

# **Optical Interconnect Market Report by Product Type (Cable Assemblies, Connectors, Optical Transceivers, Free Space Optics, Fiber and Waveguides, Silicon Photonics, PIC-Based Interconnects, Optical Engines), Interconnect Level (Chip- & Board-Level Interconnect, Board-To-Board and Rack-Level Optical Interconnect, Metro & Long Haul Optical Interconnect), Fiber Mode (Multi-Mode Fiber, Single-Mode Fiber), Application (Data Communication, Telecommunication), End Use Industry (Military and Aerospace, Consumer Electronics, Automotive, Chemicals, and Others), and Region 2024-2032**

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## **Abstracts**

The global optical interconnect market size reached US\$ 12.1 Billion in 2023. Looking forward, IMARC Group expects the market to reach US\$ 32.0 Billion by 2032, exhibiting a growth rate (CAGR) of 11% during 2024-2032.

An optical interconnect is a link that is used to connect multiple computer systems in a circuit through light. It is an interface that assists in receiving digital signals from network equipment and converting them into optical signals that are transmitted through the fiber network. Advanced signal processing is facilitated by optical interconnect to monitor or manage errors and reduce distortion in fiber optics. Optical interconnections can range from short connections on motherboards to kilometer-long links used in large area networks. These interconnects have a low frequency-dependent loss, negligible

crosstalk and high bandwidth due to which they find wide applications in the semiconductor industry.

Increasing demand for internet services across the domestic, commercial and industrial sectors is the key factor driving the market growth. Owing to the rapid growth of the information technology (IT) sector along with the introduction of big data analytics and Internet of Things (IoT), the demand for high data transmission and bandwidth communication is on the rise, which has led to an increased demand for optical interconnect globally. Optical interconnect is considered a more suitable alternative to the traditionally used technologies, in order to meet the current performance requirements of data processors. Also, the rising demand for increased bandwidth capacity along with the reduced power consumption within data center networks is acting as a major growth-inducing factor. Furthermore, rising network traffic from both private and government sectors has resulted in an increasing demand for optical interconnect devices for efficient utilization of resources while handling web applications and cloud computing systems. With cloud applications facilitating rapid communication and the rising trend of digitalization, there is a rise in the adoption of optical interconnect systems that favor the growth of various information-centric industries.

#### Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global optical interconnect market report, along with forecasts at the global and regional level from 2024-2032. Our report has categorized the market based on product type, interconnect level, fiber mode, application and end use industry.

#### Breakup by Product Type:

- Cable Assemblies
  - Indoor Cable Assemblies
  - Outdoor Cable Assemblies
- Active Optical Cables
- Multi-Source Agreement
- QSFP
- CXP
- CFP
- CDFP
- Connectors
  - LC Connectors
  - SC Connectors

ST Connectors  
MPO/MTP Connectors  
Optical Transceivers  
Free Space Optics, Fiber and Waveguides  
Silicon Photonics  
PIC-Based Interconnects  
Optical Engines

Breakup by Interconnect Level:

Chip- & Board-Level Interconnect  
Board-To-Board and Rack-Level Optical Interconnect  
Metro & Long Haul Optical Interconnect

Breakup by Fiber Mode:

Multi-Mode Fiber  
Step Index Multi-Mode Fiber  
Graded Index Multi-Mode Fiber  
Single-Mode Fiber

Breakup by Application:

Data Communication  
Data Center  
High-Performance Computing (HPC)  
Telecommunication

Breakup by End Use Industry:

Military and Aerospace  
Consumer Electronics  
Automotive  
Chemicals  
Others

Breakup by Region:

North America

Europe

Asia Pacific

Middle East and Africa

Latin America

#### Competitive Landscape:

The report has also analysed the competitive landscape of the market with some of the key players being Finisar, Mellanox Technologies, Molex, Oclaro, Sumitomo Electric Industries, Broadcom, TE Connectivity, Amphenol, Juniper Networks, Fujitsu, Infinera Corporation, Lumentum Holdings, OFS Fitel, LLC (FURUKAWA ELECTRIC CO., LTD), 3M Company, Acacia Communication, Dow Corning, Huawei, Intel, Infineon Technologies, etc.

#### Key Questions Answered in This Report:

How has the global optical interconnect market performed so far and how will it perform in the coming years?

What are the key regional markets in the global optical interconnect industry?

What has been the impact of COVID-19 on the global optical interconnect industry?

What is the breakup of the market based on the product type?

What is the breakup of the market based on the interconnect level?

What is the breakup of the market based on the fiber mode?

What is the breakup of the market based on the application?

What is the breakup of the market based on the end use industry?

What are the various stages in the value chain of the global optical interconnect industry?

What are the key driving factors and challenges in the global optical interconnect industry?

What is the structure of the global optical interconnect industry and who are the key players?

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