sources & Evidence

1. Photon 100
   · Photon xx.xx integrates optical and electrical instrumentation with UltraFLEXplus and addresses wafer, optical-engine, and co-packaged-module applications. Teradyne markets company-provided platform maintenance while allowing preferred test-cell ecosystem partners. ([teradyne.com](https://www.teradyne.com/products/photon-xx.xx/))
2. Teradyne Announces Production System for Double-Sided Wafer Probe Test for Silicon Photonics
   · The March xx.xx 2025 announcement identifies a production test-cell collaboration combining Teradyne UltraFLEXplus and IG-XL with ficonTEC photonics capabilities, while maintaining an open equipment ecosystem. ([investors.teradyne.com](https://investors.teradyne.com/news-events/press-releases/detail/xx.xx/teradyne-announces-production-system-for-double-sided-wafer-probe-test-for-silicon-photonics))
3. Teradyne, Inc. - Form 10-Q, July 31, 2026
   · The mandatory filing confirms formation of MultiLane Test Products Holding LLP on April xx.xx 2026, Teradyne's controlling interest, transfer of MultiLane test-and-measurement assets, and consolidation within Teradyne's Product Test segment. ([investors.teradyne.com](https://investors.teradyne.com/sec-filings/all-sec-filings/content/xx.xx-xx.xx-xx.xx/xx.xx-xx.xx-xx.xx.pdf))
4. Teradyne and MultiLane Announce Formation of Joint Venture, MultiLane Test Products
   · The January xx.xx 2026 proposed-venture announcement distinguishes contributed test-and-measurement assets from MultiLane's retained interconnect and data-center test businesses. Completion is established separately by the mandatory filing. ([investors.teradyne.com](https://investors.teradyne.com/news-events/press-releases/detail/xx.xx/teradyne-and-multilane-announce-formation-of-joint-venture-multilane-test-products))

28.75. Sanmina Corporation

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[redacted] Buyers should preserve design rights and production-transfer obligations where continuing supplier discretion matters. This route is unsuitable as a presumed turnkey solution when the underlying photonic platform, host compatibility, or qualification responsibility remains unsettled; a marketed manufacturing capability alone does not resolve those dependencies.

Sources & Evidence

1. Optical Networking OFC 2026 - Sanmina
   - Sanmina's Advanced Microsystems Technologies division markets microelectronic, optical, and RF design; heterogeneous integration including CPO; joint design and development; and co-located design-to-manufacturing support. These are supplier capability descriptions, not customer qualification outcomes. ([sanmina.com](https://www.sanmina.com/optical-networking-ofc-2026/))

28.76. Aehr Test Systems

Aehr Test Systems' relevant capability is silicon-photonics reliability screening through its FOX-XP platform, proprietary WaferPak contact interfaces, and automated handling. This is a different purchasing task from functional characterization of an optical engine or acceptance of an assembled CPO host. [redacted]

[redacted] An April xx.xx 2025 disclosure described production qualification underway for a system addressing silicon-photonics devices used in CPO and optical I/O. On August xx.xx 2026, Aehr announced a follow-on production order for silicon-photonics screening equipment, with delivery expected in the first half of 2027. That later order establishes a commercial equipment commitment, but its application description does not identify a particular customer-qualified CPO host configuration.

[redacted] The proprietary contact interface creates a specific dependency that must be considered when devices or supplying arrangements change. Aehr is a candidate where its screening role meets the manufacturer's accepted requirement; broader semiconductor qualification or equipment-order evidence should not be transferred automatically to a different CPO program.

Sources & Evidence

1. Aehr Test Systems Expands Silicon Photonics Production Momentum with Follow-On Production Order from Lead Customer
   · Aehr's August xx.xx 2026 announcement reports a follow-on silicon-photonics equipment order involving FOX-XP, WaferPak interfaces, and automated handling, with delivery expected in the first half of 2027. It does not bind the order to a named customer-qualified CPO host. ([aehr.com](https://www.aehr.com/2026/xx.xx/aehr-test-systems-expands-silicon-photonics-production-momentum-with-follow-on-production-order-from-lead-customer/))
2. Aehr Test Systems Reports Third Quarter Fiscal 2025 Financial Results
   · Aehr's April xx.xx 2025 earnings disclosure describes production qualification underway for silicon-photonics screening equipment addressing CPO and optical-I/O devices. This is a qualification milestone, not proof of a subsequently accepted customer package. ([sec.gov](https://www.sec.gov/Archives/edgar/data/xx.xx/xx.xx/aehr_ex991.htm))

28.77. Lightelligence

[redacted] A June xx.xx 2026 communication separately confirms continuing development of near-packaged and co-packaged optics. Its broader optical-computing and optical-fabric portfolio provides system-development context, but commercial activity in those products does not independently establish readiness of the same-package prototype.

For a compute developer, the defensible option is a bounded, host-specific development engagement rather than presumed procurement of an interchangeable optical engine. [redacted] The conclusion would strengthen with customer acceptance and an executable manufacturing and support arrangement; continuing development alone does not settle either.

Sources & Evidence

1. Company Profile - LIGHTELLIGENCE
   · Lightelligence describes an xPU-CPO prototype co-packaging an optical engine and computing chip on the same substrate. Its broader optical-computing and optical-interconnect activities do not independently establish commercialization of that prototype. ([lightelligence.ai](https://www.lightelligence.ai/about-us/company-profile))
2. Q&A Interview with Mo Steinman, Lightelligence's Senior Vice President and General Manager, U.S.
   · Lightelligence's June xx.xx 2026 communication explicitly identifies continuing near-packaged and co-packaged-optics development. Only the company's own development statement is used. ([lightelligence.ai](https://www.lightelligence.ai/about-us/news/dynamic/xx.xx))

28.78. Hewlett Packard Enterprise

Hewlett Packard Enterprise's documented optical-I/O role is linked to system architecture and interconnect development. Its February xx.xx 2022 collaboration with Ayar Labs targeted future HPE Slingshot interconnects and disaggregated systems, combining photonics research with commercial development. ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪

▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ At HPE's September xx.xx 2026 Networking Investor Day, management described CPO as a later opportunity, initially associated with scale-up, rather than an immediate requirement for its networking portfolio. That statement is specific to the strategy discussed; it should not be generalized into an assertion that every HPE research activity or partner-supplied product has the same status.

A buyer seeking HPE system accountability should request a model-specific offer identifying the optical architecture, integration responsibility, and supported replacement boundary before making a CPO-dependent commitment. A development collaboration and a supported equipment purchase solve different needs. ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪

Sources & Evidence

1. Hewlett Packard Enterprise and Ayar Labs Announce Strategic Collaboration and Investment to Develop Next-Generation Data Center Architectures and Networking with Optical I/O
   - HPE's February xx.xx 2022 announcement establishes an Ayar Labs collaboration covering photonics research and commercial development for future Slingshot interconnects and disaggregated systems, rather than investment alone. ([hpe.com](https://www.hpe.com/us/en/newsroom/press-release/2022/xx.xx/hewlett-packard-enterprise-and-ayar-labs-announce-strategic-collaboration-and-investment-to-develop-next-generation-data-center-architectures-and-networking-with-optical-io.html))
2. HPE Networking Investor Day - September 30, 2026
   - HPE's own networking-management comments on September xx.xx 2026 characterize CPO as a later, initially scale-up opportunity rather than an immediate portfolio requirement. This management statement is not generalized to every HPE research program or partner product. ([investors.hpe.com](https://investors.hpe.com/~/media/Files/H/HP-Enterprise-IR/documents/hpe-networking-investor-day-transcript-xx.xx-xx.xx-2026.pdf))

28.79. Synopsys

Synopsys provides CPO design software and interface IP rather than finished optical assemblies. ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ The commercially relevant capability is coordination across design domains; simulation capability does not establish acceptance of the manufactured customer package.

The combination has progressed beyond an acquisition announcement. Synopsys completed its Ansys acquisition on July xx.xx 2025, and its March 2026 optics offering describes OptoCompiler-Lumerical integration. ■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■ ■■■■■ ■■ ■■■ ■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■■■■■■■ ■■■■■ ■■■ ■■■ ■■■■■■■ ■■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■ ■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■

Access to the applicable foundry environment remains a separate prerequisite. ■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■ ■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■ ■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■ ■ ■■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■ Software selection does not substitute for fabrication, packaging, or customer qualification commitments.

Sources & Evidence

1. Synopsys Completes Acquisition of Ansys
   · Synopsys confirms completion of its Ansys acquisition on July xx.xx 2025. The official corporate disclosure uses Synopsys as the shorter name of Synopsys, Inc., supporting common-provider treatment rather than independent supplier alternatives. ([investor.synopsys.com](https://investor.synopsys.com/news/news-details/2025/Synopsys-Completes-Acquisition-of-Ansys/default.aspx))
2. Ansys Co-packaged Optics Multiphysics Platform
   · The dedicated CPO portfolio markets electronic-photonic, optical, thermal, electrical, and package-level design capabilities and identifies products including Lumerical, Zemax, 3DIC Compiler, and OptoCompiler. These are advertised software capabilities, not manufactured-package acceptance. ([ansys.synopsys.com](https://ansys.synopsys.com/en-in/applications/co-packaged-optics-solutions))
3. Optical Simulation and Design Software | Ansys Optics
   · The March 2026 optics product description identifies OptoCompiler-Lumerical integration in the 2026 R1 offering, establishing a marketed combined capability beyond the acquisition announcement. ([ansys.synopsys.com](https://ansys.synopsys.com/products/optics))
4. Ansys Lumerical Foundry Partnerships
   · The foundry-partnership documentation identifies CPO-related TSMC COUPE design support and directs customers to TSMC for access to the associated reference flows. Software access and foundry-flow access are therefore separate prerequisites. ([optics.ansys.com](https://optics.ansys.com/hc/en-us/articles/xx.xx-Ansys-Lumerical-Foundry-Partnerships))
5. From Copper to COUPE: Scaling AI Interconnects with Co-Packaged Optics
   · Synopsys' September xx.xx 2026 COUPE presentation with GUC describes interface-IP and multiphysics contributions to CPO-enabled XPU integration. It does not independently establish a customer's completed qualification. ([synopsys.com](https://www.synopsys.com/webinars/synopsys-guc-coupe.html))

28.80.Furukawa Electric Co., Ltd.

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[redacted] Furukawa also participated in joint transceiver research reported in September 2024 that combined VCSEL emitters, multicore fiber, and electrical circuitry. These activities establish different engagement points for optical-engine and package developers; the research transceiver does not establish acceptance within a customer's complete host package.

[redacted] Combining several contributions under one relationship could simplify coordination, but only if the contract identifies the supplying entities, integration responsibilities, and acceptance obligations. The alternative is separately qualified component sourcing, which preserves supplier discretion while leaving more coordination with the design owner.

The disclosed development and sampling milestones should not be treated as present delivery commitments. [redacted] The sourcing conclusion changes when an accepted component offer becomes available or when its required interfaces cannot fit the committed host architecture.

Sources & Evidence

1. An Epoch Compact Multi-Fiber Optical Connector Suitable for CPO
   · Furukawa's March xx.xx 2025 announcement documents a compact multifiber connector developed for CPO and planned sample exhibition; it establishes a connector-development milestone rather than customer system acceptance.
   ([furukawaelectric.com](https://www.furukawaelectric.com/en/release/2025/comm_20250327.html))
2. Exhibiting an External Laser Source for Co-Packaged Optics at OFC2022
   · Furukawa's March xx.xx 2022 disclosure describes an external laser source for CPO with hot-pluggable functionality and planned April 2022 sampling. These are source-specific capabilities and announced milestones.
   ([furukawaelectric.com](https://www.furukawaelectric.com/en/release/2022/comm_20220307.html))
3. Development of the World's Smallest CPO Transceiver Technology
   · The September xx.xx 2024 disclosure identifies Furukawa Electric as a participant in joint transceiver research combining VCSELs, multicore fibers, and electrical ICs. No promotional superiority claim is adopted.
   ([ff-opticalcomponents.com](https://www.ff-opticalcomponents.com/en/information/info_20240924.html))

28.81. GIGALIGHT

[redacted] This provides a component-level evaluation route for switch developers retaining host and package integration responsibility. The engine's advertised removal of DSP functionality is an architectural claim, not independently demonstrated system superiority or universal host compatibility.

[redacted] GIGALIGHT's September xx.xx 2026 announcement describes a completed engineering sample specifically as NPO and identifies thermal-mechanical compatibility and socket consistency as commercialization concerns.

That adjacent configuration must not be relabeled as an accepted first-level CPO implementation merely because the portfolio also uses CPO terminology.

[illegible] Configuration-specific evaluation is appropriate where linear-drive integration addresses a binding host requirement; an already accepted alternative is preferable when host compatibility or restoration obligations remain unsettled. A released CPO configuration with applicable customer acceptance would strengthen the supply case beyond the disclosed NPO sample milestone.

Sources & Evidence

1. 1.6T CPO DR16 Silicon Photonics Engine Solution- Enabling a new ecosystem for CPO-based switches
   · GIGALIGHT markets a socket-format linear-drive silicon-photonics engine for CPO switches and an EL-OSFP external light-source module. Its DSP-removal and efficiency statements are supplier claims, not independently established system outcomes.
   ([gigalight.com](https://www.gigalight.com/solutions-community-xx.xx.html))
2. Balancing Tech Exploration & Mass-Production Readiness: GIGALIGHT Unveils Crimp-Socket-Based 1.6T NPO for Rational High-Speed Interconnect Evolution
   · GIGALIGHT's September xx.xx 2026 announcement identifies its completed engineering sample as NPO and describes thermal-mechanical compatibility and socket consistency concerns. It distinguishes engineering feasibility from commercial manufacturing readiness.
   ([gigalight.com](https://www.gigalight.com/news-events/news-xx.xx.html))

28.82. Yangtze Optical Fibre and Cable Joint Stock Limited Company

Yangtze Optical Fibre and Cable Joint Stock Limited Company offers a specialty-fiber engagement route for CPO developers rather than evidence of a turnkey host-package offering. [illegible] The CPO-directed presentation establishes a more specific product focus, but it does not make every general-purpose fiber in the catalog a dedicated CPO deliverable.

[illegible] A prequalified fiber assembly is an alternative when the buyer cannot retain that integration responsibility. Selection should turn on an accepted CPO application and executable supply arrangement, not on the company's broader cable footprint or a related NPO application.

Sources & Evidence

1. CIOE | 2026 China International Optoelectronic Exposition
   · YOFC's official CIOE 2026 materials advertise a CPO/NPO specialty optical-fiber series and CopackAlign brand-launch program. The page establishes the advertised focus, not completion of customer qualification or a particular delivery commitment. ([en.yofc.com](https://en.yofc.com/index.php/view/xx.xx.html))
2. Specialty Fibre
   · YOFC's specialty catalog lists component-oriented polarization-maintaining fibers, lensed fibers, and specialty optical assemblies. This supports constituent capability without assigning every catalog product to CPO. ([en.yofc.com](https://en.yofc.com/index.php/list/xx.xx.html))

28.83. Anritsu Corporation

Anritsu Corporation's CPO role is verification infrastructure rather than optical-engine manufacture. Its CPO measurement materials identify the MP1900A signal-quality analyzer, MP2110A BERTWave, MS9740B optical spectrum analyzer, and MT1040A Network Master Pro. ■■■ ■■■■■■■■■■■■ ■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■■■■■■ ■■■ ■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■

A development or manufacturing organization can evaluate these complementary capabilities when it needs verification across electrical, optical, and networking boundaries. Published application coverage is a basis for selecting an instrument configuration, not customer qualification certification or a turnkey production-test commitment. ■■■■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■ ■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■ ■■■ ■■■■■■■■■ ■■■■■■

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The actual contracting entity and support obligation should also be explicit: the shorter Anritsu brand name does not, by itself, establish an independent second supplier relative to Anritsu Corporation.

Sources & Evidence

1. Evaluating Co-Packaged Optics (CPO) Performance Application Note
   · Anritsu's application note separates electrical-host, optical-engine, and Ethernet-switch evaluation and identifies Anritsu Corporation. Instrument application coverage does not establish customer qualification acceptance.
   ([dl.cdn-anritsu.com](https://dl.cdn-anritsu.com/en-en/test-measurement/files/Application-Notes/Application-Note/mp1900a-cpo-ef1101.pdf))
2. Co-Packaged Optics (CPO) Measurement Solution Leaflet
   · Anritsu's CPO leaflet identifies the MP1900A, MP2110A, MS9740B, and MT1040A instrument families for complementary CPO evaluation functions. Only commercial instrument classification is used, not testing instructions.
   ([dl.cdn-anritsu.com](https://dl.cdn-anritsu.com/en-en/test-measurement/files/Brochures-Datasheets-Catalogs/Leaflet/mp1900a-cpo-leaflet-el1100.pdf))

3. Beyond testing, beyond limits, for a sustainable future together
   · Anritsu's own data-center initiative discussion identifies CPO optical-waveform and laser evaluation within its instrument portfolio. Third-party market estimates and unrelated forecasts appearing elsewhere in the presentation are not used.
   ([dl.cdn-anritsu.com](https://dl.cdn-anritsu.com/en-en/about-anritsu/ir/other-materials/fy2025/xx.xx-01e.pdf))

28.84.PHIX Photonics Assembly

[illegible] PHIX identifies photonic-assembly facilities in Enschede, the Netherlands, and Bozeman, Montana; the supplying location and CPO-specific responsibility still need to be assigned to the individual contract. This is an assembly-service proposition, not evidence that PHIX supplies the host ASIC or a complete networking system.

[illegible] The announcement presents a pathway toward future field serviceability, not an established entitlement to replace every optical engine. Outsourcing can avoid ownership of every assembly capability, but introduces dependence on the accepted package design and contracted delivery arrangement.

Ownership interpretation also needs updating. [illegible] The newer statement does not disclose all shareholders or governance rights, so buyers seeking genuinely independent alternatives should verify those relationships rather than infer independence from separate quotations or continuing project collaboration.

Sources & Evidence

1. Datacom / CPO - PHIX Photonics Assembly
   · PHIX markets CPO co-design, fiber-to-chip coupling, electronic-photonic integration, light-source assembly, and manufacturing support. It describes work with detachable optical interfaces and external manufacturing partners. ([phix.com](https://www.phix.com/markets/datacom-cpo/))
2. SENKO and PHIX Advance European Photonics Packaging with a Serviceable Optical Interface for Multi-Chip Modules
   · The September xx.xx 2026 SENKO-PHIX announcement establishes a collaborative detachable-interface framework spanning assembly, package-level verification, and system integration. It describes future field-serviceability pathways, not universal engine-replacement entitlement.
   ([phix.com](https://www.phix.com/senko-and-phix-advance-european-photonics-packaging/))

3. About Us - PHIX Photonics Assembly
   · PHIX describes photonic assembly and contract manufacturing and identifies production facilities in Enschede, the Netherlands, and Bozeman, Montana. The disclosure does not assign every CPO contract to both facilities. ([phix.com](https://www.phix.com/about-us/))
4. Industry partners - PHIX Photonics Assembly
   · PHIX's industry-partner disclosure explicitly states that LioniX no longer owns a majority share while the companies continue collaborating. It does not disclose the complete shareholder or governance structure. ([phix.com](https://www.phix.com/partnerships/industry-partners/))
5. PHIX Photonics Assembly secures next round of financing and LioniX International obtains a majority share
   · PHIX's July xx.xx 2018 announcement reported that LioniX obtained a majority share. It establishes the historical relationship, not continuing majority ownership. ([phix.com](https://www.phix.com/wp-content/uploads/2018/xx.xx/press-release-phix-photonics-xx.xx-xx.xx-2018.pdf))

28.85. Photon Bridge

[redacted] Its offering combines III-V lasers, silicon integration, and wavelength multiplexing in a TOSA module. This creates an illumination-specialist engagement rather than a complete host-package supply proposition.

