

Optical Spectrum Analyzer (OSA) - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

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Report description:

The Optical Spectrum Analyzer Market size is estimated at USD 314.65 million in 2024, and is expected to reach USD 449.42 million by 2029, growing at a CAGR of 7.39% during the forecast period (2024-2029).

Optical spectrum analyzers are the key components enabling the research and development and installation operations in several communication applications such as laser modes analysis, very high-resolution spectroscopic measurements, telecommunication devices, system tests, and others.

Key Highlights

- In recent years, research and development of highly proficient high-performance products using optical technologies, such as a semiconductor laser developed for data communication, has become more widespread, and the growing demand has developed for high-performance optical spectrum analyzers to evaluate and analyze their optical spectrum.
- Additionally, the significant increase in internet users, both commercially as well as residentially, forced the operators to meet the growing demand for bandwidth. This further aided the operators in investing heavily in testing equipment related to the optical spectrum.
- The increasing demand for connected environments, especially in the manufacturing sector, has started driving the demand for faster and more reliable communication networks.
- The introduction of 5G and cloud communications services is expected to increase the data traffic volumes and data generation massively. In order to allow in-time delivery required for the rapid expansion and adoption of faster rate optical modules, increased module production and shorter inspection times are required.
- The demand for faster and more reliable communication networks has grown because of increased spending on research and development, technical advancements, and the growing need for networked areas, particularly in the manufacturing sector.

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-The manufacturing procedure for these mobile versions has expanded the variety of optical spectrum analyzers available in the field, particularly for testing and installation. The telecommunications and manufacturing industries significantly demand optical spectrum analyzers (OSA).

Optical Spectrum Analyzer (OSA) Market Trends

Telecommunications is Expected to Hold the Largest Share

- In the telecom industry, spectrum analyzers are essential for determining the required signal spectrum and strength to ensure a reliable network. Optical spectrum analyzers are used to monitor the required output signals continuously, which helps telecom providers to modulate the intensity of their signals dynamically.
- Also, OSA's are of great importance to the telecom equipment manufacturers. As most telecom equipment fabrication procedure includes a wavelength characterization test to qualify a product for market entry, the demand for OSAs from this sector is considerably high.
- One of the major applications of the OSAs in telecommunications is where dense wavelength division multiplexing (DWDM) is used to provide high data bandwidth over fiber optics. Most telecommunication equipment fabrication procedures include a wavelength characterization test in qualifying a product for market entry; the demand for OSAs from this sector is considerably high.
- Rapidly evolving communication networks and a new spectrum like 5G are also creating significant demand opportunities for advanced telecommunication equipment, contributing to increased demand for OSAs from telecom manufacturers.
- Various companies operating in the market are providing OSA for telecommunication applications. For instance, Yokogawa Test & Measurement Corporation provides the AQ6360 optical spectrum analyzer. It is a cost-effective optical spectrum analyzer ideal for industrial manufacturing of telecom devices, such as lasers, optical transceivers, and optical amplifiers.

North-America is Expected to Maintain a Strong Hold over the Market

- North America is one of the largest markets for optical spectrum analyzers globally. The rapid adoption of Industry 4.0 initiatives encouraging automation and a connected manufacturing environment is one of the primary drivers creating the demand for optical spectrum analyzers in the region.
- Owing to several vital manufacturers and backed by the developed economy, the demand for optical spectrum analyzers is likely to grow in the US market.
- Due to the advancement of 5G in the region, all the major service providers are moving toward launching new devices that support the technology, thus, creating a potential demand for the OSAs in the market. It is evident because Canadian operators already spent USD 3.5 billion in a 5G spectrum auction for the 600 MHz band, a vital frequency that penetrates buildings and works well in rural areas.
- For instance, in 2021, Canada's largest wireless companies spent almost USD 9 billion on a new 5G spectrum 2021, and consumer expectations are high. Rogers invested CAD 3.3 billion in the 5G spectrum, covering 99.4% of the Canadian population, making it the largest single investor in the 5G spectrum in the country. Bell spent USD 2.1 billion in the auction and TELUS USD 1.95 billion. Videotron spent nearly USD 830 million, with more than half of Ontario, Manitoba, Alberta, and British Columbia investments.
- Ericsson predicts that by 2023, the network traffic will increase by at least eight times. In such a scenario, the current 5G networks will enable ten times lower cost per gigabyte than the current 4G networks. Such benefits are expected to increase investments in the region's telecom sector, creating new opportunities for the optical spectrum analyzer market.

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- In May 2021, EXFO, Canada, introduced the 5GPro optimum spectrum analyzer (OSA), the only modular, field-focused radio frequency (RF) testing solution. EXFO solution will provide accurate visibility into 4G/LTE and 5G NR environments to analyze FR1(sub-6 GHz) and FR2 (mmWave) bands using a single, field-upgradeable solution.

Optical Spectrum Analyzer (OSA) Industry Overview

The competitive rivalry among the players in the optical spectrum analysis is high owing to the presence of some key players, such as Yokogawa, Exfo Inc., VIAVI, Anritsu, Thorlabs, and many more. Their ability to continuously innovate the products by investing a considerable amount in research and development has allowed them to gain a competitive advantage over others in the market. Strategic alliances and mergers and acquisitions have enabled such players to gain a strong foothold in the market.

- September 2021 - Yokogawa, Japan, has launched a new optical spectrum analyzer for researchers developing the next generation of optical communication components. The Yokogawa AQ6380 OSA offers unequalled optical performance to allow scientists and engineers to develop and improve the next generation of communication networks' speed, bandwidth, and quality.
- June 2021 - Bristol Instruments announced offering software that converts 438 Series Multi-Wavelength Meter into a high-resolution optical spectrum analyzer. The model 438 offered the most accurate, effective, and adaptable WDM wavelength testing currently available, owing to features like high precision, measurement rate up to 10 Hz, and a wide operational range of 1000 to 1680 nm.

Additional Benefits:

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

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