

# Europe Pluggable Optics for Data Center Market Report (2021-2031) by Scope, Segmentation, Dynamics, and Competitive Analysis

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## Abstracts

The Europe pluggable optics for data center market size is expected to reach US\$ 2,113.33 million by 2031 from US\$ 928.90 million in 2023. The market is estimated to record a CAGR of 10.8% from 2023 to 2031.

Executive Summary and Europe Pluggable Optics for Data Center Market Analysis:

Germany, France, the UK, and Italy are among the key countries contributing to the growth of the European pluggable optics for data center market. The overall volume of data is increasing exponentially, resulting in strong demand in the European data center industry. Rapidly expanding technologies such as artificial intelligence (AI), machine learning (ML), and the Internet of Things (IoT) are driving up demand for pluggable optics, which is expected to continue to surpass supply over the next three to five years. For instance, according to TMT Consultants Ltd data published in June 2024, the use of AI technology and data storage capacity is growing in European data centers. This increases the demand for more processing power, which further changes the data center design in a variety of ways, from adding a few AI-based racks to fully AI-enabled centers. In response to this trend, hyperscalers will raise rack density to 50kW per rack by 2027. The development of AI-enabled data centers surges the adoption of pluggable optics to enhance network availability and simplify maintenance procedures. Moreover, the adoption of AI in Europe is significantly increasing, primarily due to power supply difficulties. Making data centers AI-ready entails ensuring that they have sufficient capacity to meet AI's increased power and cooling requirements. This also increased HDR, Inc's focus on the development of AI-enabled data centers. AI technology supports operators in promoting automation, monitoring, and optimizing energy efficiencies in data centers, as well as quickly identifying faults. Such new construction

and AI-based data centers trigger the need for pluggable optics to ensure optimal working environments.

#### Europe Pluggable Optics for Data Center Market Segmentation Analysis:

Key segments that contributed to the derivation of the Europe pluggable optics for data center market analysis are component and data rate.

Based on component, the Europe is segmented into switches, routers, and servers. The switches held the largest share of the market in 2023.

By data rate, the Europe is segmented into 100-400GB/S, 400-800GB/S, and 800GB/S and Above. The 400-800GB/S segment held the largest share of the market in 2023.

#### Europe Pluggable Optics for Data Center Market Outlook

Pluggable optics enable data center operators to easily upgrade or replace transceivers without having to completely rebuild the cable system. The rising demand for pluggable optics in data centers encourages manufacturers to develop new innovative products that are capable of meeting the dynamic requirements of customers. For instance, in March 2024, Infinera Corporation launched a new line of ICE-D to improve intra-data center connectivity. ICE-D, a new line of high-speed intra-data center optics based on monolithic indium phosphide (InP) and photonic integrated circuit (PIC) technology. ICE-D optics are designed to significantly reduce cost and power per bit while offering intra-data center connectivity at speeds of 1.6 terabits per second (Tb/s) or more. This technology allows data center operators to keep up with the ever-increasing demand for bandwidth while being cost-effective. This new ICE-D intra-data center optics are designed to be integrated into a wide range of intra- and campus data center optical solutions. These solutions include digital signal processor (DSP)-based retimed optics, linear-drive pluggable optics (LPO), and co-packaged optics (CPO) for both serial and parallel fiber applications. Below mentioned are a few developments in pluggable optics for data centers:

In December 2023, Coherent Corp introduced its 800G ZR/ZR+ transceiver in ultracompact QSFP-DD and OSFP form factors for optical communications networks. The 800G ZR/ZR+ transceivers from Coherent are the world's first digital coherent optics (DCO) that can plug directly into QSFP-DD and OSFP transceiver slots on IP routers. Leveraging their high output power of 0 dBm, these transceivers can connect routers directly to access metro and regional DWDM transport networks without

additional intermediary interfaces, eliminating an entire layer of optical equipment and thereby significantly reducing both capital and operational expenditures. In March 2023, Infinera Corporation launched a new portfolio of coherent optical subsystems and coherent pluggable optical engines. These products are designed to help network operators reduce their carbon footprint and meet the ever-increasing demand for bandwidth while being cost-effective. The new solutions include a line of high-performance transmit-receive optical sub-assemblies (TROSAs), innovative programmable digital signal processors (DSPs), and a line of high-performance, intelligent pluggable optical transceivers. Data centers are increasingly using and demanding pluggable optics for swiftly adjusting to changing bandwidth demands without having to replace complete switches or routers, which makes them an ideal choice for dynamic situations. Moreover, pluggable optics support data center operators in high-speed transmission, optimize power, promote high-speed transmission, and simplify network architecture. Thus, the increasing preference for cost-effective solutions and manufacturers' focus on product development activities contribute significantly to the growth of pluggable optics for data center market.