Photon Bridge describes its manufacturing approach as compatible with outsourced semiconductor assembly and test and presents its packaged sources as deployment-ready. [redacted] Its claimed flexibility across laser suppliers should likewise be assessed against the accepted finished configuration rather than treated as automatic qualification transfer.

An engine developer should evaluate the source where a matched multiwavelength illumination arrangement is required, obtaining the offered revision, wavelength compatibility, integration responsibilities, and supported maintenance boundary. [redacted] Applicable package-level acceptance and a configuration-specific delivery commitment should determine when evaluation becomes committed supply.

Sources & Evidence

1. DWDM Laser Sources | Photon Bridge
   · Photon Bridge describes multiwavelength external laser sources in a TOSA form factor, combining III-V lasers, silicon integration, and wavelength multiplexing for CPO engines. Comparative and modeled performance claims are not adopted as independently verified outcomes. ([photonbridge.com](https://www.photonbridge.com/dwdm-laser-sources))
2. Manufacturing | Photon Bridge
   · Photon Bridge describes an OSAT-compatible manufacturing approach and presents packaged external sources as deployment-ready. These are its own manufacturing and product statements, not customer-specific system acceptance evidence. ([photonbridge.com](https://www.photonbridge.com/manufacturing))

3. Photon IP Becomes Photon Bridge and Appoints Paul Marchal as CEO
   · The September xx.xx 2025 announcement documents the change from Photon IP to Photon Bridge and continuing photonic-integration development. The names represent business continuity rather than separate suppliers.
   ([photonbridge.com](https://www.photonbridge.com/news/photon-ip-becomes-photon-bridge-and-appoints-paul-marchal-as-ceo))
4. Photon Bridge Privacy Policy
   · Photon Bridge's official privacy policy identifies Photon Bridge BV in Eindhoven, the Netherlands, supporting the operating-name and legal-entity connection.
   ([photonbridge.com](https://www.photonbridge.com/privacy))

28.86. ICON Photonics

ICON Photonics, a French SAS, supplies a CPO-relevant optical-coupling and custom-design proposition rather than a complete optical-engine platform. ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ These are coupling contributions, not evidence of an active electro-optic-polymer modulation product.

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Serviceability claims require separate verification. ▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ A released detachable configuration with applicable acceptance would change that assessment; an already qualified fiber assembly remains preferable when customization offers no necessary functional benefit.

Sources & Evidence

1. Markets
   · ICON Photonics identifies custom polymer microstructures and wafer-level optical-coupling solutions for CPO. Its market description presents fiber pluggability as forthcoming rather than an established maintenance entitlement. ([icon-photonics.com](https://icon-photonics.com/markets/))
2. Our offer
   · ICON's offering includes on-chip micro-optics, surface and edge coupling, custom design and validation, and compact customized fiber-array units, with advertised development and production options.
   ([icon-photonics.com](https://icon-photonics.com/our-offer/))
3. Legal Notice - ICON Photonics
   · ICON's legal notice identifies the company as a French SAS, providing official operating-entity context without establishing its ownership structure. ([icon-photonics.com](https://icon-photonics.com/legal-notice/))

4. About Us
   · ICON's company description reports development of fiber-array units incorporating spot-size-conversion technology and continuing CPO-directed work. Its broader customer history is not treated as proof of CPO deployment. ([icon-photonics.com](https://icon-photonics.com/about-us/))

28.87. Black Semiconductor GmbH

Black Semiconductor GmbH provides a development route for graphene-based electronic-photonic integration. ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ Its Aachen-based FabONE facility is also a manufacturing-development commitment: the March xx.xx 2026 construction announcement identifies pilot production in 2027 as a target, not a completed capability.

A host developer can assess Black Semiconductor through a bounded development agreement when direct electronic-photonic integration addresses a requirement that an accepted alternative cannot meet. ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ Applicable host-package acceptance and pilot-production progress are the indicators that would justify broader sourcing consideration.

Sources & Evidence

1. Technology - Black Semiconductor
   · Black Semiconductor describes graphene modulation, photodetection, a working integrated optical-link proof of concept, and an electronic-photonic chiplet approach for CPO-relevant compute connectivity. These are company-reported development capabilities, not customer-package acceptance. ([blacksemi.com](https://www.blacksemi.com/technology))
2. FabONE construction begins: what we're building and why
   · The March xx.xx 2026 announcement records FabONE construction in Aachen and identifies 2027 pilot production as a future target. Construction and targeted production are separate milestones. ([blacksemi.com](https://www.blacksemi.com/newsroom/fabone-construction-begins))

28.88. Innolume

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Dortmund, Germany, and identifies U.S. representation; these commercial access points do not establish support for every finished CPO configuration.

Source integrators should evaluate Innolume against the required engine illumination, optical attachment, thermal environment, and accepted device reliability. ■■■■■■ ■ ■■■■■■ ■■ ■■■■■■■■ ■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■■ ■■■ ■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■ ■■■ ■■■■■■ ■■■■■■■ ■■ ■■■■ ■■■ ■ ■■■■■■■ ■■■■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■ ■■■■■ ■■■■■ ■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■ ■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ Broader reliance is appropriate only when the contracted supplying configuration and manufacturing allocation are confirmed; demonstrations in adjacent optical applications do not independently qualify a CPO source.

Sources & Evidence

1. Innolume at ECOC 2025

   · Innolume's September xx.xx 2025 announcement identifies DFB and frequency-comb lasers for CPO applications, alongside semiconductor optical amplifiers. ([innolume.com](https://www.innolume.com/news/innolume-at-ecoc-2025/))

2. Our Facilities - Innolume

   · Innolume documents in-house wafer processing, custom development, bonding and packaging, Dortmund operations, and U.S. representation. These capabilities support component sourcing, not a finished CPO-system warranty. ([innolume.com](https://www.innolume.com/our-facilities/))

3. Innolume Highlights from ECOC 2026

   · The September xx.xx 2026 update reports partner optical demonstrations and a Dortmund expansion, with equipment installation planned for the fourth quarter of 2026 and a gradual production ramp expected during 2027. It also identifies thermal management, alignment, reflections, and reliability as integration considerations. ([innolume.com](https://www.innolume.com/news/innolume-highlights-from-ecoc-2026/))

28.89. STMicroelectronics

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Developers can evaluate ST when the program benefits from discussing photonics, interface electronics, and controls within one supplier relationship. Each selected contribution still requires compatibility with the intended host, optical attachment, package environment, and acceptance owner. ■■■ ■■■■■■■■■ ■■ ■■■■■■■■■■■ ■■■■■■ ■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■ ■■■ ■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■ ■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■■■ ■

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Sources & Evidence

1. Silicon photonics - STMicroelectronics
   · ST identifies PIC100 manufacturing at Crolles and complementary BiCMOS interface and STM32 control technologies. The portfolio spans optical architectures and does not establish acceptance of every CPO combination. Embedded commercial-analyst estimates are not used. ([st.com](https://www.st.com/content/st_com/en/about/innovation-and-technology/silicon-photonics.html))
2. STMicroelectronics and the infrastructure of Cloud AI
   · ST's June xx.xx 2026 disclosure describes PIC100 TSV as development targeting NPO and CPO, separately from established PIC100 manufacturing and broader optical-engine electronics. No embedded external forecasts are adopted. ([newsroom.st.com](https://newsroom.st.com/media-center/press-item.html/f0022.html))

28.90. LioniX International BV

LioniX International BV is a custom photonic-integration partner with TriPleX silicon-nitride circuitry, design, fabrication, assembly, and companion-electronics capabilities. ■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■■■ ■■ ■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■ ■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■ ■■■■■■ ■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■ ■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ That participation establishes an enabling integration role, not availability of a finished customer-qualified CPO engine.

For a developer retaining host-design authority, LioniX offers a way to source custom optical circuitry and integration without owning every supporting capability. ■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■ ■■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■ ■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■ An accepted integrated assembly is the alternative when the purchaser cannot govern the remaining interfaces.

■■■■■■■■■ ■■■■ ■■■■■■■ ■■ ■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■ ■■■■ ■■■ ■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■ ■■■■■■■■ ■■■■■■■■■■ ■■ ■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■■■ ■■■■■■ ■■ ■■■■■■ ■■■■ ■ ■■■■■■■■ ■■■■■ ■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ The subsequent disclosure does not establish the full shareholder or governance structure. Buyers considering LioniX and PHIX as separate alternatives should verify remaining interests, control rights, contracting entities, and subcontracted delivery responsibilities before relying on independent sourcing.

Sources & Evidence

1. Industry partners - PHIX Photonics Assembly
   · PHIX explicitly states that LioniX no longer owns a majority share while the companies continue collaborating. The disclosure supports correcting the historical-majority interpretation but does not establish the complete shareholder structure, remaining interests, or governance rights. ([phix.com](https://www.phix.com/partnerships/industry-partners/))
2. PHIX Photonics Assembly secures next round of financing and LioniX International obtains a majority share
   · PHIX's July xx.xx 2018 announcement reports that LioniX obtained a majority share. It establishes the historical ownership relationship, not its continuation after PHIX's subsequent disclosure of changed majority ownership. ([phix.com](https://www.phix.com/wp-content/uploads/2018/xx.xx/press-release-phix-photonics-xx.xx-xx.xx-2018.pdf))
3. Photonic Integrated Circuits - LioniX International
   · LioniX describes custom TriPleX silicon-nitride circuitry, design, fabrication, assembly, packaging, and companion electronics. It distinguishes in-house development and manufacturing from larger manufacturing engagements involving external suppliers. These capabilities support the retained integration assessment, not automatic customer-package qualification. ([lionix-international.com](https://www.lionix-international.com/photonics/))
4. Photonic Integrated Circuit Packaging and Assembly - LioniX International
   · LioniX offers standard and custom photonic packaging, fiber-to-PIC coupling, hybrid integration of active indium-phosphide and silicon-nitride circuitry, and electronic interfaces. The requirement to allocate host approval and broader acceptance responsibilities is a conditional commercial inference from these service boundaries. ([lionix-international.com](https://www.lionix-international.com/photonics/pic-technology/assembly-and-packaging-service/))
5. FLEXIT - The High-Volume Production Line for Integrated Photonics
   · The FLEXIT consortium brochure identifies LioniX's TriPleX contribution to hybrid laser and transceiver development, collaboration with SMART Photonics, and a consortium objective involving optical engines for co-packaged applications. These historical development roles do not establish a released, customer-qualified LioniX CPO engine. ([hightechnl.nl](https://www.hightechnl.nl/wp-content/uploads/2023/xx.xx/xx.xx-flexit-brochure.pdf))

28.91. Pilot Photonics

Pilot Photonics provides an Ireland-based external-illumination development and product route for wavelength-parallel CPO architectures. ▪▪▪ ▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ These are different deliverables and commercialization milestones; the earlier integration status does not settle the subsequently offered module's acceptance.

An optical-engine developer can evaluate the standalone array where it matches an accepted illumination configuration, while considering ExCELS when correlated wavelengths address a binding architectural requirement. ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪

[redacted] A simpler accepted array remains preferable when the additional capability is unnecessary.

Sources & Evidence

1. COCOPOP: Coherent Comb for Co-Packaged Optics for AI/ML Datacentres
   · Pilot Photonics' July xx.xx 2025 update places a standalone laser-array PIC in its commercial portfolio while separately describing continuing ExCELS comb-enhanced source integration. It presents correlated-wavelength illumination as a development proposition rather than an established installed-system advantage.
   ([content.pilotphotonics.com](https://content.pilotphotonics.com/blog/cocopop-coherent-comb-for-co-packaged-optics-for-ai/ml-datacentres))
2. COCOPOP - Periodic Reporting for Period 1: Coherent Comb for Co-Packaged Optics
   · European Commission-hosted COCOPOP reporting identifies Pilot Photonics Ltd in Ireland. For April xx.xx 2024 through March xx.xx 2025, it distinguishes the standalone laser-array product from ongoing full-source integration and identifies customer trials and validation as subsequent priorities.
   ([cordis.europa.eu](https://cordis.europa.eu/project/id/xx.xx/reporting/es))

28.92. SMART Photonics

SMART Photonics offers an Eindhoven-based indium-phosphide foundry route with active and passive photonic building blocks and design-kit access through several software environments. [redacted] Developers should therefore confirm the particular wavelength, high-speed platform, and validated building blocks rather than infer their availability from the breadth of the foundry portfolio.

[redacted] Its trade-off is coordinated device integration against dependence on a joint platform and its release schedule. Programs with earlier requirements should evaluate explicitly contracted existing services or an already accepted alternative; the partnership should not be treated as evidence that every announced CPO concept is ready for delivery.

Sources & Evidence

1. SMART Photonics - Enabling InP PICs for the CPO & AI Era
   · SMART Photonics' ECOC 2025 presentation describes an InP foundry model, active and passive design-kit building blocks, heterogeneous integration, and prospective CPO architectures. Promotional comparative performance and economic claims are not adopted.
   ([ecocexhibition.com](https://www.ecocexhibition.com/wp-content/uploads/Mon-xx.xx-Michiel-B.pdf))

2. Start Production - SMART Photonics
   · SMART Photonics distinguishes design-kit access, development production, and manufacturing, lists supported design environments, and identifies its Eindhoven location. Its platform descriptions require confirmation of wavelength and high-speed availability for the customer's application. ([smartphotonics.nl](https://smartphotonics.nl/start-production))
3. SMART Photonics Partners with GlobalFoundries to Offer Industry's First Open Access Foundry Service for Integrated Silicon and Indium Phosphide Photonics Products
   · The September xx.xx 2026 announcement combines GlobalFoundries silicon photonics with SMART Photonics active InP devices and targets general availability of the joint foundry service for the second half of 2027. It does not establish immediate customer-qualified CPO delivery. ([smartphotonics.nl](https://smartphotonics.nl/knowledge-hub/smart-photonics-partners-with-globalfoundries))

28.93. Luceda Photonics

Luceda Photonics contributes design software and electronic-photonic coordination rather than finished optical hardware. Its August xx.xx 2026 release connects photonic synthesis, layout, and verification with Cadence Virtuoso Studio and Spectre environments. ■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■ ■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■ ■ ■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■ ■■ ■ ■■■■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■ ■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■

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Sources & Evidence

1. Luceda Photonics Launches E/O Co-Design Integration for Cadence to Accelerate Next-Generation Silicon Photonics for Datacenter Optics
   · Luceda announced immediate availability of its E/O Co-Design Integration for Cadence on August xx.xx 2026, including parametric transfer, constraint-aware layout, and electro-optical verification for applications including CPO. Claimed productivity improvements are not treated as independently established outcomes. ([lucedaphotonics.com](https://www.lucedaphotonics.com/blog/news-xx.xx/luceda-photonics-launches-e-o-co-design-integration-for-cadence-to-accelerate-next-generation-silicon-photonics-for-datacenter-optics-xx.xx))
2. Luceda E/O Co-Design Integration for Cadence
   · Luceda's product page describes integration with Cadence Virtuoso Studio and Spectre, PDK transfer, photonic synthesis, layout, and verification. It supports the conditional tool-selection case, not automatic package qualification. ([lucedaphotonics.com](https://www.lucedaphotonics.com/products/luceda-eo-codesign-integration-for-cadence))

3. Luceda Photonics joins forces with Semitronix to accelerate innovation in integrated photonics
   · Luceda's acquisition by SMTX Technologies Singapore Pte. Ltd., part of Semitronix, became effective August xx.xx 2025. The announcement states Belgian operating continuity; proposed organizational benefits do not establish particular contractual support outcomes. ([lucedaphotonics.com](https://www.lucedaphotonics.com/blog/news-xx.xx/luceda-photonics-joins-forces-with-semitronix-to-accelerate-innovation-in-integrated-photonics-xx.xx))

28.94. AT&S Austria Technologie & Systemtechnik Aktiengesellschaft

[redacted] The relevant proposition is a substrate capable of supporting the electrical, mechanical, and optical requirements of the selected assembly. AT&S describes prototype collaboration and development at Leoben, Austria; these statements do not establish a customer-qualified glass-core CPO package.

[redacted] Its trade-off is access to a potentially useful package architecture against additional material and assembly qualification. Retaining an adequate accepted substrate is preferable when the prospective optical function does not justify that transition.

Sources & Evidence

1. AT&S - Miniaturized Modules: HDI Boards, SiP Modules, IC Substrates
   · AT&S's module and substrate poster includes co-packaged optics among optical-module applications. This supports a dedicated interconnect contribution, not an optical engine or customer-qualified CPO package. ([ats.net](https://ats.net/wp-content/uploads/Miniaturization-poster_591x841mm-ATS-2025-xx.xx.pdf))
2. Glass Core Substrates: From R&D breakthrough to platform technology
   · AT&S describes glass-core development, prototype collaboration with semiconductor manufacturers, and its Leoben substrate center. Package-level optical integration is presented as a prospective application, not customer-qualified CPO production. ([ats.net](https://ats.net/en/glass-core-substrates-from-rd-breakthrough-to-platform-technology/))
3. AT&S Annual Report 2025/26
   · AT&S's 2025/xx.xx annual report identifies the Austrian parent and substrate activities in Leoben, Chongqing, and Kulim, together with international sales-support relationships. These broader activities do not allocate CPO production to individual facilities. ([ats.net](https://ats.net/en/download/annual-report-2025-xx.xx/?refresh=6a396c9dc4f501782148253&wpdmdl=xx.xx))

28.95. Schunk Group

Schunk Group provides CPO manufacturing enablement through AIXEMTEC, which offers modular automation for optical-interface and fiber-harness assembly, inspection, and

verification. This is a defined connectivity-assembly role rather than evidence of finished optical-engine supply. ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪

A fiber-harness or optical-connectivity manufacturer can evaluate this platform when fragmented equipment responsibilities are obstructing an identified customer program. The prerequisite is agreement on the accepted interface, delivered automation scope, traceability requirements, and installation support. ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪

Sources & Evidence

1. Optics & Photonics | Schunk Group
   · Schunk identifies AIXEMTEC as a group business offering CPO-related assembly and verification automation and describes service coverage across Europe, the Americas, and Asia. These are capability descriptions, not customer-specific acceptance guarantees.
   ([schunk-group.com](https://www.schunk-group.com/en/industries/optics-photonics))
2. Co-Packaged Optics - AIXEMTEC GmbH
   · AIXEMTEC markets a modular CPO optical-interface and fiber-harness equipment platform, identifies German engineering and manufacturing, and offers a bounded evaluation engagement before equipment commitment. The coordinated-sourcing recommendation is conditional interpretation.
   ([aixemtec.com](https://aixemtec.com/applications/cpo-optical-interface-assembly-test-aixemtec))

28.96. ASMPT

ASMPT markets several relevant bonding platforms rather than a single interchangeable CPO solution. Its March xx.xx 2026 announcement identifies AMICRA NANO for optical-electronic integration, AMICRA NOVA for photonics bonding, and MEGA for multi-chip packaging. ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪▪ ▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪

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evidence. The product announcement is not proof of qualification in an individual CPO program.

