

Demand for O-Band Coherent-Optics Market is forecasted to reach a value of US \$4.22 billion by 2029

The Business Research Company's O-Band Coherent-Optics Global Market Report 2025 – Market Size, Trends, And Forecast 2025-2034

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/EINPresswire.com/ -- How Large Will The [O-Band Coherent-Optics Market](#) Be By 2025?

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The market for O-band coherent-optics has experienced exponential growth in the past few years. It is predicted to escalate from \$1.39 billion in 2024 to \$1.74 billion in 2025, reflecting a 25.1% compound annual growth rate (CAGR). The historical growth is mainly due to the surge in the need for high-bandwidth communication, wider use of cloud computing, increased interconnectivity of data centers, a boost in video streaming traffic, and a spike in the establishment of 5G infrastructure.

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There is an anticipation of significant expansion in the O-band coherent-optics market over the coming years, with the projected growth reaching \$4.22 billion by 2029, progressing at a compound annual growth rate (CAGR) of 24.8%. The surge in the projected timeframe can be laid at the door of increased demand for networks with low-latency, growth in hyperscale data center expansion, rising

implementation of edge computing, an upswing in AI and ML workload transmission, and a boost in telecommunication network upgrades. Critical trends during this forecast period encompasses progress in photonic integration technology, amalgamation with silicon photonics platforms, breakthroughs in coherent DSP algorithms, enhancement in energy-efficient transceivers, and progress in optical networking infrastructure.

Download a free sample of the [o-band coherent-optics market report](#):

What Are The Major Driving Forces Influencing The O-Band Coherent-Optics Market Landscape?

The O-band coherent-optics market is anticipated to surge due to the increasing need for high-speed bandwidth. High-speed bandwidth is crucial for transferring vast volumes of data quickly across communication networks. The skyrocketing growth in cloud computing, which needs considerable data transmission capacity to support remotely hosted services and apps, mainly drives the demand for high-speed bandwidth. Thanks to its characteristics of low dispersion, O-band coherent optics addresses the escalating need for high-speed bandwidth by transmitting large amounts of data efficiently with minimal signal distortion and decreased power usage. This simplifies signal processing and reduces network costs. For example, the Office of Communications (Ofcom), a UK-based regulatory authority overseeing the communications and broadcasting sectors, reported in September 2023 that the average UK broadband download speed hit 69.4 Mbit/s in March 2023, a 17% rise year-on-year. Consequently, the increasing demand for speedy data transmission is encouraging the uptake of O-band coherent-optics technology.

Who Are The Top Players In The O-Band Coherent-Optics Market?

Major players in the O-Band Coherent-Optics Global Market Report 2025 include:

- Huawei Technologies Co. Ltd.
- Cisco Systems Inc.
- Mitsubishi Electric Corporation
- Broadcom Inc.
- Fujitsu Limited
- NEC Corporation
- Nokia Corporation
- ZTE Corporation
- Marvell Technology
- Fujikura Ltd.

What Are The Prominent Trends In The O-Band Coherent-Optics Market?

Leading businesses in the O-band coherent-optics market are concentrating their efforts on emerging technologies like optical communication networks to maintain their market stronghold. Optical communication networks are systems that convey data through light signals sent via optical fiber cables, presenting a solution for long-distance, high-speed data transmission with limited signal degradation. For example, in December 2023, Coherent Corp., a pioneering U.S. technology firm, unveiled the 800G ZR/ZR+ transceiver, a first of its kind in the industry. This product enhances signal quality thanks to its state-of-the-art digital signal processing, boasts compact pluggable form factors for effortless incorporation, and exhibits increased energy efficiency—crucial for data center interconnects and telecom applications. These technological advancements cater to growing bandwidth requirements, while simultaneously reducing power usage and operational intricacies, which is particularly impactful

in brief reach data center optical connections. Such progressive innovations are directing the future of the O-band coherent optics, paving the way for the development of high-capacity, cost-effective networking solutions.

Market Share And Forecast By Segment In The Global O-Band Coherent-Optics Market

The O-band coherent-optics market covered in this report is segmented as

- 1) By Component: Transceivers, Modulators, Detectors, Multiplexers Or Demultiplexers, Other Components
- 2) By Data Rate: 100G, 200G, 400G, 800G, Other Data Rates
- 3) By Application: Data Centre Interconnect, Metro Networks, Long Haul, Access Networks, Other Applications
- 4) By End-User: Telecommunications, Cloud Service Providers, Enterprises, Other End-Users

Subsegment:

- 1) By Transceivers: C Form-Factor Pluggable, C Form-Factor Pluggable 2, C Form-Factor Pluggable 4, Quad Small Form-Factor Pluggable Double Density, Octal Small Form-Factor Pluggable
- 2) By Modulators: In-Phase Quadrature Modulators, Mach-Zehnder Modulators
- 3) By Detectors: Positive-Intrinsic-Negative Photodiodes, Avalanche Photodiodes
- 4) By Multiplexers Or Demultiplexers: Wavelength Division Multiplexers, Dense Wavelength Division Multiplexers, Coarse Wavelength Division Multiplexers
- 5) By Other Components: Optical Amplifiers, Optical Filters, Optical Switches

View the full o-band coherent-optics market report:

<https://www.thebusinessresearchcompany.com/report/o-band-coherent-optics-global-market-report>

O-Band Coherent-Optics Market Regional Insights

In the O-Band Coherent-Optics Global Market Report 2025, North America held the dominant position in 2024. However, Asia-Pacific is anticipated to register the highest growth rate during the forecast period. The report provides data for various regions including Asia-Pacific, Western Europe, Eastern Europe, North America, South America, Middle East, and Africa.

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