

Optical Transport Network - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

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Report description:

The Optical Transport Network Market size is estimated at USD 24.91 billion in 2024, and is expected to reach USD 37.30 billion by 2029, growing at a CAGR of 8.41% during the forecast period (2024-2029).

The rapid increase in internet users at home and work has created a new network bandwidth demand. The increased popularity of online games, social networking, video conferencing, and other real-time streaming activities are expected to drive the demand for the market studied. One of the critical reasons for the optical transport network market's growth is that it delivers seamless data transfer while minimizing latency.

Key Highlights

-Further, the continuing expansion of the cloud, the increase of data center capacity, and the quick deployment of 5G are driving network traffic and increasing demand for network capacity, which would significantly create an opportunity for the market studied to grow. For instance, according to Ericsson, 5G subscriptions are expected to increase globally between 2021 and 2025, rising from over 12 million to over 3 billion. Subscriptions are predicted to be highest in Northeast Asia, Southeast Asia, India, Nepal, and Bhutan.

-As cities become digital and smart, communication has become the fifth primary infrastructure network after water, electricity, gas, and transportation. The expansion of digital technologies and industries dictates how smart cities can be. The communications networks that support them have become an essential aspect of how cities may operate and offer services. As a result, more than 150 governments worldwide have announced fiber policies or internet initiatives, promising to make network infrastructure freely available to the public. Governments are providing tax breaks or subsidies to accelerate the construction of backbone networks, enhance network coverage, bridge the digital gap, and boost national economic development.

-For instance, according to the US-China Economic and Security Review Commission, government spending on smart city

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initiatives in China will reach USD 38.92 billion in 2023. Such developments in smart cities would increase the demand for optical transfer network solutions.

-The high initial investment in network equipment installation and maintenance is projected to hinder the expansion of the global OTN market. Furthermore, modern technologies, including 40G to 100G, can expedite handling data traffic and data transfer; however, these technologies are expensive. The significant capital investment leads to an extended payback period for the investment. Customers frequently give these projects to suppliers at a very low price, although their deployment takes years, notably in the telecom industry. As a result, the significant initial expenditure necessary to establish OTAs is expected to stifle worldwide market development for OTN equipment.

-As mobility limitations were imposed to control the spread of COVID-19, an increasing number of the OECD's estimated 1.3 billion citizens were working and learning from home. Critical international policy coordination, such as the G7 and G20, occurred online through various platforms. Fixed and mobile broadband operators, content and cloud providers, and places where internet networks join to exchange traffic, known as Internet exchange points (IXPs), are seeing up to 60% more Internet traffic than before the outbreak. These variables influenced the optical transport network market during and after the pandemic.

Optical Transport Network Market Trends

IT and Telecom Sector to Drive the Market

- The rising demand for bandwidth from residential and commercial consumers is the main motivator for OTN. The increasing need for personal information stored in the cloud, online gaming, online shopping, staying connected over long distances, social networking, video conferencing, and other factors have all contributed to an increase in residential internet use. These applications demand increased network bandwidth from communications and service providers.

- For instance, according to DataReportal, Global internet users have climbed to 4.95 billion at the start of 2022, with internet penetration now standing at 62.5 percent of the world's total population. Moreover, there is approximately 1.134 Trillion MB of data created each day. These numbers themselves project the rising amount of data usage worldwide, which requires fast and reliable data networks like OTN.

- Additionally, according to CloudScene, an independent directory of high-speed internet, data centers, and cloud services, as of January 2022, there were 2,701 data centers in the United States and 487 more in Germany. China had 443 data centers, while the United Kingdom had 456, placing it third among all nations. In total, there were 6,334 data centers worldwide and counting, as new data centers are being constructed rapidly.

- Due to the rise in e-commerce, mobile and internet banking, online government services, industrial automation, Internet of Things (IoT), utility networking, and other related technologies, service providers are facing high-capacity demand from their commercial customers.

- Looking at the increasing pace of internet usage and its application in the IT and Telecommunication industry, the demand for OTN will continue to thrive as the demand for data and the internet increases globally.

Asia-Pacific to Witness Fastest Growth

- According to Internet World Stats, the population of the Asia-Pacific region is 54.94% of total mankind, with average internet penetration of 64.1% as of June 2021. The two countries that constitute the significant user share in Asia is China and India, with 35.7% and 27.3% of the total internet user in Asia. Thus, these two countries are potential market leaders in the market studied.