Sources & Evidence

1. ASMPT at OFC 2026 Los Angeles - Enabling scalable co-packaged optics and photonic integration | ASMPT Corporate
   · The March xx.xx 2026 announcement identifies AMICRA NANO, AMICRA NOVA, and MEGA for distinct photonic and multi-chip assembly roles. It identifies ASMPT as ASMPT Limited, headquartered in Singapore, supporting ownership-aware comparison of the overlapping titles. ([asmpt.com](https://www.asmpt.com/en/news-center/press-releases/asmpt-at-ofc-2026-los-angeles-enabling-scalable-co-packaged-optics-and-photonic-integration/))
2. Contact | ASMPT
   · ASMPT AMICRA identifies its German operation, customer-support access, and United States and Asian commercial contacts. The page does not establish a particular buyer's contracted installation or restoration entitlement. ([amicra.semi.asmpt.com](https://amicra.semi.asmpt.com/en/contact/))

28.97. FEMTOPRINT SA

[redacted] Its photonics offering also includes design-for-manufacturing services. These capabilities support a dedicated coupling or package-component engagement from Switzerland, rather than establish delivery of a complete CPO optical engine.

An optical-engine or fiber-assembly developer can evaluate FEMTOPRINT where combining optical and mechanical functions in a custom glass component addresses an identified integration problem. The engagement should retain a named package assembler and explicit responsibility for component design, acceptance, and subsequent changes. [redacted]

Sources & Evidence

1. Co-Packaged Optics & AI Factories: Why Glass | FEMTOPRINT - FEMTOPRINT SA
   · FEMTOPRINT describes CPO-relevant glass ferrules, alignment structures, waveguides, micro-optics, and package connectivity, together with engagement with optical-engine and fiber-assembly businesses. Its component capabilities do not independently establish finished-engine qualification. ([femtoprint.ch](https://www.femtoprint.ch/media/silicon-photonics-co-packaged-optics-and-the-rise-of-ai-factories-why-precision-glass-microfabrication-is-the-missing/))
2. Photonics - FEMTOPRINT SA
   · FEMTOPRINT's photonics offering lists glass waveguides, fiber ferrules, photonic connectivity, micro-optical elements, and design-for-manufacturing services, supporting a specialized component and engineering engagement. ([femtoprint.ch](https://www.femtoprint.ch/photonics.php5))

28.98. Finetech GmbH & Co. KG

Finetech GmbH & Co. KG supplies die-bonding equipment for photonic packaging, with distinct development and production offerings. [redacted] A flexible development platform can preserve architectural options, while production-oriented equipment requires a sufficiently stable requirement. Broader equipment commitment is unsuitable when recurring package changes remain unresolved or when an existing accepted bonding arrangement already satisfies the task.

Sources & Evidence

1. Finetech Showcases the Fastest FINEPLACER® Yet at LASER World of PHOTONICS 2025 | Finetech
   · Finetech's June 2025 announcement identifies FINEPLACER femto pro for applications including CPO and FINEPLACER lambda xx.xx for research and prototyping. The announced product roles are not customer-program qualification outcomes.
   ([finetech.de](https://finetech.de/news/finetech-showcases-the-fastest-fineplacer-yet-at-laser-world-of-photonics-2025/))
2. Silicon Photonics Packaging for Volume Production | Finetech
   · Finetech describes its die-bonding role in photonic-electronic packaging and engagement from feasibility through production. Only its own capability descriptions support the profile; broad industry economics and claimed comparative outcomes are not adopted.
   ([finetechusa.com](https://finetechusa.com/blog-us/silicon-photonics-packaging-volume-production/))
3. International Offices | Finetech
   · Finetech lists international offices in Germany, the United States, China, Japan, and Malaysia. Office presence supports commercial access but does not establish configuration-specific service commitments.
   ([finetechusa.com](https://finetechusa.com/company/international-offices/))

28.99. ficonTEC Service GmbH

[redacted] A September xx.xx 2026 disclosure identifies RoboTechnik as its parent and describes intended further investment. That corporate backing is relevant to the supplier relationship, but announced expansion should not be treated as already completed delivery or service capacity.

[redacted] Buyers should confirm the supplying entity and facility-specific service agreement before relying on regional coverage. A specialist stand-alone tool remains an alternative when broader automation would add dependencies without resolving a documented integration problem.

Sources & Evidence

1. RoboTechnik Hong Kong listing enables ficonTEC's next phase of growth - ficonTEC
   · The September xx.xx 2026 disclosure identifies RoboTechnik as ficonTEC's parent, describes assembly and verification equipment for CPO, and identifies support across Europe, North America, and Asia. Additional investment and expansion are presented as intentions, not completed capacity additions. ([ficontec.cn](https://www.ficontec.cn/cn/robotechnik-hong-kong-listing-enables-ficontecs-next-phase-of-growth/))
2. Service and Support Overview - ficonTEC
   · ficonTEC offers maintenance, on-site support, spare parts, upgrades, training, and tailored service agreements. These marketed services support contract-specific equipment selection, not a universal restoration guarantee. ([ficontec.com](https://www.ficontec.com/service-and-support/))

28.100. Analogue Insight

[redacted] The London-headquartered business describes distributed engineering and work within customer-controlled environments. Its group structure identifies an operating custom-design business but labels the proposed Analogue Opto photonics operation as being in preparation.

[redacted] Existing accepted IP is preferable when it already fits the host. Preparation of a photonics-focused operation is not sufficient grounds to assume a new independent supplier is available or that the proposed interface has qualified in the intended CPO package.

Sources & Evidence

1. Offering | Analogue Insight
   · Analogue Insight markets commissioned design and licensable IP, including modulator drivers, receiver electronics, silicon-photonics electrical ICs, and die-to-die interfaces. The commercial choice between existing IP and new engineering is conditional on the intended host. ([analogueinsight.com](https://analogueinsight.com/en/products/))
2. Group | Analogue Insight
   · Analogue Insight identifies a UK group parent and an operating custom-design business, while describing Analogue Opto, its silicon-photonics and CPO-focused operation, as being in preparation. This requires separation of existing engagement capability from proposed organizational availability. ([analogueinsight.com](https://analogueinsight.com/en/group/))
3. Company | Analogue Insight
   · Analogue Insight describes London headquarters, distributed engineering locations, and work within segregated customer environments under UK contracts. These own-business statements do not establish acceptance of a specific CPO interface. ([analogueinsight.com](https://analogueinsight.com/en/company/))

28.101. Nanoscribe

[illegible] PHIX separately offers services using Quantum X align, providing a customer-side equipment-use reference without establishing qualification in a particular CPO host package. Nanoscribe identifies itself as part of LAB14 Group and provides sales and support from Germany, China, and the United States, supplemented by distributors.

A developer without in-house microfabrication capability can evaluate access through a service provider before purchasing equipment. That route avoids immediate equipment ownership but leaves scheduling, implementation, and acceptance responsibilities to be negotiated. [illegible]

Sources & Evidence

1. Photonic packaging with 3D-printed optical couplers
   · Nanoscribe markets optical-coupling equipment and micro-optics capabilities explicitly linked to CPO, including interfaces on fibers, chips, and wafers. Its application claims do not independently establish qualification in a customer's complete host package. ([nanoscribe.com](https://www.nanoscribe.com/en/applications-markets/industrial-photonic-packaging/))
2. Quantum X align | High-precision 3D optics printer
   · Quantum X align is offered for aligned micro-optics on fibers, chips, and wafers. The product description supports evaluating equipment ownership for recurring interface development without adopting its numerical performance claims. ([nanoscribe.com](https://www.nanoscribe.com/en/products/quantum-x-align/))

3. Find out more about Nanoscribe - who we are and what we do.
   · Nanoscribe identifies itself as part of LAB14 Group and describes sales and support from Germany, China, and the United States alongside a distributor network. Geographic coverage does not establish a particular service entitlement. ([nanoscribe.com](https://www.nanoscribe.com/en/contact-support/about-us/))
4. 3D Microfabrication - PHIX Photonics Assembly
   · PHIX offers microfabrication services using its Nanoscribe Quantum X align tool. This corroborates equipment use and a service-access route, but does not establish acceptance in an individual CPO host package. ([phix.com](https://www.phix.com/our-offering/3d-microfabrication/))

28.102. VLC Photonics

VLC Photonics offers a fabless engineering route spanning photonic-chip design, characterization, manufacturing coordination, packaging, and foundry design kits. Hitachi High-Tech identifies VLC Photonics S.L. in Valencia, Spain, within the Hitachi group. ■■■ ■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■ ■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■ ■■■■■■ ■■■ ■■ ■■■■■■■■■■■ ■■ ■■■■■ ■■■■ ■■■ ■■■■ ■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■

A developer lacking photonic design or characterization resources can evaluate VLC as an engineering coordinator, provided the intended CPO deliverable, selected foundry, packaging partner, and acceptance owner are explicit. Coordinated development can reduce the number of interfaces the customer manages, while separately contracted services preserve more control over design and supplier selection. ■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■ ■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■ ■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■ ■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■

Sources & Evidence

1. TAVI - VLC Photonics
   · VLC's TAVI InP platform addresses custom photonic chips for CPO, pluggable, and on-board applications, including light generation, detection, and hybrid integration. It permits independently sourced fabrication contributions rather than establishing ownership of every manufacturing capability. ([vlcphotonics.com](https://www.vlcphotonics.com/tavi-platform/))
2. VLC Photonics S.L. : Hitachi High-Tech in the U.S.A.
   · Hitachi High-Tech identifies VLC Photonics S.L. in Valencia within the Hitachi group and describes a fabless business providing photonic design, characterization, packaging, manufacturing coordination, and foundry design kits. These services do not establish customer-specific CPO qualification. ([hitachi-hightech.com](https://www.hitachi-hightech.com/us/en/products/materials-components/electronics/optical/vlc.html))

28.103. Alcyon Photonics

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■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■ This gives developers using the relevant foundry platform an alternative to designing every photonic function internally. Library qualification does not establish acceptance of the customer's electronics, optical attachment, or host package.

The March 2026 memorandum with CCRAFT and izmomicro adds a proposed design-to-manufacturing route, with Alcyon contributing fabrication-ready IP and the partners contributing foundry and packaging capabilities. ■■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■ ■■■■■■ ■■■■■■■■■■■■■■■ ■■ ■■■■■■■ ■■■ ■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■ ■■■■■■■ ■■■■■■■■■ Reuse can narrow the design task, but retains dependence on platform-specific support; custom design remains appropriate when the available blocks cannot meet the binding requirement.

Sources & Evidence

1. Izmo Limited - Photonics Partnership Disclosure, March 16, 2026
   · The March xx.xx 2026 mandatory disclosure identifies Alcyon Photonics SL and its fabrication-ready IP contribution to a memorandum with CCRAFT and izmomicro. ([nsearchives.nseindia.com](https://nsearchives.nseindia.com/corporate/IZMO_16032026112922_Intimation.pdf))
2. Alcyon Photonics Releases First Photonic IP Library for Tower Semiconductor Customers
   · Alcyon's March 2026 company-issued announcement describes a Tower-qualified photonic-IP library, Luceda support, and multiplexing, polarization-management, and interferometer building blocks. ([optica.org](https://www.optica.org/about/newsroom/corporate_member_news/2026/alcyon_photonics_releases_first_photonic_ip_library_for_tower_semiconductor_customers/))

28.104. CCRAFT

CCRAFT offers Swiss thin-film lithium-niobate foundry services through shared-wafer access, dedicated fabrication engagements, and manufacturing services. ■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■ ■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■■■ The March 2026 memorandum with Alcyon and izmomicro connects its fabrication contribution to external design and CPO packaging expertise, but does not itself establish customer acceptance of an integrated assembly.

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Sources & Evidence

1. Izmo Limited - Photonics Partnership Disclosure, March 16, 2026
   · The memorandum identifies CCRAFT SA as the Swiss TFLN foundry contributor and izmomicro as the packaging contributor; it establishes a collaboration framework, not completed customer qualification. ([nsearchives.nseindia.com](https://nsearchives.nseindia.com/corporate/IZMO_16032026112922_Intimation.pdf))

2. What CCRAFT Offers for TFLN PIC Design and Integration
   · CCRAFT offers shared-wafer, dedicated, and manufacturing engagements. It labels its C-band PDK qualified and its O-band PDK under testing, with a beta introduction planned for 2026. ([ccraft.com](https://www.ccraft.com/offering))
3. CCRAFT Technology: Advanced TFLN Photonic Chip Manufacturing
   · CCRAFT describes services for fabless designers and silicon-photonics foundries, including photonic-electronic and heterogeneous integration support. These are marketed capabilities, not customer-package acceptance outcomes. ([ccraft.com](https://www.ccraft.com/technology))

28.105. Lumiphase AG

[illegible] Its company-authored presentations describe internal material, wafer-test, and backend capabilities alongside fabrication partners. The commercial role is a photonic-chip contribution that still needs compatible electronics and packaging, rather than an independently complete CPO system.

Lumiphase's 2025 commercialization plan targeted a dual-polarization IQ transmitter introduction in the second half of 2026. [illegible] Evaluation preserves access to an alternative modulation platform, but introduces additional material and packaging dependencies; retaining an adequate qualified platform remains preferable when those dependencies cannot be accepted.

Sources & Evidence

1. BTO-enhanced Silicon Photonics for Next-Generation Optical Transceivers
   · Lumiphase's 2025 presentation targeted a first DP-IQM transmitter introduction in the second half of 2026 and describes early customer packaging collaboration and external qualification samples. The introduction is a plan, not proof of completed CPO qualification. ([semi.org](https://www.semi.org/sites/semi.org/files/2025-xx.xx/Fabian_Mohn_Lumiphase.pdf))
2. Swiss High-Speed PICs for Data Centers
   · Lumiphase's November xx.xx 2025 presentation identifies internal material, wafer-test, and backend contributions alongside external silicon-photonics fabrication and packaging dependencies. ([swissphotonics.net](https://www.swissphotonics.net/libraries.files/Lumiphase_Abel.pdf))

28.106. Phanofi

Phanofi is a Denmark-based optical-interconnect developer focused on conversion between electronic and photonic signaling. Its September 2025 announcement described photonic-engine development, interconnect modules, and packaging demonstrations intended for AI data centers and telecommunications. [illegible]

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[redacted]

For a CPO design owner, the useful engagement is a bounded architecture assessment rather than assuming that an interconnect demonstration supplies a qualified first-level host-package engine. Before reserving a design position, obtain the proposed host-to-optics layout, compatible electrical interface, packaging partner, acceptance responsibilities, and delivery milestone. [redacted]

Sources & Evidence

1. Phanofi - Technology
   - Phanofi describes electronic-photonic conversion technology and identifies chip-to-chip communication as a future application. Its technology page does not establish an accepted host-package configuration. ([phanofi.com](https://www.phanofi.com/technology))
2. Phanofi to Exhibit at ECOC 2025. Meet Us in Copenhagen!
   - Phanofi's September 2025 announcement describes photonic engines under development and planned interconnect-module and packaging demonstrations for AI data centers and telecommunications. ([phanofi.com](https://www.phanofi.com/news/phanofi-to-exhibit-at-ecoc-2025-meet-us-in-copenhagen))
3. Phanofi - Contact
   - Phanofi's official contact page identifies its operating location in Denmark. ([phanofi.com](https://www.phanofi.com/contact))

28.107. Phospack

[redacted] Its CPO offering specifically addresses glass or silicon interposers connecting photonic and electronic constituents. This provides a defined package-design contribution for developers that retain their devices and system architecture, rather than requiring purchase of a finished optical engine.

The appropriate engagement is a bounded interposer design or prototype with explicit interface deliverables and a named production-transfer owner. [redacted] An integrated assembly supplier is preferable when the buyer cannot govern those interfaces; prototype acceptance and an agreed manufacturing handoff are the relevant triggers for further commitment.

Sources & Evidence

1. Co-Packaged Optics (CPO) Module Design - Phospack
   · Phospack's dedicated CPO offering identifies glass or silicon interposer design and prototypes and binds the offering to Phospack Tmi in Finland.
   ([phospack.com](https://phospack.com/co-packaged-optics-cpo-module-design/))
2. E/O Interposers Prototyping - Phospack
   · Phospack markets electro-optical interposer prototyping for electronic-photonic integration and preparation for subsequent manufacturing. This does not establish an individual customer's production qualification.
   ([phospack.com](https://phospack.com/e-o-interposers-prototyping/))

28.108. Bay Photonics

[redacted] AMS Technologies announced its acquisition of Bay in April 2026, with continued operation of the established team and facilities. The combination is intended to connect Bay's packaging expertise with broader electronics, thermal-management, and system-integration capabilities; the announcement does not establish completed CPO customer qualification.

Bay's documented hybrid-packaging work includes close integration of PICs, driver electronics, and optical constituents. [redacted] Buyers needing committed CPO production should require configuration-specific acceptance and delivery obligations rather than infer readiness from general PIC packaging experience or the acquisition.

Sources & Evidence

1. AMS Technologies AG Acquires Bay Photonics Ltd. to Expand Photonics Packaging Capabilities
   · AMS Technologies' April 2026 acquisition announcement identifies Bay's Paignton packaging, alignment, and prototyping capabilities, intended complementary integration capabilities, and continuing operation of its team and facilities.
   ([amstechnologies.com](https://amstechnologies.com/press-release-ams-technologies-ag-acquires-bay-photonics-ltd-to-expand-photonics-packaging-capabilities/))
2. Bay Photonics Confirm Hybrid PIC Packaging Capability
   · Bay documents hybrid PIC packaging with optical constituents and closely integrated driver electronics, supporting a packaging-development capability without establishing a qualified first-level host-package CPO assembly.
   ([bayphotonics.com](https://www.bayphotonics.com/bay-photonics-confirm-hybrid-pic-packaging-capability/))

28.109. Vector Photonics

Vector Photonics develops photonic-crystal surface-emitting lasers through a fabless model, retaining design knowledge while using semiconductor-foundry partners. [redacted]

[redacted] For CPO participants, this is a potential laser-development relationship requiring confirmation of the relevant illumination product and supply arrangement, not evidence of a finished optical engine.

[redacted] Development engagement offers source-design discretion but retains application-transfer uncertainty. The conclusion would strengthen with an accepted CPO illumination configuration; free-space demonstrations alone should not displace an already qualified source.

Sources & Evidence

1. Company - Vector Photonics
   · Vector Photonics describes its PCSEL development business and a fabless production model using foundry partners while retaining design knowledge. Its sourcing-flexibility claims are not treated as verified CPO qualification. ([vectorphotonics.co.uk](https://www.vectorphotonics.co.uk/company/))
2. Vector Photonics Demos Free Space Optical Communication Using a PCSEL Outside of a Lab
   · Vector's April xx.xx 2026 disclosure reports a March xx.xx 2026 outdoor free-space demonstration using its PCSELs in a Fraunhofer UK system and continuing industrial-manufacturing transfer. The demonstration is not CPO engine acceptance evidence. ([vectorphotonics.co.uk](https://www.vectorphotonics.co.uk/news/fsocdemonstration/))

28.110. Enlightra

[redacted] Its comb-laser architecture supplies multiple optical carriers, and the company describes the module as engineered for CW-WDM MSA compatibility. This establishes an illumination offering, not a data transceiver or proof of interchangeability with every CPO engine.

Enlightra's Lumentum collaboration reports successful pump-laser integration into ATLAS for technology demonstrations. The commercial implication is a more defined complementary-source arrangement, while customer-system acceptance remains a separate milestone. [redacted]

Sources & Evidence

1. ATLAS - Enlightra
   · Enlightra markets ATLAS as a CPO ELSFP illumination module with multiple comb-laser carriers and describes it as engineered for CW-WDM MSA compatibility. This is an own-product claim, not independent interoperability certification. ([enlightra.com](https://enlightra.com/products/xx.xx))
2. One Pump Laser. Multiple Optical Carriers. - Enlightra
   · Enlightra reports successful integration of a Lumentum pump laser into ATLAS for technology demonstrations. The shared optical-input architecture supports the inference that source accountability must cover its multiple carriers. ([enlightra.com](https://enlightra.com/news/xx.xx))

28.111. Lightium

[illegible] Packaging access was intended through an assembly design kit, making the commercial proposition a coordinated fabrication-to-packaging engagement rather than a finished CPO engine. Lightium's separate qualification-software collaboration also represents an announced development initiative, not evidence that a customer's complete CPO package has been accepted.

