Optical Transport Network Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 134 pages | Mordor Intelligence

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Report description:

The optical transport network market (hereafter referred to as the market studied) is expected to grow by a CAGR of 9.47% during the period 2022-2027 (hereafter referred to as the forecast period).

Key Highlights
The service provider networks and telecommunications industry are rapidly evolving to face an explosion of digital traffic driven by mobile applications, multimedia services, social media, cloud computing, and VoIP. Moreover, there has been an ever-growing array of bandwidth-hungry applications in recent times.
Earlier, network traffic used to include voice calls carried over circuit-based networks in a predictable network connection between pairs of endpoints. In the current market scenario, most network traffic is packet-based, generated by many services and applications in unpredictable traffic patterns, with widely varying and more stringent demands on bandwidth and data transmission performance.
Additionally, enterprise companies need high speeds, reliability, and high uptime for data processing and other tedious processing applications. Hence, they are constantly in search of optimal network solutions. To avoid losses owing to system failures, companies rely on high-speed optical transport networks.
The tolerance to chromatic dispersion is an important factor as it's a phenomenon by which different optical pulses are spread due to different wavelengths being transmitted at different speeds. Low tolerance to it increases the need for an alternative technology such as Ethernet.
The COVID-19 pandemic resulted in a major supply chain disruption, which is expected to impede the 5G buildout process in the short and medium terms. The major 5G hardware delays and general effects of the economic slowdown will hit the market significantly in the coming 1-2 years. But in the longer term, the escalating needs for digital health and home connectivity and even economic stimulus measures are expected to give 5G buildout a boost.

Optical Transport Network Market Trends

IT and Telecom Industry to Drive the Optical Transport Network Market

Cable operators are bound to face an array of architectural and technological crossroads over the next few years, including how they transition to an Access Architecture (DAA) and the many other options presented by the future evolution of their HFC networks.

An even more pressing transition is taking place on the business side of their operations, namely, the gradual replacement of video services with high-speed broadband as the cable industry's primary revenue engine. Thus, optical solutions are required and are expected to offer profitable services to these operators.

In February 2022, China Mobile partnered with Huawei to build an optical network connecting the Guangdong-Hong Kong-Macao area. Huawei says it is "the world's largest green all-optical switching hub network." In recent years, Huawei and China Mobile Guangdong have jointly built an all-optical network cluster for the Greater Bay Area. Both Macao and Hong Kong are particular administrative regions of China.

Some players, such as Infinera and Tejas Networks, are currently very active in the market. In September 2021, Bharti Airtel selected Tejas Network to expand its optical network capacity in key metros. Tejas will supply its TJ1600 DWDM/OTN products to extend Airtel's optical network, support 5G backhaul, and offer B2B services and broadband applications. Tejas' TJ1600 is a visual transport platform that consolidates multiple layers of networking functions. It also supports wireless backhaul, data center connectivity, enterprise services, router bypass, and wholesale services.

NEC and Infinera teamed up to deliver a converged packet and optical transport solution to a leading Japanese service provider and Power Nets Japan (PNJ) affiliate. The regional telecommunications carrier selected Infinera's mTera Universal Transport Platform to cost-efficiently scale its metro network infrastructure and enhance service flexibility as growth in the enterprise and residential high-speed services drives the demand for network capacity.

The Cisco global busy hour study findings indicate that internet usage may record a CAGR of 37% until 2022, for five years, as compared to 30% of average internet traffic. 5G services are further adding to the growth opportunities in the sector. The rising demand may provide further impetus to the market's growth during the forecast period.

Asia-Pacific to Witness the Fastest Growth

South-East Asian countries are gradually gaining momentum in digitizing plants and machinery. This has further propelled the data traffic in such countries. In May 2021, in line with Malaysia's JENDELA Plan (The Jalinan Digital Negara), part of the 12th Malaysia Plan (2021-2025), to provide high-speed broadband to two million homes and drive the digital economy, Nokia was chosen by Allo, an information and communications technology service provider in Malaysia, to implement a gigabit fiber network in the states of Melaka, Johor, Negeri Sembilan, and the East Coast of Malaysia.

Further, in October 2021, Australian operator TPG Telecom deployed a modular 4G/5G Smart Node solution from a leading communications technology provider to become the first network operator in the Asia-Pacific region to deploy a live 5G femtocell.

Amid the COVID-19 pandemic, OTN played a vital role in the sports and entertainment sector. Companies such as Telstra supported a small production project for the Indian Cricket Tour of Australia, which took place between November 2020 and January 2021. This was because a broadcast team couldn't be sent from India to Australia due to the COVID-19 pandemic-induced restrictions.

Developing countries such as India and Pakistan, among others, are investing in modern infrastructure to support the digital economy and technological advancements. For instance, in June 2021, Pakistan's state provider PTCL (Pakistan

Telecommunications Company Limited), collaborated with Huawei to upgrade its IP Edge and Optical Transport Network (OTN) infrastructure. Further, PTCL has also tapped Huawei to deploy a unified IP Edge network covering more than 130 locations so that it can begin offering next-generation IP services.
Further, in May 2021, Reliance Jio announced plans to construct the most extensive international submarine cable system centered in India. Jio is deploying two next-generation cables: the India-Asia-Xpress (IAX) system that connects India eastbound to Singapore and beyond and the India-Europe-Xpress (IEX) system that connects India westbound to the Middle East and Europe.

Optical Transport Network Market Competitor Analysis

The competitive landscape of the optical transport network market is fragmented because of the presence of a large number of companies. Some key players in this market are Fujitsu, Huawei, Cisco, and ZTE Corporation, among others. The players in this industry are constantly working on developing new product portfolios. They are trying to gain a competitive advantage with mergers and acquisitions, partnerships, and constant innovations.

In February 2022, Bharti Airtel signed a deal with Huawei worth INR 3 billion as part of the ongoing Airtel process to upgrade and expand its National Long Distance (NLD) network, which Chinese vendors currently run.
In January 2022, Vodafone Idea Limited began revamping its backbone scalability and service resiliency by deploying industry-leading 5th-generation optical solutions from Ciena. VI deployed Ciena's 6500 packet-optical platforms powered by WaveLogic 5 Extreme for high-speed 300G/400G services, upgradable to 800G.
In October 2021, ZTE Corporation announced that it had launched its new-generation compact metro edge ON products - the optical Omni-gateway ZXMP M721 series, namely, ZXMP M721 CX66A (E) and ZXMP M721 CX63A (E). The products may support all-scenario access of 4G/5G/home broadband/enterprise/cloud services with large capacity and unified cross-connection in a compact size.

Additional Benefits:

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

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