

Global Optical Switches - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The Global Optical Switches Market is expected to register a CAGR of 11.58% during the forecast period.

Key Highlights

- Factors such as reduced energy consumption facilitated by optical switches and a surge in demand for high bandwidth & data transmission rates are expected to propel the global optical switches market forward.
- One of the primary factors driving the market is the rising automation in many industry verticals. Optical switches are deployed in high-speed networks, where large switches are needed to handle significant traffic. They are also widely used in external modulators, network monitors, optical cross-connects (OXC), optical add-drop multiplexers (OADM), and fiber optic component testing.
- They are also used for restoration, wavelength routing, and fiber management in fiber communication networks and for switching protection as they allow signals to be switched to another fiber before an issue emerges when a fiber fails. This, coupled with increasing technical improvements, is propelling the industry forward.
- With the growing investments in optical devices and the fast development of optical communication in recent years, the global optical switches market has seen significant growth. Increasing data traffic and adopting cloud computing are driving the market growth. The widespread implementation of 5G and the rise in demand for data centers are two major factors influencing the growth of the optical switches market. Furthermore, the industry is growing due to a shift in focus on digital transformation.
- Budget constraints and high costs hamper the optical switches market. Further, the COVID-19 pandemic has impacted the electronics industry since production facilities have stagnated, resulting in increased demand for electronics and semiconductor products. Its main effects are a significant industrial halt in Europe and a halt in Chinese parts exports, limiting the demand for optical switches.

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Optical Switches Market Trends

IT and Telecom is Analyzed to Grow at Highest Rate During the Forecast Period

- Switches play a crucial role in any communication network. When transporting data between devices, switches are present inside network-linked devices and are used to change data transmission paths. The total load on the network can be decreased by swiftly altering the transmission path and transmitting data only to relevant devices.
- Optical signals can be routed along a specified communication path without being converted into an electrical signal. As a result, signals can be sent without affecting the benefits of high-speed optical communications. An optical switch in telecommunications is a switch that allows signals in optical fibers or integrated optical circuits (IOCs) to be switched from one circuit to another selectively.
- The significant growth in product innovations to meet consumer demand is analyzed to boost the market growth rate. For instance, Tejas Networks has announced the launch of the TJ1600S/I, the largest disaggregated multi-terabit packet-optical switch designed for 5G, cloud, and broadband networks.
- Nokia has recently launched new packet-optical switches for 5G Cloud RAN. The new switch family unifies mobile transport for 4G and 5G networks by transparently supporting existing and new radio interface standards.
- Furthermore, over 70% of the global population is expected to have access to mobile connectivity by 2023. According to Cisco Systems, the global mobile subscribers are expected to increase from 5.1 billion (or 66% of the population) in 2018 to 5.7 billion (or 71% of the population) by 2023. With the advent of 5G, the demand for data centers is expected to increase over the forecast period. By 2023, 5G devices and connections are expected to reach 10% of the global mobile device and connections.

Asia-Pacific is Expected to Register the Significant Growth Rate

- The constant advancements in communication technologies are the primary drivers of optical switches market growth in the Asia-Pacific. The region telecom network operators have installed fiber in the full range of telecom applications - inter-city, intra-city, FTTx, and mobile cellular systems. Apart from enterprises, the Chinese government authorities also install fiber systems to support the electric power grid, highways, railways, pipelines, airports, data centers, and many other applications, driving the market growth.
- With the rapid development of AI, 5G, the Internet of Things, virtual reality, and the commercial application of these new technologies, the demand for data processing and information interaction is growing, which would speed up the construction of data centers in the country and lead to the explosive growth of the industry. According to Cloud Scene, some of the top markets in data centers include China, Japan, Australia, India, and Singapore.
- The significant research in the region is further contributing to the market growth rate. In January 2022, the National Institute of Advanced Industrial Science and Technology (AIST), Japan, demonstrated that a 131,072 port optical switch network may attain the world's biggest total optical switch capacity of 125 million Gbps. This is equivalent to the ability to send data from 600,000 or more Blu-ray discs per second.
- A circular transmission experiment was conducted using the greatest 3232 port optical switch produced by AIST, in which a wideband optical signal was transferred nine times over the same optical switch. In addition, the behavior of crosstalk in the optical switch was statistically investigated, and a comprehensive theory for maximizing the number of optical switch ports was developed. These results meet the optical switch requirements of next-generation data centers and supercomputers, and this technology will contribute to high-capacity, low-latency next-generation information infrastructure.

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Optical Switches Industry Overview

The optical switches market is moderately competitive, owing to many large and small players operating in multiple countries. The market appears to be moderately concentrated, moving towards the fragmented stage. Major players adopt strategies like product innovation and partnerships to expand their reach and stay ahead of the competition. Some of the recent developments in the market are:

- February 2022 - Fujitsu, a prominent network digital transformation solutions provider, partnered with Ekinops, an optical transport and network access solutions producer. Fujitsu will incorporate Ekinops' next-generation OTN compact modular switches into its Fujitsu 1FINITY open optical networking portfolio, giving service providers even more options and flexibility.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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