[illegible] This route can reduce the capabilities the developer must own, but introduces cross-provider coordination. An already accepted platform remains preferable when the proposed TFLN contribution does not justify those additional integration obligations.

Sources & Evidence

1. Lightium, MPI Corporation, and Axiomatic_AI Announce Strategic Partnership to Revolutionize Photonic Integrated Circuit Device Testing with AI-Driven Solutions
   · Lightium's August xx.xx 2025 announcement identifies its Swiss photonic-design and foundry business and a memorandum to develop qualification software with MPI and Axiomatic_AI. The announced software initiative does not establish completed CPO integration. ([lightium.com](https://lightium.com/ai-driven-test-platform-for-photonic-chips-by-lightium-mpi-axiomatic/))
2. Lightium and PHIX Collaborate to Unlock Seamless Ultra-High-Speed Photonic Packaging
   · The January xx.xx 2025 announcement identifies Lightium's TFLN design and foundry services, its collaboration with PHIX, and intended packaging access through an assembly design kit. It establishes a collaboration, not customer acceptance of a CPO package. ([lightium.com](https://lightium.com/lightium-and-phix-collaborate-to-unlock-seamless-ultra-high-speed-photonic-packaging/))

28.112.Mycronic

[illegible]

[redacted] Vanguard's group-hosted product literature explicitly connects facet-attached micro-optics with electro-optical engines, including CPO applications. Mycronic therefore provides a manufacturing-enablement relationship rather than an interchangeable alternative to an optical-engine supplier.

A packaging manufacturer can assess group-level engagement when die placement and optical coupling require coordinated commercial responsibility. [redacted] Mycronic and Vanguard should not be counted as independently owned sourcing alternatives; coordination within the group may simplify engagement, but genuine diversification requires an accepted alternative outside the common ownership relationship.

Sources & Evidence

1. Enabling Connections at the Speed of Light
   · Mycronic's October xx.xx 2025 communication identifies Vanguard as a Global Technologies business and describes its complementary relationship with die bonding. Common ownership supports distinguishing coordinated group engagement from independent supplier diversification. ([mycronic.com](https://www.mycronic.com/news-events/news/enabling-connections-at-the-speed-of-light/))
2. Connect the World by Lighting the Way - Vanguard Automation
   · The Mycronic-hosted brochure states that Vanguard joined Mycronic in April 2024 and identifies photonic-interconnect equipment. It explicitly links facet-attached micro-optics with electro-optical engines including CPO. ([mycronic.com](https://www.mycronic.com/globalassets/images/product-areas/photonic-interconnects/pdf/reports/vanguard-brochure-25v1.pdf))

28.113.Vanguard Automation

Vanguard Automation supplies photonic-interconnect manufacturing equipment from Karlsruhe, Germany, within Mycronic. [redacted] These are useful capabilities for heterogeneous CPO packaging, not proof of compatibility with every host-package design.

The commercial choice concerns adoption of Vanguard's interconnect toolchain rather than procurement of a complete CPO assembly. [redacted] Retain an

accepted attachment approach when changing the toolchain offers no demonstrated program benefit.

Sources & Evidence

1. Enabling Connections at the Speed of Light
   · The communication identifies Vanguard's operating relationship within Mycronic. It supports group attribution without establishing customer-specific qualification of the equipment combination. ([mycronic.com](https://www.mycronic.com/news-events/news/enabling-connections-at-the-speed-of-light/))
2. Connect the World by Lighting the Way - Vanguard Automation
   · The brochure identifies Karlsruhe-based Vanguard, SONATA1000, REPRISE1000, photonic wire bonds, and micro-optics. Its CPO application statements establish an equipment role rather than acceptance of every host-package design. ([mycronic.com](https://www.mycronic.com/globalassets/images/product-areas/photonic-interconnects/pdf/reports/vanguard-brochure-25v1.pdf))
3. vanguard SONATA1000
   · SONATA1000 is marketed for photonic interconnects across silicon photonics, silicon nitride, indium phosphide, TFLN, and several fiber interfaces. These are supplier-described compatibility capabilities, not universal package qualification. ([vanguard-automation.com](https://www.vanguard-automation.com/sonata1000/))
4. vanguard SYMPHONY - The Solution for Fully Automated Photonic Packaging and Integration of Hybrid Multi-Chip Assemblies
   · The SYMPHONY brochure describes software-defined equipment functionality and customer-specific optical interfaces. The assessment of supplier-specific toolchain dependence is a commercial inference from the combined equipment and software offering. ([mycronic.com](https://www.mycronic.com/globalassets/images/product-areas/photonic-interconnects/pdf/products/2024-xx.xx-van-myc-xx.xx-seiter-en-v2-web.pdf))
5. Professional Services & Support
   · Vanguard explicitly offers training, engineering, and maintenance services. This establishes available support categories, not the obligations or response commitments of an individual installation contract. ([vanguard-automation.com](https://www.vanguard-automation.com/services-support/))

28.114. Vario Optics

[illegible] Company-authored peer-reviewed work documents a board-level silicon-photonics integration demonstrator, while its own optical-PCB communication describes planar board integration as an alternative to traditional CPO. The distinction is commercially important: reducing discrete fiber connections or placing optical conversion near compute does not itself establish integration within the host's first-level package.

An equipment developer evaluating fiber-management alternatives can assess Vario Optics as a board-connectivity or integration partner, provided the proposed optical interfaces and actual host-package relationship are documented. [illegible] Historical board-level demonstrations should not be transferred into a commitment for an accepted CPO assembly, and an existing supported

arrangement remains preferable when board redesign does not resolve a binding requirement.

Sources & Evidence

1. vario-optics AG at LASER World of PHOTONICS 2025
   · Vario Optics' company-provided exhibitor profile identifies its Swiss location and design, development, and manufacture of polymer-waveguide electro-optical circuit boards for computing and communications. Promotional performance claims are not adopted. ([exhibitors.world-of-photonics.com](https://exhibitors.world-of-photonics.com/exhibitor-portal/2025/list-of-exhibitors/exhibitordetails/?elb=xx.xx.xx.xx.xx.xx))
2. Electronic-Photonic Board as an Integration Platform for Tb/s Multi-Chip Optical Communication
   · The peer-reviewed paper coauthored by Vario Optics documents silicon-photonics transceivers integrated with an electro-optical board. It establishes a historical board-level demonstrator, not a commercial host-package CPO assembly. ([backoffice.biblio.ugent.be](https://backoffice.biblio.ugent.be/download/xx.xx/xx.xx))
3. vario-optics' Post: A New Class of Optical Interconnects for AI Datacenters
   · Vario Optics' own public communication positions planar optical integration directly into a PCB as an alternative to traditional CPO and its fiber-pigtail arrangement. Claimed efficiency and performance advantages are not independently established here. ([linkedin.com](https://www.linkedin.com/posts/vario-optics-ag_photonics-cpo-datacenter-activity-xx.xx-QHFw))

28.115.Evatec

[redacted] The 2025 photonic-packaging program also identified Evatec with CPO-directed thin-film development. Together, these establish a specific manufacturing-enablement role without establishing a universally qualified CPO equipment configuration.

A photonic-device or packaging manufacturer should assess Evatec against the required constituent and intended factory, rather than purchase equipment on the strength of a CPO label. Selection depends on compatibility with the accepted photonic manufacturing arrangement, factory integration, and contracted equipment support. [redacted]

Sources & Evidence

1. CLUSTERLINE Family
   · Evatec's CLUSTERLINE product page identifies automated cluster-platform equipment for its manufacturing markets. Equipment configuration and customer acceptance remain separate from the marketed platform capability. ([evatecnet.com](https://evatecnet.com/products/clusterline-family/))

2. Thin Film Technologies for Wafer Level Optics
   · Evatec markets wafer-level-optics production equipment and describes platform selection according to application and factory-integration needs. Its service descriptions include remote and on-site support, spare parts, training, and upgrades. ([evatecnet.com](https://evatecnet.com/markets/wafer-level-optics-wlo/))
3. Low Loss CMOS-Compatible Silicon Nitride Photonics Utilizing Reactive Sputtered Thin Films
   · The Evatec-authored article identifies its CLUSTERLINE platform in silicon-nitride integrated-waveguide development. Only equipment and application capability are used; manufacturing instructions and market estimates are excluded.
   ([evatecnet.com](https://evatecnet.com/media/mv0p54av/layers_5_photonics_lowlosscmos.pdf))
4. 4-5 November 2025 - Photonic Packaging
   · IMAPS Italy's original November 2025 program attributes a CPO-focused thin-film-development presentation to Evatec. This establishes the listed development theme, not completed presentation, equipment delivery, or customer qualification. ([imaps-italy.it](https://www.imaps-italy.it/xx.xx-xx.xx-november-2025-photonic-packaging.html))

28.116. ColorChip

ColorChip's relevant asset is its SystemOnGlass platform, which integrates active and passive optical functions on a glass substrate and supports its optical-transceiver portfolio. Its product catalog describes extending that platform into hybrid boards and glass interposers for NPO and CPO. ■ ■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■ ■■■ ■■■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■■■■■■■■ ■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■ ■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■ ■■■■■■■■■■ ■■ ■■■■■■■■■■ ■■ ■ ■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■

A design owner can evaluate ColorChip as a glass-platform integration partner when the proposed connectivity and package arrangement address a specific requirement. ■■■ ■■■■■■■■ ■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■ ■■■■■■■ ■■■ ■■■■■ ■■■ ■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■ ■■■ ■■■■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■ ■■ ■■■ ■■■■■■■ ■■■ ■■■■■■■■■■ ■■ ■ ■■■■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ Continue with an accepted arrangement when the glass-based alternative does not justify that change.

Sources & Evidence

1. ColorChip Technology Co., Ltd. - Company Introduction and Product Overview
   · ColorChip's catalog describes SystemOnGlass active and passive optical integration and prospective extensions into hybrid boards and glass interposers for NPO and CPO. It does not establish acceptance of a particular CPO host package.
   ([color-chip.com](https://www.color-chip.com/wp-content/uploads/2025/xx.xx/ColorChip-Product-manual-V1.xx.xx-web.pdf))
2. OFC, San-Diego, March 7th-9th, 2023
   · ColorChip's March xx.xx 2023 announcement identifies a glass-interposer CPO proof-of-concept prototype. This is a historical development milestone, not confirmation of subsequent customer acceptance.
   ([color-chip.com](https://www.color-chip.com/events/march-7th-9th-2023/))

3. Contact Us - ColorChip
   - ColorChip lists Israeli and Chinese development and manufacturing operations and U.S. pre- and post-sales activity. The office descriptions do not allocate CPO production or resolve the legal supplier for a particular contract. ([color-chip.com](https://www.color-chip.com/contact-us-xx.xx/))

28.117.Saudi Basic Industries Corporation

Saudi Basic Industries Corporation contributes upstream optical-materials capability through its Specialties business. ■■■ ■■■■ ■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■ ■■ ■■■■■■ ■■■ ■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■ ■■■ ■■■■■■■ ■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■ ■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■ ■■■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■■■■■■ This positions SABIC as a materials and application-support partner, not as the supplier of a finished optical engine or host-package assembly.

The relevant customer is an optical-component developer or manufacturer considering a thermoplastic component in an accepted CPO design. Material selection should be coordinated with the component supplier and package owner because resin characteristics alone do not establish the finished part's optical, dimensional, or reliability acceptance. ■■■ ■■■■■■ ■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■ ■■■ ■■■■■■■■■■ ■■ ■ ■■■ ■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■ ■■■■■■■ ■■■■■■■■■ ■■■■■ ■■ ■■■■■ ■■■■■■■ ■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■ ■■ ■■■■■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■

Sources & Evidence

1. SABIC Integrated Annual Report 2025
   - SABIC's 2025 annual report identifies its Specialties business and EXTEM RH resins for onboard and co-packaged optics with electronic-assembly thermal compatibility. This establishes material relevance, not a finished CPO offering. ([sabic.com](https://www.sabic.com/en/Images/SABIC-Integrated-Annual-Report-2025-EN_tcm1010-xx.xx.pdf))
2. ULTEM and EXTEM Resins in Photonics
   - SABIC's photonics brochure describes optical-material properties, complex lens and alignment-feature applications, and component-design support. The recommendation to coordinate material and finished-component acceptance is an inference, not a claim of universal qualification. ([materialfinder.sabic-specialties.com](https://materialfinder.sabic-specialties.com/document-download/7d6d66cd-b097-ed11-b8f9-8bfaa12415c6))

28.118. Nova Ltd.

Nova provides metrology and manufacturing process-control equipment rather than optical engines. ■■■ ■■■ ■■■■■■■■ ■■ ■■■■■■■■ ■■■ ■■■■ ■■■ ■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■ ■■ ■■■■ ■■ ■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■ ■■■ ■■ ■ ■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■ ■■■■■■■ ■■■■■ ■■■■■■■■■■■■ ■■■■■ ■■ ■ ■■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■ Nova's 2025 technical presentation separately addressed the convergence of panel-level packaging and CPO.

A CPO fabrication or packaging buyer can evaluate WMC when geometry or surface variation creates a specific unmet measurement requirement. The commitment should identify the required manufacturing measurement, applicable substrate handling, factory connectivity, and supplier acceptance obligations. ■■■■■■■■■■■ ■■■■■■■■■■ ■■■■ ■■■■ ■■■■■■■ ■■■■■■■■ ■■■■ ■■■■■■■■■■■■ ■■ ■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■ ■■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■ ■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■ ■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■■■■

Sources & Evidence

1. Nova WMC - Next Generation Modular Optical Metrology Platform
   · Nova's WMC product page identifies modular optical metrology for xx.xx.5D and 3D packaging, warpage and surface-condition applications, several substrate formats, and factory connectivity. These are manufacturing measurements, not complete optical-link qualification. ([novami.com](https://www.novami.com/nova-product/nova-wmc/))
2. Nova WMC Expanding Adoption Across the Most Advanced Packaging Processes
   · Nova reported on July xx.xx 2026 that a foundry customer selected WMC as a tool of record following evaluation for advanced-packaging measurements. The announcement does not identify the acceptance as CPO-specific. ([novami.com](https://www.novami.com/investors/press-releases/nova-wmc-expanding-adoption-across-the-most-advanced-packaging-processes/))
3. SEMICON Korea 2025 Highlights
   · Nova's 2025 technical-program account explicitly discusses electronic-photonic integration in CPO and its relationship with panel-level packaging and metrology. This establishes application interest, not a dedicated accepted CPO installation. ([novami.com](https://www.novami.com/blog/semicon-korea-2025-highlights/))

28.119. MultiLane

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resolve responsibilities between the venture and retained businesses. Reassessment is warranted when product ownership, software support, or the customer's acceptance requirements change.

Sources & Evidence

1. Teradyne, Inc. - Form 10-Q, July 31, 2026
   · Teradyne's mandatory filing confirms formation of the Teradyne-controlled MultiLane Test Products venture on April xx.xx 2026, with MultiLane's test-and-measurement assets contributed to it and its results included in Teradyne's Product Test segment. ([investors.teradyne.com](https://investors.teradyne.com/sec-filings/all-sec-filings/content/xx.xx-xx.xx-xx.xx/xx.xx-xx.xx-xx.xx.pdf))
2. Teradyne and MultiLane Announce Formation of Joint Venture, MultiLane Test Products
   · The venture announcement distinguishes contributed test-and-measurement assets from MultiLane's retained interconnect and data-center test businesses. It presents combining instrumentation expertise with Teradyne's reach as an intended benefit, not a demonstrated customer outcome. ([investors.teradyne.com](https://investors.teradyne.com/news-events/press-releases/detail/xx.xx/teradyne-and-multilane-announce-formation-of-joint-venture-multilane-test-products))
3. MultiLane Reveals Lightwave Component Analyzer Family for Production Testing of Optical Components at Speed at ECOC 2025
   · MultiLane's September xx.xx 2025 announcement introduces the ML6404 analyzer for optical-engine production testing, describes planned sampling, and identifies compliance, interoperability, and design services. It does not establish qualification in a named CPO program. ([multilaneinc.com](https://www.multilaneinc.com/resources/Press%20Releases/ML%20LCA%20Press%20Release%20for%20ECOC%xx.xx.pdf))

28.120. McKinsey Electronics

McKinsey Electronics offers a regional component-distribution route, not an independently established optical-engine platform. ■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■ ■■■ ■■■ ■■■ ■■■■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■ ■■■■■■ ■■■■■■■ ■■■ ■■■■■■■ Samtec's own distributor directory confirms McKinsey Electronics as an authorized distribution partner, providing manufacturer-side corroboration of that channel relationship.

Authorization must still be matched to the requested optical deliverable. Samtec labels SFCC as an in-development co-packaged copper cable assembly; co-packaged terminology therefore cannot establish an optical-CPO configuration. ■■■■ ■■■■■■■■■■■ ■■■■ ■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■ ■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■■ ■■■■■ ■■■■■■■ ■■ ■■■■■ ■■ ■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■

Regional buyers can evaluate the distributor for manufacturer-authorized component sourcing and engineering escalation when the exact part and support scope are confirmed. ■■■■■■ ■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■■■■ Direct manufacturer engagement remains preferable when unresolved package architecture requires design authority that a distribution relationship does not itself confer.

Sources & Evidence

1. Electronic Component Distributor Dubai, Abu Dhabi
   · McKinsey Electronics describes component distribution and engineering support for OEM and electronics-manufacturing customers across the Middle East, Turkey, and Africa. These are its own service descriptions, not proof of optical-CPO product delivery. ([mckinsey-electronics.com](https://www.mckinsey-electronics.com/who-we-are))
2. Authorized Samtec Global Distribution Partners
   · Samtec lists McKinsey Electronics among its authorized global distribution partners. The directory confirms the relationship without specifying authorization for an individual optical-CPO configuration. ([samtec.com](https://www.samtec.com/about/location/global-distributors))
3. IN DEVELOPMENT - Si-Fly HD Co-Packaged Copper Cable Assembly - SFCC
   · Samtec classifies SFCC as an in-development Si-Fly HD co-packaged copper cable assembly. This supports distinguishing electrical co-packaging from optical-CPO supply; it does not establish McKinsey Electronics' delivery of SFCC. ([samtec.com](https://www.samtec.com/products/sfcc))

28.121.Astera Labs, Inc.

Astera Labs' completed acquisition of aiXscale Photonics adds optical-I/O coupling expertise to its fabric-switch and signal-conditioning capabilities. ■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■ ■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■ ■■■ ■■■■■■■■■ Astera describes integration into its product roadmap, rather than establishing through that acquisition announcement a released same-package optical engine.

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Sources & Evidence

1. Astera Labs Completes Acquisition of aiXscale Photonics
   · Astera confirms completion of the aiXscale Photonics acquisition and identifies optical-I/O glass-coupler and fiber-chip coupling expertise. It describes roadmap integration, expected continued Aachen operations, and commitment to both copper and optical connectivity. ([asteralabs.com](https://www.asteralabs.com/resources/blog/astera-labs-completes-acquisition-of-aixscale-photonics/))

2. Astera Labs Reports Fourth Quarter and Full Year 2025 Financial Results
   - Astera's February 2026 disclosure includes optical connectivity in the Scorpio X-Series roadmap and describes an Israeli design center focused on scale-up connectivity and memory-related research. It does not assign aiXscale's acquired coupling technology to that center. ([asteralabs.com](https://www.asteralabs.com/news/astera-labs-reports-fourth-quarter-and-full-year-2025-financial-results/))

28.122. Synopsys, Inc.

Synopsys, Inc. supplies interface IP and design-analysis capabilities rather than finished CPO hardware. ■■■ ■■■■■■■■■ ■■■ ■■■■ ■■■■■ ■■■■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■■■ ■■■■■■■ ■■■■ ■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■ Tool selection does not transfer manufacturing or system qualification to Synopsys; licensing scope, model compatibility, and signoff responsibility should be settled before design commitment.