### Europe Pluggable Optics for Data Center Market Country Insights

Based on country, the Europe pluggable optics for data center market comprises Germany, the UK, France, Italy, Russia, and the Rest of Europe. Germany held the largest share in 2023.

The pluggable optics for data center market in Germany is projected to expand at a significant rate in the upcoming years due to the growing investment and increasing IT capacity of colocation data centers. According to a Data Center Impact Report, Germany 2024, published by the GERMAN DATACENTER ASSOCIATION, data center in Germany is expected to receive an investment of more than US\$ 26.58 billion (24 billion euros) for the expansion of colocation capacity by 2029. According to the same source mentioned above, the IT capacity of colocation data centers in Germany is expected to expand from 1.3 GW to 3.3 GW by 2029. The growing capacity expansion of data centers, increase in data processing demand, and increasing investment to develop data centers are among the factors driving the market.

### Europe Pluggable Optics for Data Center Market Company Profiles

Some of the key players operating in the pluggable optics for data center market include Coherent Corp, Nokia Corp, Cisco Systems I, Infinera Corp, Telefonaktiebolaget LM Ericsson, Ciena Corp, Intel Corp, Lumentum Holdings Inc, Juniper Networks Inc,

Marvell Technology Inc, and Broadcom Inc among others. These players are adopting various strategies such as expansion, product innovation, and mergers and acquisitions to provide innovative products to their consumers and increase their market share.

Europe Pluggable Optics for Data Center Market Research Methodology :

The following methodology has been followed for the collection and analysis of data presented in this report:

**Secondary Research** The research process begins with comprehensive secondary research, utilizing both internal and external sources to gather qualitative and quantitative data for each market. Commonly referenced secondary research sources include, but are not limited to:

Company websites , annual reports, financial statements, broker analyses, and investor presentations. Industry trade journals and other relevant publications. Government documents , statistical databases, and market reports. News articles , press releases, and webcasts specific to companies operating in the market. Note: All financial data included in the Company Profiles section has been standardized to USD. For companies reporting in other currencies, figures have been converted to USD using the relevant exchange rates for the corresponding year.

**Primary Research** The Insight Partners' conducts a significant number of primary interviews each year with industry stakeholders and experts to validate its data analysis, and gain valuable insights. These research interviews are designed to:

Validate and refine findings from secondary research. Enhance the expertise and market understanding of the analysis team. Gain insights into market size, trends, growth patterns, competitive dynamics, and future prospects. Primary research is conducted via email interactions and telephone interviews, encompassing various markets, categories, segments, and sub-segments across different regions. Participants typically include:

Industry stakeholders : Vice Presidents, business development managers, market intelligence managers, and national sales managers  
External experts : Valuation specialists, research analysts, and key opinion leaders with industry-specific expertise

Reason to buy

Save and reduce time carrying out entry-level research by identifying the growth, size, leading players, and segments in the Europe pluggable optics for data center market.

Highlights key business priorities in order to assist companies to realign their business strategies.

The key findings and recommendations highlight crucial progressive industry trends in Europe pluggable optics for data center market, thereby allowing players across the value chain to develop effective long-term strategies.

Develop/modify business expansion plans by using substantial growth offering developed and emerging markets.

Scrutinize in-depth Europe market trends and outlook coupled with the factors driving the pluggable optics for data center market, as well as those hindering it.

Enhance the decision-making process by understanding the strategies that underpin security interest with respect to client products, segmentation, pricing, and distribution.

## Companies

Coherent Corp

Nokia Corp

Cisco Systems Inc

Infinera Corp

Telefonaktiebolaget LM Ericsson

Ciena Corp

Intel Corp

Lumentum Holdings Inc

Juniper Networks Inc

Marvell Technology Inc

Yangtze Optical Fibre and Cable Joint Stock Ltd

Broadcom Inc

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