- The number of IoT devices in China crossed 2 billion in 2021. It has also unveiled plans for robotics and smart manufacturing by 2025. As per the plan, by 2025, more than 70% of large-scale Chinese enterprises should be digitalized, and more than 500

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demonstration manufacturing facilities will be built nationwide. Such a strategic measure is expected to increase the demand and potential growth of OTN solutions in the region.

- 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 is expected to speed up the construction of data centers in the region 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.

- Furthermore, in March 2022, Mitsubishi Electric Corporation announced that it would begin shipping samples of its 50Gbps distributed-feedback (DFB) laser diode for optical-fiber communication in fifth-generation (5G) mobile base stations. The novel diode meets all essential optical-transceiver requirements and has an operating temperature range for high-speed, large-capacity data transmission in 5G mobile networks.

Optical Transport Network Industry Overview

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 July 2022, NEC issued Japan's first sustainability-linked bond with three maturities through a public offering in the domestic corporate bond market. The bond issuance is an example of NEC using financing to demonstrate its commitment to one of its material issues, "environmental action with a particular focus on climate change (decarbonization)." These SDGs-based financing initiatives are the NEC Group's "Purpose" put into action. They allow NEC to dialogue and co-creation with various stakeholders about their sustainability management initiatives.

In June 2022, ZTE Corporation, a prominent global provider of enterprise and consumer technology solutions for mobile internet, created the first commercial Optical Transport Network (OTN) supporting 12THz ultra-wide frequency spectrum in Bursa, Turkey's fourth-largest city, in conjunction with Turkcell. Turkcell chose to build an advanced metro WDM (Wavelength Division Multiplexing) network because 5G networks require several times the capacity of 4G networks to accommodate the massive increase in 5G network traffic.

In June 2022, at the Huawei Optical Innovation Forum, Huawei announced its new vision for optical transport networks. This new vision is centered on delivering the optical transport network (OTN) to edge nodes to provide all-pervasive premium connectivity and construct eco-friendly and straightforward optical networks, assisting operators in achieving financial success.

Additional Benefits:

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

Table of Contents:

1 INTRODUCTION

1.1 Study Assumptions and Market Definition

1.2 Scope of the Study

2 RESEARCH METHODOLOGY

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3 EXECUTIVE SUMMARY

4 MARKET INSIGHT

- 4.1 Market Overview
- 4.2 Industry Attractiveness - Porter Five Forces
 - 4.2.1 Threat of New Entrants
 - 4.2.2 Bargaining Power of Buyers
 - 4.2.3 Bargaining Power of Suppliers
 - 4.2.4 Threat of Substitute Products
 - 4.2.5 Intensity of Competitive Rivalry
- 4.3 Industry Value Chain Analysis
- 4.4 Assessment of the Impact of COVID-19 on the Market

5 MARKET DYNAMICS

- 5.1 Market Drivers
 - 5.1.1 Increasing Internet Penetration with Demand for High-speed Internet
 - 5.1.2 Technological Innovations by OTN Solution Providers
- 5.2 Market Challenges
 - 5.2.1 High Initial Investment

6 MARKET SEGMENTATION

- 6.1 By Technology
 - 6.1.1 WDM
 - 6.1.2 DWDM
 - 6.1.3 Other Technologies
- 6.2 By Offering
 - 6.2.1 Service
 - 6.2.1.1 Network Maintenance and Support
 - 6.2.1.2 Network Design
 - 6.2.2 Component
 - 6.2.2.1 Optical Transport
 - 6.2.2.2 Optical Switch
 - 6.2.2.3 Optical Platform
- 6.3 By End-user Vertical
 - 6.3.1 IT and Telecom
 - 6.3.2 Healthcare
 - 6.3.3 Government
 - 6.3.4 Other End-user Verticals
- 6.4 By Geography
 - 6.4.1 North America
 - 6.4.2 Europe
 - 6.4.3 Asia Pacific
 - 6.4.4 Rest of the World

7 COMPETITIVE LANDSCAPE

- 7.1 Company Profiles
 - 7.1.1 Nokia Corporation

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- 7.1.2 Ciena Corporation
- 7.1.3 Cisco Systems Incorporation
- 7.1.4 Huawei Technologies Co. Ltd
- 7.1.5 ZTE Corporation
- 7.1.6 Fujitsu Ltd
- 7.1.7 Infinera Corporation
- 7.1.8 Telefonaktiebolaget LM Ericsson
- 7.1.9 NEC Corporation
- 7.1.10 Yokogawa Electric Corporation

8 INVESTMENT ANALYSIS

9 MARKET OPPORTUNITIES AND FUTURE TRENDS

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