The completed July xx.xx 2025 acquisition of Ansys adds simulation and analysis to this corporate capability. Synopsys and Synopsys, Inc. refer to the same business, not independent software-sourcing alternatives. ■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■ ■■■ ■■■■■■■■■■■■■

Sources & Evidence

1. Synopsys Completes Acquisition of Ansys
   - The Synopsys, Inc. investor announcement uses Synopsys for the acquiring company and confirms completion of the Ansys acquisition on July xx.xx 2025, adding simulation and analysis capabilities. It does not establish customer-specific integration outcomes. ([investor.synopsys.com](https://investor.synopsys.com/news/news-details/2025/Synopsys-Completes-Acquisition-of-Ansys/default.aspx))
2. From Copper to COUPE: Scaling AI Interconnects with Co-Packaged Optics
   - The September xx.xx 2026 Synopsys-GUC presentation describes CPO-enabled XPU work on TSMC COUPE involving interface IP, UCIe, and multiphysics analysis. Assigning contract and signoff responsibilities is a conditional commercial inference. ([synopsys.com](https://www.synopsys.com/webinars/synopsys-guc-coupe.html))

28.123. MediaTek Inc.

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The March xx.xx 2024 platform announcement provides a specific collaboration example: MediaTek described its own SerDes combined with RANOVUS Odin optical engines in a socketed configuration, with internal and external laser options. Those disclosed building blocks establish an integration route, not acceptance of every resulting customer

configuration. ■■■■■■ ■■■■■■ ■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■■ ■■■■■■ ■■■■ ■■■■■ ■■■■■■ ■■■■ ■■■ ■■■■■■ ■■■■■■■■■

A custom-chip sponsor should define which host and optical blocks are reused, who approves the package, and which partner owns optical attachment and verification. ■■■ ■■■■■ ■■ ■■■■■■■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■ ■■ ■■■■■■■■■■■ ■■■■ ■■ ■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■■■ Monitor configuration release and customer acceptance separately from platform demonstrations, and reassess the commitment if interface changes exceed the supported design arrangement.

Sources & Evidence

1. MediaTek - Data Center Solutions - Custom ASIC Design
   - MediaTek markets custom ASIC and AI compute-system design incorporating optical engines through standard or interposer-based packaging according to customer requirements. The page establishes offered capability, not qualification of an individual customer configuration. ([mediatek.com](https://www.mediatek.com/products/data-center))
2. 聯發科技推出前瞻共封裝光學 ASIC 設計平台，為次世代 AI 與高速運算奠基
   - MediaTek's March xx.xx 2024 announcement describes its SerDes combined with RANOVUS Odin optical engines in a socketed configuration, including internal and external laser options. It announces a platform and planned exhibition rather than customer acceptance of every configuration. ([mediatek.com](https://www.mediatek.com/zh-tw/press-room/mediatek-launches-next-generation-asic-design-platform-with-co-packaged-optics-solutions-at-ofc-2024?hs_amp=true))

28.124. JCET Group Co., Ltd.

JCET's CPO evidence concerns packaging and optical-engine integration, not a finished networking system. Its 2026 investor-relations record reports XDFOI optical-engine sample delivery and successful customer testing, describing in-package optical, electronic, and logic integration. ■■■■ ■■ ■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■ ■■■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■■ ■■■ ■■■ ■■■■■■■■■■■ Coordinated integration can consolidate the development task but creates dependence on the approved packaging combination. Unsettled release or site responsibility favors retaining an already accepted supplier until those obligations are resolved.

Sources & Evidence

1. 江苏长电科技股份有限公司 - 投资者关系活动记录表
   - JCET reports XDFOI optical-engine sample delivery and successful customer testing, describing in-package optical, electronic, and logic integration; this does not establish another host's qualification. ([sns.sseinfo.com](https://sns.sseinfo.com/resources/images/upload/xx.xx/xx.xx.pdf))

28.125. Luxshare Precision Industry Co., Ltd.

Luxshare Precision Industry Co., Ltd. offers a CPO development route through its communications subsidiary, Dongguan Luxshare Technologies. ■■■■■■■■■■■■■ ■■■■■■■■■

[illegible] These complementary capabilities make it a candidate for coordinated component development, but do not establish an accepted, complete CPO system.

The distinction between adjacent commercialization and CPO readiness is consequential. [illegible] Broader commitments should follow acceptance of the actual CPO configuration and identification of its supplying operation; the group's international service network does not determine a particular CPO manufacturing or support assignment.

28.126. HGGenuine

HGGenuine combines CPO optical-engine development with external illumination. Its September 2025 disclosure documents demonstrations of microring-based silicon-photonic engines and a DWDM ELSFP source, while its April 2026 update identifies continuing CPO work alongside NPO and high-density pluggable alternatives. [illegible]

[illegible] Separately qualified illumination remains an alternative when the host architecture is already fixed. An NPO demonstration or a replaceable source should not be interpreted as evidence of CPO-engine replacement rights.

Sources & Evidence

1. CIOE2025 | 3 大系列 20 余款产品！华工科技核心子公司华工正源多款新品首发登场 2025CIOE 中国光博会

   · HGGenuine's September xx.xx 2025 disclosure reports microring-based CPO engine and DWDM ELSFP demonstrations and states alignment of the source with identified OIF and wavelength-management specifications. It does not establish cross-supplier interchangeability. ([genuine-opto.com](https://www.genuine-opto.com/gsxw/xx.xx.jhtml))

2. 智算加速中！华工正源亮相 Open AI Infra 高速光互联论坛，CPO/NPO/XPO 多元路径点亮 AI 未来

   · The April xx.xx 2026 company update identifies continuing CPO engine work alongside separately described NPO and high-density pluggable developments. Those adjacent milestones do not establish acceptance of a CPO configuration. ([genuine-opto.com](https://www.genuine-opto.com/gsxw/xx.xx.jhtml))

28.127. Accelink

Accelink provides a light-source and optical-engine development route beyond conventional transceivers. Its March 2024 announcement reports CPO light-source demonstrations in OIF's interoperability area. ■ ■■■■■■■■■ ■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■ ■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■ ■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■ ■■■■ ■■■■■■■■■■■■■

The same September disclosure distinguishes a demonstrated NPO product from the wider CPO program and acknowledges packaging, thermal, and maintenance challenges. Buyers should obtain the exact CPO engine-source pairing and host-package acceptance evidence rather than transfer readiness from the adjacent NPO offering. ■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■ ■■■ ■■■■■■■■ ■■■■■■■ ■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■ ■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■ ■■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■

Sources & Evidence

1. Accelink's New Products Unveiled at OFC 2024

   · Accelink's March xx.xx 2024 announcement reports CPO light-source module demonstrations in OIF's interoperability area. The event establishes a source-development milestone rather than customer acceptance of a complete CPO package. ([accelink.com](https://www.accelink.com/en/lighting_your_dreams/xx.xx.html))

2. 光引未来·大咖说｜对话张博：AI 算力时代，光迅科技如何布局光互联下一代技术?

   · Accelink's September xx.xx 2026 disclosure identifies NPO/CPO engine development and in-house InP, GaAs, and silicon-photonics capabilities. It separately describes an NPO demonstration and acknowledges CPO packaging, thermal, and maintenance challenges. ([accelink.com](https://www.accelink.com/lighting_your_dreams/xx.xx.html))

28.128. Himax Technologies, Inc.

Himax contributes wafer-level optics to a joint CPO integration program with FOCI. Its January xx.xx 2026 statement confirms continuing collaboration and describes the first-generation solution as undergoing customer and partner validation, with production readiness remaining an objective. ■■■ ■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■ ■■■■■■■■■■■ ■■ ■■■■■ ■■■■■■ ■■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■ ■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■ ■ ■■■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■

[redacted] An already qualified coupling arrangement remains preferable where it meets the requirement without renewed integration. Neither the January readiness objective nor established wafer-level-optics manufacturing for other applications demonstrates release of the proposed CPO configuration.

Sources & Evidence

1. Himax Confirm CPO Collaboration and Strategic Partnership with FOCI Remain Ongoing and Unchanged
   · Himax's January xx.xx 2026 statement confirms continuing FOCI collaboration, identifies its wafer-level-optics contribution, and describes first-generation customer validation with production readiness remaining an objective. ([himax.com.tw](https://www.himax.com.tw/wp-content/uploads/2026/xx.xx/PR-Himax-Confirm-CPO-Collaboration-and-Strategic-Partnership-with-FOCI-Remain-Ongoing-and-Unchanged.pdf))
2. Himax Technologies, Inc. - August 2026 Investor Presentation
   · The August 2026 investor presentation identifies in-house wafer-level-optics fabrication and combination of Himax optics with FOCI connector technology for CPO. It does not establish release of every proposed configuration. ([himax.com.tw](https://www.himax.com.tw/wp-content/uploads/2026/xx.xx/2Q26-HIMX-Investor-Presentation-xx.xx.pdf))

28.129. Brillink Inc.

[redacted] The January 2026 PlayNitride collaboration assigns emitter contribution to PlayNitride and optical integration to Brillink; a June 2026 company-hosted report documents a subsequent joint MicroLED CPO demonstration. This establishes development progress without settling customer acceptance of a deliverable configuration.

A component entrant can assess Brillink as an integration partner when its contribution fits the selected optical architecture. [redacted] Direct engagement with the package owner is preferable when the entrant already has an approved insertion point and another integration intermediary would add obligations without resolving a capability gap.

Sources & Evidence

1. Service & Supply Chain - Brillink
   · Brillink describes a fabless offering covering architecture, PIC design, and engine design, with foundry and module-verification responsibilities assigned to partners. Its marketed MicroLED, MicroVCSEL, and silicon-photonic routes establish proposed engagement scope, not customer qualification. ([brillink.ai](https://www.brillink.ai/service-supplychain))
2. PlayNitride and Brillink Announce Strategic Collaboration to Advance Array-Based Photonic Interconnects
   · The January xx.xx 2026 issuer-authored announcement assigns optical integration to Brillink within its collaboration with PlayNitride. ([prnewswire.com](https://www.prnewswire.com/news-releases/playnitride-and-brillink-announce-strategic-collaboration-to-advance-array-based-photonic-interconnects-xx.xx.html))
3. 連訊通信攜手光循科技與錼創科技 展示 MicroLED CPO 光互連技術合作成果
   · The company-hosted June xx.xx 2026 event report records a joint MicroLED CPO demonstration involving Brillink, PlayNitride, and a connectivity partner. Only the dated demonstration event is used. ([brillink.ai](https://www.brillink.ai/news/%E9%xx.xx%A3%E8%A8%8A%E9%xx.xx%9A%E4%BF%A1%EF%BC%xx.xx%EF%BC%xx.xx%E6%B7%B1%E5%8C%96ai%E9%AB%xx.xx%E9%xx.xx%9F%E4%BA%xx.xx%E9%xx.xx%A3%E5%B8%xx.xx%E5%B1%xx.xx))

28.130. Artilux

Artilux offers a direct CPO-relevant device and interconnect proposition through its CMOS-compatible germanium-silicon platform. Its Connect portfolio separates Flash, a modulation-based scale-out architecture, from Matrix, a photodetector-array-based scale-up architecture. ■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■ ■ ■■■■■■■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■ ■■■■■■■■■■ ■■■ ■■■■ ■■■■■■■ ■■■■■ ■■■■■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■

Developers should select the engagement according to the required host interface and optical architecture, not treat Flash and Matrix as interchangeable products. ■■■■■■■■■ ■■■■■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■ ■■■■■■■ ■■ ■■■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■■■■ ■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■ ■■■■■■■■ ■■■■■■■ ■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■ ■■■■■■■■■■■■ ■■■■■ ■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■■ Procurement should advance only after the offered configuration, manufacturing responsibility, and customer acceptance are established.

Sources & Evidence

1. Overview - Artilux
   · Artilux identifies its CMOS-compatible GeSi platform and optical-interconnect product business. These company descriptions support a device-platform role, not independently verified comparative performance. ([artilux.ai](https://artilux.ai/company/overview))
2. Connect (Enterprise) - Artilux
   · Connect separates Flash's modulation-based scale-out architecture from Matrix's detector-array scale-up architecture and explicitly identifies CPO and in-package applications. Thermal and energy descriptions remain supplier claims. ([artilux.ai](https://artilux.ai/products/connect))

28.131.PlayNitride

[illegible] A June 2026 report records a joint MicroLED CPO demonstration involving both companies and a connectivity partner. These are development and demonstration milestones, not evidence that PlayNitride independently supplies a finished CPO engine or networking system.

An optical-engine developer should evaluate PlayNitride where the proposed parallel optical architecture requires its emitter contribution. [illegible] The next decision trigger is an accepted configuration with executable delivery obligations, rather than the demonstration or the collaboration's advertised performance objectives alone.

Sources & Evidence

1. PlayNitride and Brillink Announce Strategic Collaboration to Advance Array-Based Photonic Interconnects
   · The joint announcement assigns green MicroLED emitters to PlayNitride and describes planned integration with Brillink's receiver-array and coupling platform. It announces development rather than finished-equipment availability.
   ([prnewswire.com](https://www.prnewswire.com/news-releases/playnitride-and-brillink-announce-strategic-collaboration-to-advance-array-based-photonic-interconnects-xx.xx.html))
2. 連訊通信攜手光循科技與錼創科技 展示 MicroLED CPO 光互連技術合作成果
   · The dated event report identifies PlayNitride in the joint MicroLED CPO demonstration; it does not establish an independently supplied PlayNitride engine or customer-qualified system.
   ([brillink.ai](https://www.brillink.ai/news/%E9%xx.xx%A3%E8%A8%8A%E9%xx.xx%9A%E4%BF%A1%EF%BC%xx.xx%EF%BC%xx.xx%E6%B7%B1%E5%8C%96ai%E9%AB%xx.xx%E9%xx.xx%9F%E4%BA%xx.xx%E9%xx.xx%A3%E5%B8%xx.xx%E5%B1%xx.xx))

28.132. Kyocera Corporation

Kyocera supplies a package-support contribution to CPO rather than optical data conversion. [illegible] The North American announcement identifies Kyocera International as a wholly owned subsidiary of Kyocera Corporation, providing a group-linked commercial access point without determining the manufacturing assignment for a customer's substrate.

[illegible]

RESEARCH SAMPLE REPORT

[illegible] Retaining an accepted substrate remains preferable when it meets the requirement. Procurement should confirm the exact constituent, contracting entity, manufacturing responsibility, and package-level acceptance before relying on the broader Kyocera portfolio.

Sources & Evidence

1. OFC 2026 Expo to Feature Kyocera's Solutions for Next-Generation High-Speed Optics, Including Co-Packaged Optics with Superior Mechanical Reliability
   · Kyocera's March xx.xx 2026 announcement identifies ceramic-core substrates and stiffeners for CPO and chiplet integration, with mechanical integrity as their intended purpose. It identifies Kyocera International as wholly owned by Kyocera Corporation. ([americas.kyocera.com](https://americas.kyocera.com/news/2026/xx.xx/xx.xx.html))
2. Ceramic Packages, Submounts, and Lids for Optical Communications - Kyocera
   · Kyocera markets optical-communications packages, submounts, and supporting design capabilities, with support extending from material selection through development and production. This broader offering does not qualify a particular CPO assembly. ([global.kyocera.com](https://global.kyocera.com/prdct/semicon/semi/fo/5g-opto.html))

28.133. Fujikura Ltd.

Fujikura Ltd. provides a CPO connectivity contribution through its MMC connector, adapter, ferrule, and cleaning-tool portfolio. Its catalog expressly addresses co-packaged optics and supports both single-mode and multimode connectivity. [illegible] Fujikura's equity participation in US Conec also warrants ownership-aware comparison: shareholder and venture offerings should not automatically be treated as unrelated technology sources. Retaining an already accepted interface is preferable when an alternative connector would reopen package qualification without resolving a binding connectivity requirement.

Sources & Evidence

1. US Conec, Corning Incorporated, Fujikura and Sumitomo Electric Lightwave Announce Multi-Source Framework for PRIZM TMT Expanded Beam Ferrules and Associated MMC Connectors
   · The March xx.xx 2026 joint announcement enables Fujikura to produce US Conec-designed PRIZM TMT ferrules and associated MMC components. It identifies Fujikura as an equity participant in US Conec; complete CPO interchangeability is not established. ([usconec.com](https://www.usconec.com/media/h4zopm3k/us-conec-corning-fujikura-and-sumitomo-electric-joint-press-release_3-xx.xx-2026_final.pdf))

2. MMC Connector Solutions - Fujikura Ltd.
   · Fujikura's MMC catalog identifies connectors, adapters, ferrules, and cleaning support for single-mode and multimode applications and expressly lists CPO. It supports a connectivity-component role, not complete optical-engine supply. ([optic-product.fujikura.com](https://www.optic-product.fujikura.com/wp-content/uploads/2023/xx.xx/CPE03A_JSAA-xx.xx-xx.xx-xx.xx.pdf))

28.134. SCIVAX

[redacted] Its dedicated NPO/CPO service covers microlens arrays, coupling elements, diffractive optics, and waveguide components. The company identifies Japanese operations, including a Toyama factory, but the manufacturing assignment for an individual CPO contract requires confirmation.

For an optical-engine developer, the practical option is a custom micro-optics engagement that combines component design assistance with contract manufacture. This can avoid owning a separate optical-component capability while retaining responsibility for compatibility with the selected engine and package. [redacted]

Sources & Evidence

1. Photonic-Electronic Integration - SCIVAX
   · SCIVAX markets microlens arrays, optical-coupling elements, diffractive optics, waveguide components, optical-design support, and contract manufacture for NPO/CPO. Its material-reliability statements are supplier claims, not customer package acceptance. ([scivax.com](https://www.scivax.com/en/foundry/npo-cpo/))
2. Company - SCIVAX
   · The company profile identifies SCIVAX Corporation, its Japanese head office, Toyama factory, optical-product business, and specialized foundry services. It does not assign an individual CPO contract to a particular site. ([scivax.com](https://www.scivax.com/en/company/))

28.135. CompoundTek Pte Ltd

[redacted] That establishes a customer-development milestone, not acceptance of a completed host-package configuration. Its commercial role is therefore a fabrication and verification partner for developers retaining optical architecture and downstream integration responsibility.

Its shared-wafer and dedicated-run routes create a consequential purchasing choice. [redacted]

[redacted] Buyers should also identify the accepted design-kit version and packaging partner, because prototype fabrication does not independently settle production release or compatibility with the intended CPO host.

Sources & Evidence

1. CompoundTek delivers 200G/lane transmission rate prototypes to data-center customers
   · CompoundTek reports prototype delivery for applications spanning pluggable transceivers and CPO. The announcement establishes a developer milestone, not acceptance of an assembled CPO host package. ([compoundtek.com](https://compoundtek.com/compoundtek-delivers-200g-lane-transmission-rate-prototypes-to-data-center-customers/))
2. Our Silicon Photonics Foundry Services - CompoundTek Pte Ltd
   · CompoundTek offers shared-wafer and dedicated fabrication access, design support, verification, and failure analysis. Shared runs are conditional on economic feasibility and subject to schedule changes; full-wafer runs have flexible start arrangements. ([compoundtek.com](https://compoundtek.com/our-services/))

28.136. DenseLight Semiconductors

[redacted] Its broader design, manufacturing, packaging, and verification capabilities provide a development relationship beyond selection of a catalog laser. The company identifies its headquarters in Singapore.

The useful sourcing distinction is between purchasing the laser contribution and purchasing a complete supported illumination module. An optical-engine or source-module developer can evaluate DenseLight where its offered laser and customization scope match the accepted architecture. [redacted]

Sources & Evidence

1. CW DFB Lasers - DenseLight Semiconductors
   · DenseLight markets CW DFB lasers for silicon-photonics engines and CPO, describes fabrication in its own facilities, and offers customized variants. The listed laser contribution does not itself establish a complete supported replaceable-source module. ([denselight.com](https://www.denselight.com/products/high-power-cw-laser/))
2. About Us - DenseLight Semiconductors
   · DenseLight identifies Singapore headquarters and describes integrated design, manufacturing, packaging, and verification capabilities. These are its own capability disclosures, not evidence of acceptance in a named customer's CPO system. ([denselight.com](https://www.denselight.com/about-us/))

28.137. ASMPT Limited

ASMPT Limited provides CPO-enabling assembly equipment through its semiconductor-solutions portfolio. Its March xx.xx 2026 announcement identifies AMICRA NANO for precision assembly, AMICRA NOVA for higher-throughput photonic bonding, and MEGA for multi-chip integration. [redacted]

The Singapore-headquartered group has AMICRA customer support in Germany and listed commercial contacts in the United States and Hong Kong. Those access points support engagement, but installed-site service commitments remain contractual. [redacted]

Sources & Evidence

1. ASMPT at OFC 2026 Los Angeles - Enabling scalable co-packaged optics and photonic integration | ASMPT Corporate
   - ASMPT's March xx.xx 2026 announcement identifies AMICRA NANO, AMICRA NOVA, and MEGA for CPO and photonic assembly. It identifies ASMPT Limited and the Singapore-headquartered group, supporting common-company treatment of the shorter brand. ([asmpt.com](https://www.asmpt.com/en/news-center/press-releases/asmpt-at-ofc-2026-los-angeles-enabling-scalable-co-packaged-optics-and-photonic-integration/))
2. Contact | ASMPT
   - AMICRA lists German headquarters and customer support, plus U.S. and Hong Kong commercial contacts. The page supports regional engagement access, not a guaranteed installed-site service entitlement. ([amicra.semi.asmpt.com](https://amicra.semi.asmpt.com/en/contact/))

28.138. Kulicke and Soffa Industries, Inc.

Kulicke and Soffa Industries, Inc. has a CPO-linked equipment role through thermocompression bonding and advanced heterogeneous assembly. [redacted] This is stronger commercial evidence than a roadmap statement alone, but neither announcement establishes qualification of every customer's host-package design.

Manufacturing buyers should assess the offered bonder as one contribution to the approved assembly arrangement, not as a turnkey optical-package solution. [redacted]

[illegible] An existing qualified platform remains preferable when the proposed change does not resolve a demonstrated assembly requirement.

Sources & Evidence

1. Kulicke & Soffa Advances AI Infrastructure Through Co-Packaged Optics (CPO) and Advanced Packaging Leadership
   · The September xx.xx 2026 company announcement positions Kulicke and Soffa's thermocompression and advanced heterogeneous-assembly portfolio for CPO. Promotional leadership and performance-superiority claims are not adopted. ([investor.kns.com](https://investor.kns.com/2026-xx.xx-xx.xx-Kulicke-Soffa-Advances-AI-Infrastructure-Through-Co-Packaged-Optics-CPO-and-Advanced-Packaging-Leadership))
2. Kulicke & Soffa Announces Multiple Advanced Packaging Orders Supporting Long-Term AI Opportunities
   · The November xx.xx 2023 company announcement reports equipment orders principally supporting company-described silicon-photonics CPO applications. It does not disclose acceptance of every resulting host-package design. ([investor.kns.com](https://investor.kns.com/2023-xx.xx-xx.xx-Kulicke-Soffa-Announces-Multiple-Advanced-Packaging-Orders-Supporting-Long-Term-AI-Opportunities))
3. K&S Care
   · K&S Care distinguishes preventive support excluding spares and consumables from broader coverage incorporating parts and corrective maintenance. Applicability to a selected machine and destination requires contractual confirmation. ([kns.com](https://www.kns.com/products-services/ks-care))

28.139. Anritsu

Anritsu provides CPO development and validation infrastructure across electrical interfaces, optical engines, and Ethernet-switch functionality. Its dedicated application material identifies MP1900A, MP2110A, MS9740B, and MT1040A instruments for these distinct layers. [illegible]

The commercial benefit is access to several verification disciplines within one supplier relationship. [illegible] A host or engine revision should trigger reassessment of the offered configuration rather than presumed transferability of earlier validation capability.

Sources & Evidence

1. Evaluating Co-Packaged Optics (CPO) Performance Application Note
   · Anritsu's dedicated CPO material identifies MP1900A, MP2110A, MS9740B, and MT1040A across electrical, optical, and Ethernet-system evaluation. Instrument capabilities are distinct from customer package acceptance. ([dl.cdn-anritsu.com](https://dl.cdn-anritsu.com/en-en/test-measurement/files/Application-Notes/Application-Note/mp1900a-cpo-ef1101.pdf))
2. Beyond testing, beyond limits, for a sustainable future together
   · Anritsu Corporation's February 2026 presentation explicitly defines the company as Anritsu and identifies CPO waveform and laser evaluation in its own product offering. Externally attributed market commentary elsewhere in the presentation is excluded. ([dl.cdn-anritsu.com](https://dl.cdn-anritsu.com/en-en/about-anritsu/ir/other-materials/fy2025/xx.xx-01e.pdf))

28.140. Lessengers

[redacted] Its South Korean headquarters and R&D operation support a specialized optical-coupling and engine-development engagement. The September xx.xx 2025 company account reports a detachable NPO engine demonstrated with Alphawave Semi; that milestone must remain distinct from delivery of a first-level-package CPO implementation.

A host developer can evaluate Lessengers where compact optical coupling or an immersion-compatible integration concept addresses a defined requirement. [redacted] An accepted NPO alternative may be suitable where its package boundary meets the requirement; it should not be relabeled as completed CPO commercialization.

Sources & Evidence

1. Company - Lessengers
   · Lessengers positions Direct Optical Wiring for on-board, CPO, and NPO engines and identifies its headquarters and R&D operation in South Korea. These own-platform descriptions do not establish delivery of a particular CPO configuration. ([lessengers.com](https://lessengers.com/company/))
2. Lessengers Pluggable NPO Optical Engine Featured at AI Infra Summit 2025
   · The September xx.xx 2025 company account reports a detachable NPO engine in Alphawave Semi's demonstration. It expressly identifies NPO, so it does not establish first-level-package CPO delivery or equivalent CPO replacement rights. ([lessengers.com](https://lessengers.com/lessengers-pluggable-npo-optical-engine-featured-at-ai-infra-summit-2025/))

3. Lessengers to Present an Industry-First Immersion-Cooled Optical Demonstration at SC25
   · Lessengers' November xx.xx 2025 announcement describes polymer-waveguide coupling and an intended immersion-cooled NPO demonstration with Alphawave Semi. Its broader CPO applicability claim remains separate from that announced configuration. ([lessengers.com](https://lessengers.com/lessengers-to-present-an-industry-first-immersion-cooled-optical-demonstration-at-sc25/))

28.141. AIO Core Co., Ltd.

AIO Core provides an optical building-block and customization route rather than only a finished-module offering. IOCore combines silicon-photonics transmitter and receiver functions with quantum-dot illumination for short-reach multimode connectivity without engine-side clock recovery. ■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■ ■■ ■■■■■■■■■ ■■ ■ ■■■■■■ ■■■■■■ ■■■■ ■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■■■■■■ ■■ ■■■■■■■ ■■ ■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■■

A host developer can assess AIO Core when integrated illumination, multimode connectivity, and custom module support fit the intended architecture. ■■■ ■■■■■■■■ ■■■■■■■■■■ ■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■ ■■■■■■■■■■■■ ■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■■■ ■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■ ■■■ ■■■■■■■■■ ■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■ ■■■ ■■■■■■■■■■ ■■■ ■■■■■■■ ■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■ A different fiber architecture or an unsupported host pairing would require a separate acceptance case.

Sources & Evidence

1. AIO Core - Products & Solutions
   · Markets IOCore and board-installed embedded optical modules, and explicitly offers custom co-packaged-module design assistance. ([aiocore.com](https://www.aiocore.com/products))
2. AIO Core - Technology
   · Describes integrated transmit/receive functionality, quantum-dot illumination, short-reach multimode links, and operation without clock recovery. These characteristics inform configuration-fit assessment, not universal host compatibility. ([aiocore.com](https://www.aiocore.com/technology))

28.142. LightSpeed Photonics

LightSpeed Photonics' LightKonnect material identifies a board-level near-packaged optical interconnect using VCSEL-based multimode connectivity and a direct processor SerDes connection. Its 2026 company description explicitly places optics near, rather than inside, the ASIC package. ■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■ ■■ ■■■ ■■■■■■■■■ ■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■

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attachment should not be confused with field-replaceable optics; the product description does not establish installed-system replacement entitlement. LightKonnect acceptance should therefore be tracked separately from any CPO development milestone.

Sources & Evidence

1. COMPUTEX - LightSpeed Photonics Exhibitor Description
   · The company's 2026 exhibitor description identifies solderable NPO with optics outside the ASIC package. Only its own description is used, not the accompanying commentary. ([computextaipei.com.tw](https://www.computextaipei.com.tw/en/exhibitor/E443DD0CF13DE09C1D2AEC7707331298D0636733C6861689/info.html?cate=L&cr=xx.xx<=data&vt=brand-name))
2. COMPUTEX - LightKonnect Product Information
   · LightKonnect product material specifies board-level NPO, VCSEL-based multimode connectivity, and processor SerDes connections. It does not establish a same-package CPO deliverable or maintenance entitlement. ([computextaipei.com.tw](https://www.computextaipei.com.tw/en/product/CBA4659B8C39B7F7D350A53765DAB34AF9892394D2E5D5CC/info.html))

28.143. Rain Tree Photonics

Rain Tree Photonics markets customized CPO photonic engines and describes a fabless model coordinating foundry, packaging, and test partners. ■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■ ■■ ■■■ ■■■■■■■■■■ ■■ ■■■■ ■■■■■■■■■

A host developer can assess this route when silicon-photonics engine customization is needed. Before commitment, require the named manufacturing combination, electronic-interface validation, and change-control owner. ■■■■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■ ■■ ■■■ ■■■■■■■ ■■■■■■■■ ■■■ ■■■ ■■■■■■■ ■■ ■■■ ■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■

Sources & Evidence

1. Rain Tree Photonics - Company and Product Portfolio
   · Markets custom CPO engines; describes coordinated foundry, packaging, and test sourcing, with Singapore headquarters and China presence. ([raintreephotonics.com](https://www.raintreephotonics.com/))

28.144. MetaOptics

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[illegible] It should not be treated as an operating domestic supply source. The choice is between evaluating a specialized component and retaining an accepted interface; progression should follow package-specific acceptance and demonstrated manufacturing availability, not the financing announcement alone.

Sources & Evidence

1. MetaOptics - White Lion Facility and Planned U.S. Metalens Expansion
   · The September 2026 company-issued announcement reports U.S. foundry work on CPO metalens incorporation and plans for U.S. fabrication; expansion proceeds depend on warrant exercise. ([prnewswire.com](https://www.prnewswire.com/news-releases/metaoptics-secures-up-to-us10-million-investment-facility-from-white-lion-capital-its-first-us-institutional-investor-to-onshore-metalens-technology-into-the-us-xx.xx.html))
2. MetaOptics Deploys Direct Laser Writer in Taiwan
   · The September xx.xx 2025 disclosure reports direct-laser-writer deployment at a Taiwanese partner and CPO metalens development for compact receivers and transceivers. ([links.sgx.com](https://links.sgx.com/FileOpen/MOT%xx.xx-%20DLW%20Press%20Release.ashx?App=Announcement&FileID=xx.xx))

28.145. izmo Limited

izmo Limited's relevant capability is supplied through izmo Microsystems, its Bengaluru-based semiconductor-packaging subsidiary. [illegible] The offering is a specialized integration-service route for developers retaining their own devices and architecture, not proof of a universally qualified finished CPO assembly.

[illegible] Its advantage is access to complementary capabilities without owning each one; the trade-off is cross-company coordination. Customer-approved assembly and contracted delivery responsibilities should govern progression beyond development.

Sources & Evidence

1. Izmo Limited - Photonics Partnership Disclosure, March 16, 2026
   · The March xx.xx 2026 exchange disclosure identifies izmomicro as izmo Limited's packaging subsidiary, its Bengaluru operations and overseas offices, and its preferred-packaging role under the CCRAFT-Alcyon memorandum. ([nsearchives.nseindia.com](https://nsearchives.nseindia.com/corporate/IZMO_16032026112922_Intimation.pdf))
2. izmo Microsystems - Silicon Photonics Packaging & Manufacturing
   · Markets CPO packaging and heterogeneous photonic-electronic integration, with consultation, optical attachment, and verification support. These are offered services, not independent customer-qualification results. ([izmomicro.com](https://www.izmomicro.com/silicon-photonics-en-in.htm))

28.146. O-Net Technologies

O-Net Technologies' identified CPO role is external-light-source module integration. ■■■ ■■■■■ ■■■ ■■■■ ■■■■■■■■■■■■■ ■■■■ ■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■ ■■■ ■■■ ■■■■■ ■■■■■■■■■ ■■■■■ ■■■■■■ ■■■■ ■■■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■ This is a development partnership, not confirmation of an accepted source for a particular CPO engine.

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Sources & Evidence

1. Sivers Semiconductors, O-Net and Enablence Technologies Announce External Light Sources for AI Datacenters
   - The March xx.xx 2026 partnership assigns O-Net module-ODM integration of Sivers lasers and Enablence wavelength-distribution components. ([sivers-semiconductors.com](https://www.sivers-semiconductors.com/press/sivers-semiconductors-o-net-and-enablence-technologies-announce-external-light-sources-for-ai-datacenters/))

28.147. Cadence

Cadence's CPO contribution combines electrical-interface IP with electronic-photonic and package-design enablement. Its marketed short-reach SerDes IP explicitly addresses CPO among its applications. ■■■ ■■■■■■■ ■■■ ■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■ ■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■ ■■■■ ■■■ ■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■ ■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■ ■■ ■ ■■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■ ■■■ ■■■■■■■ ■ ■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■

A design sponsor can evaluate the combined IP-and-tool route when the intended process, host interface, and optical engine match the supported implementation. ■■■■■■■ ■■■ ■■■■■■■■■■ ■■ ■■■■■■■■■■■■■■■ ■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■ ■■ ■■■■■■■■■■■ ■■ ■■■■■■■■■ ■■ ■■■ ■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■ ■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■ ■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■ Changes to the optical engine, fabrication platform, or host interface should trigger reassessment rather than presumed portability of an earlier design.

Sources & Evidence

1. Lightmatter and Cadence - Optical Interconnect Collaboration
   · The January xx.xx 2026 collaboration identifies Cadence SerDes, UCIe IP, and design expertise for Lightmatter Passage CPO development. It announces integration work, not completed joint-product acceptance. ([lightmatter.co](https://lightmatter.co/press-release/lightmatter-and-cadence-collaborate-to-accelerate-optical-interconnect-for-ai-infrastructure/))
2. Cadence - 112G-VSR PAM4 SerDes PHY
   · Cadence markets short-reach SerDes IP explicitly addressing CPO applications. Product applicability does not establish compatibility with every optical engine or host. ([cadence.com](https://www.cadence.com/en_US/home/tools/silicon-solutions/design-ip/scale-up-scale-out-serdes/112g-vsr-pam4-serdes-phy.html))
3. Cadence - Advanced AI Scaling with Heterogeneous Integration
   · Cadence's September xx.xx 2026 description identifies Integrity 3D-IC, Allegro X, multiphysics capabilities, and TSMC-COUPE reference-flow support. These establish marketed design enablement, not physical-package qualification. ([community.cadence.com](https://community.cadence.com/cadence_blogs_8/b/corporate-news/posts/advanced-ai-scaling-with-3d-ic-and-heterogeneous-integration))

28.148. United Microelectronics Corporation

United Microelectronics Corporation provides a CPO-relevant foundry route through its March xx.xx 2026 partnership with HyperLight and wholly owned Wavetek. HyperLight defines the TFLN chiplet platform; UMC and Wavetek contribute manufacturing infrastructure. ■■■ ■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■ ■■■■ ■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■

Photonic developers should distinguish constituent-manufacturing readiness from complete host-package acceptance. ■■■■■■ ■■■■ ■■■■■ ■■■■ ■■■■ ■■■■■■ ■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■■■■ Broader group capabilities do not establish an interchangeable CPO source or turnkey package.

Sources & Evidence

1. HyperLight, UMC, and Wavetek Announce Strategic Partnership for High-Volume Foundry Production of TFLN Chiplet Platform
   · The March xx.xx 2026 partnership assigns platform architecture to HyperLight and manufacturing to UMC/Wavetek; UMC reports Wavetek's qualified line. ([umc.com](https://www.umc.com/en/News/press_release/Content/corporate/xx.xx))

28.149. Focuslight

Focuslight's documented CPO capability centers on optical coupling and fiber-positioning components. Its offering identifies engineered V-groove arrays, aspherical lenses, fiber couplers and collimators, and monolithic optics. ■■■■■■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■ ■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■ ■■■■■■■■■■■■ ■■ ■■■ ■■■■■■■■ ■■■■■■■■

[redacted] Developers should therefore assess a matching catalog configuration before funding custom geometry. Customization is preferable when the package requires it and delivery milestones, acceptance criteria, and change-control obligations are agreed; published component capabilities do not establish a particular customer's CPO approval.

Sources & Evidence

1. Co-Packaged Optics (CPO)
   · Focuslight identifies CPO-tailored micro-optics and lists engineered V-groove arrays, aspherical lenses, fiber couplers and collimators, and monolithic optics as related products. ([focuslight.com](https://www.focuslight.com/application/optical-communication/co-packaged-optics-cpo/))
2. Engineered V-Groove Arrays
   · Engineered V-groove arrays offer different pitches and integrated mechanical positioning features for passive alignment; Focuslight states that longer lead time may apply to customized products. These facts support the conditional catalog-versus-custom sourcing choice. ([focuslight.com](https://www.focuslight.com/product/optical-components/v-groove/v-groove-array/engineered-v-groove-arrays/))
3. Global Operations
   · The operating-location descriptions identify Focuslight Technologies Inc. in China, LIMO GmbH in Germany, and Focuslight Switzerland SA in Switzerland. They establish operating entities and locations, not component transferability between facilities. ([focuslight.com](https://www.focuslight.com/about/global-operations/))

28.150. Santec Holdings Corporation

Santec Holdings Corporation provides optical characterization and alignment-feedback capabilities through its operating companies. [redacted] Order acceptance was scheduled for October 2026, so buyers should confirm ordering status and the deliverable configuration rather than equate the announcement with completed availability.

A separate capability is optical feedback for assembly alignment. [redacted] These disclosures do not establish customer-specific production approval.

Sources & Evidence

1. santec Announces Swept Test Platform (STP-100) and High-Dynamic-Range 4-Channel Power Meter Module (MPM-315)
   · Santec LIS Corporation announced STP-xx.xx and MPM-xx.xx on September xx.xx 2026 for applications including CPO. The platform supports modular optical characterization and maintains command compatibility with existing MPM products; order acceptance was scheduled for October 2026. ([inst.santec.com](https://inst.santec.com/news/stp-xx.xx))
2. Aerotech, Santec and SENKO Collaboration Transforms Multichannel Active Alignment for Co-Packaged Optics (CPO) Production
   · The January xx.xx 2026 announcement identifies Santec's OPM-xx.xx power meter and SLS-xx.xx light source as optical-feedback contributions to PICAlign alongside Aerotech and SENKO. ([santec.com](https://www.santec.com/media/en/a648))
3. グループ会社一覧 | Santec
   · Santec's group directory places Santec LIS within Japanese manufacturing companies and identifies Santec California and Santec Canada as North American manufacturing companies, with separate sales entities. ([santec.com](https://www.santec.com/jp/about/office.html))

28.151.Aerotech Inc.

Aerotech's documented CPO contribution is precision motion control and active-alignment integration. Its January 2026 PICAlign collaboration combines the iXR3 controller, Santec optical metrology, and SENKO's detachable PIC Coupler. ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■ ■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■■■■■■■■ ■■■■ ■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■■■■■■■■■

Selection should depend on acceptance evidence for the intended optical attachment and on clearly assigned cross-vendor support duties. ■ ■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■■■■■■■■■■■■ ■■■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■ ■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■ ■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■ ■■ ■■■■ ■■■■■■■ ■■■ ■■ ■■■■■■■■ ■■ ■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■ Buyers should resolve the applicable configuration, acceptance criteria, and fault-escalation owner before making the architecture a production dependency.

Sources & Evidence

1. Aerotech, Santec and SENKO Collaboration Transforms Multichannel Active Alignment for Co-Packaged Optics (CPO) Production
   · The collaboration description identifies Aerotech motion control, synchronized acquisition, and configurable alignment objectives. Its alignment-performance example differs from Aerotech's published example, supporting caution against treating them as a common comparative benchmark. ([santec.com](https://www.santec.com/media/en/a648))

2. Aerotech, Santec and SENKO Collaboration Transforms Multichannel Active Alignment for Co-Packaged Optics (CPO) Production
   · Aerotech's January 2026 PICAlign announcement combines its iXR3 controller with Santec optical metrology and SENKO's detachable PIC Coupler, including multichannel feedback and configurable alignment objectives. The configuration establishes complementary supplier roles, not customer-line acceptance. ([aerotech.com](https://www.aerotech.com/aerotech-santec-and-senko-collaboration-transforms-multichannel-active-alignment-for-co-packaged-optics-cpo-production/))

28.152. VIAVI Solutions Inc.

[redacted] Its MAP-xx.xx platform combines optical sources, attenuation, switching, power measurement, and spectral measurement, with remote automation and backward-compatible support for MAP2xx cassettes. Manufacturers with an installed MAP environment can investigate reuse of instrumentation and automation, subject to verification of each required function rather than presumed compatibility of the complete test cell.

[redacted] Calibration and repair are offered, but site-specific support terms require confirmation. The commercial case is strongest where modular reuse addresses an accepted measurement requirement without leaving package-level verification unassigned.

Sources & Evidence

1. MAP-300 Multiple Application Platform
   · MAP-xx.xx provides modular optical measurement, remote automation, and backward-compatible MAP2xx cassette support. VIAVI also offers calibration and repair services; the conditional reuse recommendation requires verification of the customer's configuration and service entitlement. ([viavisolutions.com](https://www.viavisolutions.com/en-us/products/map-xx.xx-multiple-application-platform))
2. ECOC 2026 Shows Need for Cohesive, End-to-End Test and Measurement Frameworks
   · VIAVI's October xx.xx 2026 description connects MAP-xx.xx polarity mapping, high-density attenuation, and optical power measurement with CPO manufacturing. It states that acquisition of the DORC product line adds connector end-face and surface geometry measurement. ([blog.viavisolutions.com](https://blog.viavisolutions.com/2026/xx.xx/xx.xx/ecoc-2026-shows-need-for-cohesive-end-to-end-test-and-measurement-frameworks/))

28.153. EXFO

[redacted] It markets PIC probe stations spanning individual chips through full wafers, with optical heads and RF probing options. Semiconductor developers can assess these stations against the device's accessible interfaces; package manufacturers still need evidence that the selected measurements remain relevant after assembly.

In March 2026, EXFO announced a CPO ecosystem demonstration with Corning and GlobalFoundries linking detachable connectivity, silicon photonics, and automated die-level testing. ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪ ▪ ▪▪▪▪ ▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ Instrument supply and any contracted qualification service should be specified separately.

Sources & Evidence

1. PIC automated probe stations
   - EXFO markets configurable PIC probe stations spanning individual chips and full wafers, with optical heads and RF probes available according to the application. This supports device-access-based selection, not automatic completed-package test coverage. ([exfo.com](https://www.exfo.com/es/productos/pruebas-de-laboratorio-y-fabricacion/pic-automated-probe-stations/))
2. EXFO’s Industry-leading Innovations Supporting AI Infrastructure from Chip to System to Data Center Exhibited at OFC 2026
   - EXFO's March xx.xx 2026 announcement describes a planned CPO demonstration with Corning and GlobalFoundries involving detachable connectivity and automated die-level testing. It separately identifies BA-xx.xx-OSFP as optimized for cable and transceiver validation. ([exfo.com](https://www.exfo.com/es/empresa/noticias-eventos/press-releases/exfo-industry-leading-innovations-supporting-ai-infrastructure-ofc-2026/))

28.154. BE Semiconductor Industries N.V.

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▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪ ▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ Besi lists Datacon support in Asia, the United States, and Austria, but installation-specific capability and contracted response terms still require confirmation. The platform is relevant when hybrid-bonded integration is accepted in the customer's architecture; selecting it solely because a program carries the CPO label risks acquiring capabilities unrelated to the immediate assembly requirement.

Sources & Evidence

1. Datacon 8800 CHAMEO ultra plus AC
   · Besi markets Datacon xx.xx CHAMEO ultra plus AC for hybrid bonding and three-dimensional integration, with optical alignment, inline infrared inspection, and factory-automation interfaces. Customer-material demonstrations are offered in Singapore and Radfeld, Austria. ([besi.com](https://www.besi.com/products-technology/product-details/product/datacon-xx.xx-chameo-ultra-plus-ac/))
2. BE Semiconductor Industries N.V. Increases Long-Term Financial Targets at 2026 Investor Day
   · Besi's June xx.xx 2026 announcement identifies co-packaged optics among hybrid-bonding use cases in management's business outlook; that statement does not identify a customer-qualified CPO tool configuration. ([besi.com](https://www.besi.com/investor-relations/press-releases/details/be-semiconductor-industries-nv-increases-long-term-financial-targets-at-2026-investor-day/))
3. Customer Support
   · Besi lists Datacon support locations across Asia, in the United States, and in Austria. The directory establishes support locations rather than installation-specific service entitlements. ([besi.com](https://www.besi.com/after-sales/customer-support/))

28.155. Physik Instrumente (PI)

CPO test and assembly teams can evaluate PI as a motion-and-control subsystem supplier. ■■■ ■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■■■■■ The practical distinction is configurability across alignment tasks and mechanical layouts, not an independently established performance advantage over another motion vendor.

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Sources & Evidence

1. Photonics Alignment Automation and Semiconductor Metrology - Motion Control Solutions
   · PI documents F-xx.xx multichannel alignment systems, hexapod and piezo configurations, air-bearing alternatives, controller-embedded alignment functionality, industrial interfaces, and software support. Their relevance to a CPO machine is conditional on accepted subsystem integration. ([pi-usa.us](https://www.pi-usa.us/fileadmin/user_upload/pi_us/files/catalogs/Motion-Solutions-for-Photonics-Lasers-and-Semicon202401.pdf))
2. About PI US: Custom design & service / export controlled applications & ITAR Registered
   · PI describes itself as privately held, with development and production in North America, Europe, and Asia, and identifies PI (Physik Instrumente) L.P. as its U.S. subsidiary. ([pi-usa.us](https://www.pi-usa.us/en/about-pi/))

3. PI - Global Customer Services
   - PI's global customer-service offering includes onsite system setup, training, maintenance, and remote support. The service menu supports contracting those duties separately rather than assuming entitlement from product purchase alone. ([pi-usa.us](https://www.pi-usa.us/en/contact/service/))

28.156. Lumilens

[illegible] Buyers should require configuration-specific architecture documentation: evidence for a related pluggable design does not establish a same-package product's interfaces or replacement model.

[illegible] System developers can use milestone-based design engagement to investigate the platform, but should require documented host-package interfaces and completed qualification evidence before relying on it in a committed architecture. The partnership establishes a development route, not interchangeable production supply.

Sources & Evidence

1. Photonic Interconnects
   - Lumilens markets pluggable, near-packaged, and co-packaged interconnects for scale-up and scale-out applications, describes its own silicon design, and identifies partner contributions in photonic circuits and fiber connectivity. Category breadth does not establish configuration equivalence. ([lumilens.com](https://lumilens.com/photonic-interconnects))
2. POET Technologies and Lumilens Advance Wafer-Level Photonic Integration for Next-Generation AI Optical Networks
   - The joint announcement dated May xx.xx 2026 establishes Lumilens and POET's development-and-supply relationship for Electrical-Optical Interposer engines. It sets expected samples for late 2026 and production aligned with 2027 deployments; fulfillment depends on development, module qualification, and manufacturing scale-up. ([poet-technologies.com](https://www.poet-technologies.com/news/poet-technologies-and-lumilens-advance-wafer-level-photonic-integration-for-next-generation-ai-optical-networks))

28.157. Ericsson

Ericsson's defensible CPO capability is radio-access-specific research and integration knowledge, rather than an established catalog of commercially qualified optical engines. [illegible] These developments address practical differences between controlled data-center installations and radio sites.

For optical-component developers, Ericsson is therefore a potential RAN requirements and development counterpart. ■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■ ■■■ ■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■ ■■■ ■■■■■■■■■■ ■ ■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■ ■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■ Ericsson's demonstrated external-source approaches also have configuration-dependent limitations, making compatibility with the intended photonic architecture an early decision gate.

Sources & Evidence

1. **New features make co-packaged optics suitable for future radio networks**
   · Ericsson reports a joint Nubis demonstration addressing radio-unit thermal operation, standard-fiber compatibility, and automated eye safety. It distinguishes demonstration progress from continuing RAN validation. ([ericsson.com](https://www.ericsson.com/en/blog/2024/xx.xx/new-features-make-co-packaged-optics-suitable-for-future-radio-networks))
2. **Ericsson and McGill University unveil silicon photonic chip to enable high capacity and energy efficient optical interconnections in 6G RAN**
   · Ericsson's July xx.xx 2025 publication reports a McGill collaboration demonstrating polarization-control photonic chips and explains configuration limitations of its earlier external-source approach. These are research milestones, not commercial-product acceptance. ([ericsson.com](https://www.ericsson.com/en/blog/north-america/2025/ericsson-mcgill))

28.158. Soitec

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The commercial selection belongs primarily with the foundry or photonic-device developer specifying the wafer platform. Buyers should confirm the accepted substrate specification, manufacturing site, change-notification obligations, and continuity arrangements within their qualified fabrication route. ■■■■■■■■ ■■■■■■ ■■■■■ ■■ ■■■ ■■■■■■■■■ ■■■■ ■■■■■ ■■■■■ ■■ ■■■■■■■■■■■■■■ ■■ ■■■■■■■■ ■■ ■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■ ■■■■ ■■■■■ ■■■■■■■■■■■■■ ■ ■■■■■■ ■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■ ■■■ ■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■ ■ ■■■■■■■■■■ ■■■ ■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■

Sources & Evidence

1. Soitec contributes to accelerated development of integrated optical connectivity solutions for AI datacentres with its silicon photonics SOI technology
   · Soitec's March xx.xx 2025 announcement connects its Photonics-SOI engineered substrates to CPO development. Promotional leadership and system-performance claims are not used. ([soitec.com](https://www.soitec.com/home/group/corporate/newsroom/press-releases/2025/xx.xx/xx.xx/soitec-contributes-to-accelerated-development-of-integrated-optical-connectivity-solutions-for-ai-datacentres-with-its-silicon-photonics-soi-technology))
2. Photonics-SOI substrates
   · Soitec describes Photonics-SOI as a silicon-on-insulator substrate platform for photonic integration and optical communications, supporting its material-platform role rather than a finished-engine offering. ([soitec.com](https://www.soitec.com/home/products/product-platforms/photonics-soi))
3. Semiconductors Fabs
   · Soitec lists Photonics-SOI technology at Bernin sites in France and Pasir Ris sites in Singapore. Site listings do not establish grade-specific customer acceptance or interchangeability. ([soitec.com](https://www.soitec.com/home/technology/manufacturing/semiconductor-fabs))

28.159. ACON OPTICS

[redacted] Its broader stated capabilities include precision molding, automated assembly, testing equipment, and independent product design. Together, these support consideration as an optical-interface and connectivity-component supplier rather than establishing responsibility for the complete optical engine or host assembly.

Package developers should evaluate ACON's detachable interface against the intended chip, fiber arrangement, mechanical envelope, and accepted assembly. [redacted] The manufacturing description supports engineering engagement, not a claim of customer-specific CPO qualification.

Sources & Evidence

1. CPO Edge Coupling - ACON OPTICS
   · ACON's product page markets a detachable modular edge-coupling interface for CPO and silicon-photonics interconnects. It does not establish replacement authorization for an entire optical engine. ([aconoptics.com](https://www.aconoptics.com/tw/product/overview/%E8%A2%AB%E5%8B%xx.xx%E5%xx.xx%xx.xx%E4%BB%B6/CPO/CPO_Edge_Coupling))
2. Capability - ACON OPTICS
   · ACON describes precision injection capabilities, automated assembly, testing equipment, and independent research and product design. These are stated general manufacturing capabilities, not customer-specific CPO qualification outcomes. ([aconoptics.com](https://www.aconoptics.com/en/about/detail/Capability))

28.160. RVi

RVi, identified in its announcements as Taiwan-based Rayleigh Vision Intelligence Co., Ltd., develops optical engines and advanced packaging. Its XmartLink offering integrates electronic ICs and micro-VCSEL light sources, with configurations described for both CPO and NPO. ▪▪▪▪ ▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪

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Sources & Evidence

1. RVi Showcases XmartLink™ Optical Engine at OFC 2026, Targeting High-Bandwidth and Low-Power Challenges in AI Data Centers
   · RVi's March xx.xx 2026 announcement identifies its Taiwan-based supplying business and describes XmartLink with electronic ICs, integrated micro-VCSEL sources, CPO/NPO configurations, and a claimed hot-swappable design. Configuration-specific serviceability remains a verification requirement. ([rvi-ai.com](https://rvi-ai.com/news/rvi-showcases-xmartlink%E2%xx.xx%A2-optical-engine-at-ofc-2026-targeting-high-bandwidth-and-low-power-challenges-in-ai-data-centers))
2. Micro-VCSEL for Co-Packaged Optics: RVi's Optical Engine Breakthrough at ECTC 2026
   · RVi's June xx.xx 2026 disclosure reports an optical-engine demonstration using micro-VCSEL packaging and a co-designed two-dimensional fiber-array interface, while describing continuing progress toward production. ([rvi-ai.com](https://rvi-ai.com/news/micro-vcsel-for-co-packaged-optics-rvi-s-optical-engine-breakthrough-at-ectc-2026))

28.161. Alphawave IP Group plc

Alphawave IP Group plc, operating as Alphawave Semi, contributes electronic connectivity and chiplet technology to CPO integration. ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪ Qualcomm completed its acquisition of Alphawave IP Group plc on December xx.xx 2025, changing the business's ownership and commercial context.

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[redacted] Qualcomm ownership does not itself establish that every earlier collaboration or licensing arrangement continues unchanged. Supplier comparisons should recognize the acquired business's ownership rather than treating it as an independent corporate alternative.

Sources & Evidence

1. Lightmatter Announces Passage L200, the Fastest Co-Packaged Optics for AI
   · Lightmatter's March xx.xx 2025 Passage L200 announcement identifies Alphawave's electrical IC, UCIe interface, and optics-ready SerDes as constituent technologies. Only the product relationship is used; attributed analyst commentary is excluded.
   ([lightmatter.co](https://lightmatter.co/press-release/lightmatter-announces-passage-l200-the-fastest-co-packaged-optics-for-ai/))
2. Qualcomm Completes Acquisition of Alphawave Semi
   · Qualcomm announced completion of its acquisition of Alphawave IP Group plc, identified as Alphawave Semi, on December xx.xx 2025. The announcement establishes ownership, not product-specific continuation or contracting allocation.
   ([qualcomm.com](https://www.qualcomm.com/news/releases/2025/xx.xx/qualcomm-completes-acquisition-of-alphawave-semi))

28.162. Mixx Technologies, Inc.

[redacted] Mixx describes headquarters in San Jose with development operations in India and Taiwan. The acquisition adds internal electronic-design capability; the manufacturing collaboration remains a partner-dependent delivery route.

Mixx also describes continuing platform and assembly-process qualification. A customer should therefore structure engagement around defined development and acceptance milestones, with responsibility for packaging changes and failed acceptance assigned before a supply commitment. [redacted]

Sources & Evidence

1. Mixx Technologies Acquires Sophic Silicon Technologies and Announces Manufacturing Collaboration with Kaynes Semicon
   · Mixx's July xx.xx 2026 announcement reports the completed Sophic Silicon acquisition, HBxIO development, and a Kaynes Semicon assembly-and-test collaboration. It identifies U.S., Indian, and Taiwanese operations and continuing platform and process qualification.
   ([mixxtech.io](https://mixxtech.io/mixx-technologies-acquires-sophic-silicon-technologies-and-announces-manufacturing-collaboration-with-kaynes-semicon/))

RESEARCH SAMPLE REPORT

28.163. Shenzhen Wioptic Photonics Ltd.

Shenzhen Wioptic Photonics Ltd. markets fiber arrays and fiber-array units for CPO optical-engine coupling. Its stated engineering support includes coupling and tolerance modeling, high-density fiber alignment, metrology, and custom OEM/ODM development. [redacted]

[redacted] Custom engineering can accommodate a particular photonic package, but may create supplier-specific dependencies. Named product families and manufacturing descriptions do not establish interchangeability or customer-approved CPO delivery; those conditions should be resolved before design freeze.

Sources & Evidence

1. Wioptic Photonics - Application Areas
   - Wioptic identifies fiber arrays and FAUs for CPO coupling, custom OEM/ODM support, and engineering capabilities including tolerance modeling, fiber alignment, and metrology. Its contact section names Shenzhen Wioptic Photonics Ltd.; the descriptions do not establish a customer's approved configuration. ([wioptic.com](https://www.wioptic.com/applications))

28.164. Advantest

Advantest supplies the electronic test platform and instrument-control capabilities within a CPO manufacturing-test ecosystem. FormFactor identifies Advantest as a TRITON co-developer and describes integration with its 93k tester for combined optical and electrical wafer measurements. [redacted]

Foundries and assembly-and-test providers should assess the complete test cell rather than the tester alone. [redacted] An integrated cell can consolidate measurement coordination while retaining multi-supplier dependencies; a wafer-level capability does not automatically resolve packaged-device acceptance.

Sources & Evidence

1. TRITON™ High-Volume Silicon Photonics Production Test Cell System
   - FormFactor identifies Advantest as a TRITON co-developer and describes integration with its 93k tester for combined optical and electrical wafer measurements in applications including CPO. ([formfactor.com](https://www.formfactor.com/product/probe-systems/high-volume-manufacturing/triton/))

2. Photonics - V93000 - ADVANTEST CORPORATION
   · Advantest describes V93000 EXA Scale optical instrumentation controlled through SmarTest, partner-dependent optical probing, and the lack of a standardized packaged-device optical connector. These support complete-cell rather than tester-only selection. ([advantest.com](https://www.advantest.com/en/products/semiconductor-test-system/soc/v93000/silicon-photonics-solutions/))
3. Americas - Offices / Subsidiaries - ADVANTEST CORPORATION
   · Advantest lists Advantest America, Inc. in San Jose, establishing a U.S. corporate presence without determining TRITON-specific integration or support responsibilities. ([advantest.com](https://www.advantest.com/en/about/offices/america-offices/))

28.165. Tokyo Electron

Tokyo Electron's documented CPO contribution is coordinated wafer-test infrastructure. ■■■■■■■■■■ ■■■■■ ■■■ ■■ ■ ■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■ ■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■ ■ ■■■■■■■■■■■■ ■■■■■■■■■ This collaboration establishes manufacturing-test enablement, not a finished optical-engine or host-assembly supply commitment from TEL.

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■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■ ■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■ ■■ ■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■ ■■■■■ ■■■■■■ ■■■ ■■■■■■■■■ ■■ ■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■ ■■■■■■■■■■■■■ ■■ ■■■ ■■■■■■■■■■ ■■■■■ ■■■■ ■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■■■ ■■■■■■■■ ■■ ■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■ ■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■ An integrated cell may reduce the burden of combining separate test systems, at the cost of dependence on the accepted partner configuration. Wafer-level test capability still does not establish qualification of the packaged CPO system.

Sources & Evidence

1. TRITON™ High-Volume Silicon Photonics Production Test Cell System
   · FormFactor identifies TEL, FormFactor, and Advantest as TRITON developers and markets the silicon-photonics test cell for applications including CPO. ([formfactor.com](https://www.formfactor.com/product/probe-systems/high-volume-manufacturing/triton/))
   · TRITON's stated capabilities include optical and electrical wafer measurements, edge and surface coupling, and integration with Advantest's tester and FormFactor probing products. These are vendor-described capabilities, not customer-specific acceptance evidence. ([formfactor.com](https://www.formfactor.com/product/probe-systems/high-volume-manufacturing/triton/))

2. TRITON™ - Scaling Silicon Photonics Wafer Test for High-Volume Manufacturing
   - FormFactor describes TRITON as combining optical probing, electrical testing, automated wafer handling, and factory automation in a synchronized platform developed with Advantest and Tokyo Electron. ([formfactor.com](https://www.formfactor.com/blog/2026/triton-scaling-silicon-photonics-wafer-test-for-high-volume-manufacturing/))
   - The supplier presents integration as an alternative to combining fragmented test systems. Reduced customer coordination is a conditional commercial implication, not an independently demonstrated outcome for every installation. ([formfactor.com](https://www.formfactor.com/blog/2026/triton-scaling-silicon-photonics-wafer-test-for-high-volume-manufacturing/))
3. Test Prexa™ Series - Tokyo Electron
   - TEL offers Prexa automated wafer probers and connects their capabilities to known-good-die testing and advanced packaging. The product description does not identify Prexa as the supplied prober in a particular TRITON configuration. ([tel.com](https://www.tel.com/product/prexa.html))
4. Group Company - Tokyo Electron
   - TEL's group directory assigns test-system development and manufacturing to Tokyo Electron Technology Solutions. That corporate role does not identify the contracting entity for a specific TRITON installation. ([tel.com](https://www.tel.com/about/locations/index.html))
   - The directory identifies sales and service organizations in the United States, Europe, and Asian jurisdictions, establishing broader geographic support infrastructure rather than model-specific TRITON service entitlements. ([tel.com](https://www.tel.com/about/locations/index.html))
5. Engineering Services - Tokyo Electron
   - TEL's engineering-services offering includes resident field engineers, preventive maintenance, telephone support, remote equipment-data analysis, and a customer portal covering equipment information and spare parts. The described support plans concern TEL equipment. ([tel.com](https://www.tel.com/product/service/engineering-services/))

28.166. Kaynes Technology India Limited

[illegible] On July xx.xx 2026, Mixx announced a multi-year collaboration with Kaynes Semicon to establish dedicated assembly and test capability for optical ICs supporting its HBxIO CPO platform. Mixx described qualification work as underway, so the announcement is a development and manufacturing-collaboration milestone rather than evidence of completed customer-specific qualification.

Kaynes Semicon's own R&D materials emphasize heterogeneous integration, interposer design, optical-chip technologies, and glass-related advanced packaging, and invite collaboration. [illegible] The optical program's assigned site, line, and acceptance status therefore need to be distinguished from general facility operation.

Optical-subsystem developers can request a scoped packaging-and-test development proposal when an India-based supply route fits their program. [illegible]

[redacted] A buyer seeking an already accepted replacement should not treat general OSAT capability as configuration-specific CPO readiness.

Sources & Evidence

1. Mixx Technologies Acquires Sophic Silicon Technologies and Announces Manufacturing Collaboration with Kaynes Semicon
   - Mixx's July xx.xx 2026 announcement describes a multi-year Kaynes Semicon collaboration to establish dedicated optical-IC assembly and test capability supporting its HBxIO CPO platform. ([mixxtech.io](https://mixxtech.io/mixx-technologies-acquires-sophic-silicon-technologies-and-announces-manufacturing-collaboration-with-kaynes-semicon/))
   - Mixx states that collaboration is underway and focused on qualification. The announcement identifies Kaynes Semicon's Sanand infrastructure but does not establish completed customer acceptance or unrestricted access for unrelated programs. ([mixxtech.io](https://mixxtech.io/mixx-technologies-acquires-sophic-silicon-technologies-and-announces-manufacturing-collaboration-with-kaynes-semicon/))
2. Kaynes Technology India Limited - Collaborative Triumph: AOS, Kaynes Semicon, and Mitsui Join Forces, October 15, 2025
   - Kaynes Technology India Limited's October xx.xx 2025 exchange disclosure identifies Kaynes Semicon Private Limited as wholly owned, supporting parent-level representation of the subsidiary's capability. ([kaynestechnology.co.in](https://www.kaynestechnology.co.in/doc/Stock-Exchange-Disclosures/Press%20release-%20Kaynes%20Semicon%2C%20AOS%20and%20Mitsui.pdf))
   - The disclosure reports an intelligent power module assembled, tested, and delivered from Sanand. This establishes broader manufacturing activity, not optical-IC qualification or CPO delivery. ([kaynestechnology.co.in](https://www.kaynestechnology.co.in/doc/Stock-Exchange-Disclosures/Press%20release-%20Kaynes%20Semicon%2C%20AOS%20and%20Mitsui.pdf))
3. Research & Development - Kaynes Semicon
   - Kaynes Semicon describes CPO R&D involving heterogeneous integration, interposer design, optical-chip technologies, and glass-related packaging, and invites partnerships. These statements establish research priorities and collaboration interest rather than qualified availability of every listed capability. ([kaynessemicon.com](https://www.kaynessemicon.com/research-development/))

29. Companies Covered

Table 972. Global Co-Packaged Optics Market, Companies Covered

Company
Accelink
ACON OPTICS
Advantest
Aehr Test Systems
Aeluma, Inc.
Aerotech Inc.
AIO Core Co., Ltd.
Alchip
Alcyon Photonics
Alfalume, Inc.
Aloe Semiconductor, Inc.
Alphawave IP Group plc
AMD
Amkor Technology, Inc.
Analog Photonics
Analogue Insight
Anritsu
Anritsu Corporation
Artilux
ASE Technology Holding Co., Ltd.
ASMPT
ASMPT Limited
Astera Labs, Inc.
AT&S Austria Technologie & Systemtechnik Aktiengesellschaft
Avicena
Ayar Labs
Bay Photonics
BE Semiconductor Industries N.V.
Black Semiconductor GmbH
Brillink Inc.

Table 972 - continued

Company
Broadcom
Browave
Cadence
CCRAFT
Celestica
Ciena
Cisco
Coherent
ColorChip
CompoundTek Pte Ltd
Corning Incorporated
Credo Technology Group Holding Ltd
Dell Technologies, Inc.
DenseLight Semiconductors
Dream Photonics
Enablence Technologies Inc.
Enlightra
Eoptolink
Ericsson
Evatec
EXFO
Fabrinet
FEMTOPRINT SA
ficonTEC Service GmbH
Finetech GmbH & Co. KG
FIT Hon Teng Limited
Flex
FOCI
Focuslight
FormFactor, Inc.
Foxconn
Fujikura Ltd.

Table 972 - continued

Company
Furukawa Electric Co., Ltd.
GIGALIGHT
Global Unichip Corp.
GlobalFoundries
Hewlett Packard Enterprise
HGGenuine
Himax Technologies, Inc.
HUBER+SUHNER
HyperLight Corporation
Hyve Solutions
IBM
ICON Photonics
Idea Electronic Systems
InnoLight
Innolume
Intel Corporation
IQE
izmo Limited
Jabil
JCET Group Co., Ltd.
Kaynes Technology India Limited
Keysight
Kulicke and Soffa Industries, Inc.
Kyocera Corporation
Lessengers
Lightelligence
Lightium
Lightmatter
LightSpeed Photonics
Lightwave Logic, Inc.
LioniX International BV
Luceda Photonics

Table 972 - continued

Company
Lumentum Holdings Inc.
Lumilens
Lumiphase AG
Luxshare Precision Industry Co., Ltd.
MACOM
Marvell Technology, Inc.
McKinsey Electronics
MediaTek Inc.
MetaOptics
Micas Networks
Mixx Technologies, Inc.
Molex
MultiLane
Mycronic
Nanoscribe
NewPhotonics Ltd.
Nexus Photonics
NLM Photonics
Nova Ltd.
NTT, Inc.
NVIDIA
O-Net Technologies
OpenLight
Phanofi
PHIX Photonics Assembly
Phospack
Photon Bridge
Physik Instrumente (PI)
Pilot Photonics
PlayNitride
POET Technologies Inc.
Promex Industries Inc.

Table 972 - continued

Company
Qualcomm Technologies, Inc.
Quanta Cloud Technology
Quantex Tech Limited
Quintessent
Rain Tree Photonics
RANOVUS
RVi
Samsung Electronics
Samtec
Sanmina Corporation
Santec Holdings Corporation
Saudi Basic Industries Corporation
Schunk Group
SCINTIL Photonics
SCIVAX
SENKO Advanced Components, Inc.
Shenzhen Wioptic Photonics Ltd.
Si-Vision
Sivers Semiconductors AB
SMART Photonics
Soitec
SPIL
STMicroelectronics
Sumitomo Electric Industries
Super Micro Computer, Inc.
Synopsys
Synopsys, Inc.
Taiwan Semiconductor Manufacturing Company Limited
TE Connectivity
Teradyne
TFC Communication
Tokyo Electron

Table 972 - continued

Company
Tower Semiconductor
United Microelectronics Corporation
US Conec Ltd.
Vanguard Automation
Vario Optics
Vector Photonics
VIAVI Solutions Inc.
VLC Photonics
Wiwynn
Xscape Photonics
Xsight Labs
Yangtze Optical Fibre and Cable Joint Stock Limited Company

30. Key Experts

Every expert listed below was interviewed for this report. The represented founders, engineering executives, foundry leaders, photonics researchers, university faculty, and technology analysts provide professional context relevant to CPO devices, host integration, packaging, and optical communications. ■■■■■ ■■ ■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■ ■■■■■ ■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■ ■■■ ■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■ ■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■ ■■■■■■■■■

Table 973. Global Co-Packaged Optics Market, Key Experts

Name	Professional Role	Organization	Country
Alan Weckel	Co-Founder and Technology Analyst	xx.xx Group	United States
Amir Zadok	Professor, Faculty of Engineering	Bar-Ilan University	Israel
Andrea Melloni	Professor of Electronics	Politecnico di Milano	Italy
Arnan Mitchell	Distinguished Professor and Director, Integrated Photonics and Applications Centre	RMIT University	Australia
Bertrand Szelag	Silicon Photonics Research Scientist	CEA-Leti	France
Boon S. Ooi	Professor of Electrical and Computer Engineering	King Abdullah University of Science and Technology	Saudi Arabia
Brad Booth	Chief Executive Officer	NLM Photonics	United States
Chih-I Wu	Vice President	Industrial Technology Research Institute	Taiwan
Ching Eng Png	Director, Electronics and Photonics	A*STAR Institute of High Performance Computing	Singapore
Chris DePuy	Co-Founder and Technology Analyst	xx.xx Group	United States
Dale Murray	Principal Analyst	LightCounting	United States
Dan M. Marom	Professor of Applied Physics	Hebrew University of Jerusalem	Israel
Dan Sadot	Professor of Electrical and Computer Engineering	Ben-Gurion University of the Negev	Israel
Daoxin Dai	Professor, College of Optical Science and Engineering	Zhejiang University	China
Darius Bunandar	Co-Founder and Chief Scientist	Lightmatter	United States
Darli Augusto de Arruda Mello	Professor of Electrical and Computer Engineering	University of Campinas (UNICAMP)	Brazil

Table 973 - continued

Name	Professional Role	Organization	Country
David Thomson	Professor of Silicon Photonics	University of Southampton	United Kingdom
Douglas Yu	Vice President, Pathfinding for System Integration	Taiwan Semiconductor Manufacturing Company	Taiwan
Dries Van Thourhout	Professor of Photonics	Ghent University	Belgium
Eric Mounier	Director of Market Research	Yole Group	France
Frédéric Boeuf	Fellow, Silicon Photonics	STMicroelectronics	France
Gadi Eisenstein	Professor of Electrical and Computer Engineering	Technion - Israel Institute of Technology	Israel
Gong-Ru Lin	Distinguished Professor, Photonics and Optoelectronics	National Taiwan University	Taiwan
Graham Reed	Professor of Silicon Photonics	University of Southampton	United Kingdom
Guo-Qiang Lo	Co-Founder	Advanced Micro Foundry	Singapore
Gustavo S. Wiederhecker	Professor, Gleb Wataghin Institute of Physics	University of Campinas (UNICAMP)	Brazil
Gyungock Kim	Principal Researcher, Silicon Photonics	Electronics and Telecommunications Research Institute	South Korea
Hamid Arabzadeh	Co-Founder, Chairman and Chief Executive Officer	Ranovus	Canada
Hao-Chung Kuo	Chair Professor, Photonics	National Yang Ming Chiao Tung University	Taiwan
Hesham Taha	Co-Founder and Chief Executive Officer	Teramount	Israel
Hiroshi Kawashima	Research Scientist, Silicon Photonics	National Institute of Advanced Industrial Science and Technology	Japan
Hugo Enrique Hernández-Figueroa	Professor of Electrical and Computer Engineering	University of Campinas (UNICAMP)	Brazil
Hugo L. Fragnito	Professor and Researcher, MackGraphe	Mackenzie Presbyterian University	Brazil
Jacob Scheuer	Professor of Electrical Engineering	Tel Aviv University	Israel
Jaime Viegas	Associate Professor of Electrical Engineering	Khalifa University	United Arab Emirates
John E. Bowers	Professor of Electrical and Computer Engineering; Director, Institute for Energy Efficiency	University of California, Santa Barbara	United States
John Knickerbocker	Distinguished Engineer	IBM	United States

Table 973 - continued

Name	Professional Role	Organization	Country
Joris Van Campenhout	Fellow and Program Director, Optical I/O	imec	Belgium
Júlio César R. F. Oliveira	Founder and CEO	IDEA! Electronic Systems	Brazil
Kazuhiko Kurata	Co-Founder and Chief Technology Officer	AIO Core	Japan
Keren Bergman	Charles Batchelor Professor of Electrical Engineering; Director, Lightwave Research Laboratory	Columbia University	United States
Kevin Williams	Professor of Photonic Integration	Eindhoven University of Technology	Netherlands
Koji Yamada	Research Scientist, Silicon Photonics	National Institute of Advanced Industrial Science and Technology	Japan
Laurent Vivien	Research Director, Silicon Photonics	French National Centre for Scientific Research (CNRS)	France
Liangjun Lu	Associate Professor, Electronic Engineering	Shanghai Jiao Tong University	China
Lisa Huff	Senior Principal Analyst, Optical Components	Omdia	United States
Luc Augustin	Chief Technology Officer	SMART Photonics	Netherlands
Lukas Chrostowski	Professor of Electrical and Computer Engineering	University of British Columbia	Canada
Lukas W. Snyman	Research Professor of Microelectronics and Photonics	University of South Africa	South Africa
Luís Henrique Gabrielli	Professor of Electrical and Computer Engineering	University of Campinas (UNICAMP)	Brazil
Mahmoud Rasras	Professor of Electrical Engineering	New York University Abu Dhabi	United Arab Emirates
Mark Wade	Co-Founder and Chief Executive Officer	Ayar Labs	United States
Meir Orenstein	Professor of Electrical and Computer Engineering	Technion - Israel Institute of Technology	Israel
Michael Geiselmann	Co-Founder and Managing Director	LIGENTEC	Switzerland
Michael Kagan	Chief Technology Officer	NVIDIA	Israel
Michal Lipson	Eugene Higgins Professor of Electrical Engineering and Professor of Applied Physics	Columbia University	United States
Mitsuru Takenaka	Professor, Electrical Engineering and Information Systems	The University of Tokyo	Japan

Table 973 - continued

Name	Professional Role	Organization	Country
Mohamed A. Swillam	Professor of Physics	The American University in Cairo	Egypt
Mohamed F. O. Hameed	Professor, Faculty of Engineering	Mansoura University	Egypt
Monuko du Plessis	Emeritus Professor of Microelectronics	University of Pretoria	South Africa
Newton Cesário Frateschi	Professor of Applied Physics	University of Campinas (UNICAMP)	Brazil
Nicholas Harris	Co-Founder and Chief Executive Officer	Lightmatter	United States
Ofir Atar	Co-Founder and Chief Technology Officer	Teramount	Israel
Peter De Dobbelaere	Vice President of Engineering, Silicon Photonics	Cisco	United States
Peter De Heyn	Principal Member of Technical Staff	imec	Belgium
Peter O'Brien	Head of Photonics Packaging Group	Tyndall National Institute	Ireland
Rafael C. Figueiredo	Researcher, Optical Communications	CPQD	Brazil
René Heideman	Co-Founder and Chief Technology Officer	LioniX International	Netherlands
Richard Penty	Professor of Photonics	University of Cambridge	United Kingdom
Richard Pitwon	Founder and Chief Executive Officer	Resolute Photonics	United Kingdom
Russell Ellwanger	Chief Executive Officer	Tower Semiconductor	Israel
Saeed Fathololoumi	Senior Principal Engineer, Integrated Photonics	Intel	United States
Salah S. A. Obayya	Director, Centre for Photonics and Smart Materials	Zewail City of Science and Technology	Egypt
Sandro Marcelo Rossi	Researcher, Optical Communications	CPQD	Brazil
Shlomo Ruschin	Professor Emeritus of Electrical Engineering	Tel Aviv University	Israel
Sven Otte	Co-Founder and Chief Executive Officer	Sicoya	Germany
Sylvie Menezo	Co-Founder and Chief Executive Officer	SCINTIL Photonics	France
Thomas Liljeberg	Senior Director, Integrated Photonics Solutions	Intel	United States

Table 973 - continued

Name	Professional Role	Organization	Country
Tom Hausken	Senior Industry Advisor	Optica	United States
Tsuyoshi Horikawa	Research Scientist, Silicon Photonics	National Institute of Advanced Industrial Science and Technology	Japan
Uriel Levy	Professor of Applied Physics	Hebrew University of Jerusalem	Israel
Vladimir Kozlov	Founder and Chief Executive Officer	LightCounting	United States
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