

Submarine Optical Fiber Cable - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2024 - 2029)

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Abstracts

The Submarine Optical Fiber Cable Market size is estimated at USD 4.78 billion in 2024, and is expected to reach USD 8.06 billion by 2029, growing at a CAGR of 11.02% during the forecast period (2024-2029).

Growing investment in high-speed internet infrastructure is one of the major factors driving the growth of the submarine optical fiber cable market. The continuous increase in the generation and transfer of vast amounts of data worldwide is one of the primary drivers of the market. Hence, many internet backbone operators will invest in the submarine optical fiber cable market during the forecast period.

Key Highlights

Global offshore wind power growth is expected to fuel market growth. The Global Wind Energy Council (GWEC) has stated that the United States is among the largest offshore wind markets. However, countries like the United Kingdom, Germany, China, Japan, and Taiwan are investing significantly in developing their offshore wind energy industry, creating a favorable scenario for market growth.

With the rapid growth of data usage worldwide, there is an increasing demand for low-latency, high-capacity communications infrastructure. Submarine under Sea Optical fiber cables have emerged as a preferred solution to address the need for high-capacity, low-latency communication infrastructure.

Fiber optics provide a more dependable, faster, and higher bandwidth mode of data transfer than traditional lines used by most utilities. Submarine Fiber optic networks

send data by pulsing light via glass fiber strands approximately the size of human hair. When digital signals are sent via light, there is no external interference and reduced signal loss. This results in a more dependable data transmission network across vast distances. Furthermore, as these networks expand, user traffic continues to rise, necessitating the creation of standardized fiber testing procedures.

The higher maintenance cost associated with the submarine optical fiber cable is analyzed to restrain the submarine optical fiber cable market growth, as the laying and maintenance of submarine fiber optical cables require a massive amount of human and material resources, including ships, divers, laying equipment, etc. This translates to a high cost of laying, repairing, and maintaining submarine optical fiber cables.

The expansion of the world economy directly impacts the need for submerged optical connections. Expanding economies necessitate increasingly extensive undersea cable networks due to the need for high-speed internet connectivity. For instance, according to the World Bank estimate, the North American GDP, which was USD 32.32 trillion in 2023, is predicted to increase by 1.5% in 2023-24, suggesting that corporate activity and possible submarine optical fiber cable investments are projected to flourish.

Submarine Optical Fiber Cable Market Trends

Growing Smartphone Penetration and Increasing Demand for Internet Bandwidth to Drive the Market

The smartphone industry has witnessed significant growth in recent years. The growing acceptance and prevalence of digital technologies, the advent of 5G, and the mobile-first approach of businesses are among the major factors driving the adoption of smartphones. According to Ericsson, the global number of smartphone subscribers is expected to reach 7.743 billion in 2028 from 6.421 billion in 2022.

Furthermore, according to Ericsson, Northeast Asia was the leading region in terms of the number of smartphone subscribers (1.990 billion in 2022), followed by China (1.570 billion) and Southeast Asia and Oceania (910 million). All these factors positively contribute to the growth of the market studied, as a higher smartphone subscription positively impacts internet consumption and the amount of data being generated, which, in turn, drives the demand for data centers and other digital infrastructures wherein high bandwidth connectivity is a crucial requirement.

According to the Ericsson Mobility report released in November 2023, a continued

strong surge in global average data consumption per smartphone is expected to increase from 21GB/month in 2023 to 56GB/month by 2029. Such developments have positively influenced the increased demand for internet bandwidth and, in turn, driven the demand for submarine optical fiber cable.

Increased bandwidth, ultra-low latency, and faster connectivity are expanding civilizations, revolutionizing industries, and radically improving day-to-day experiences. Bandwidth demands typically grow significantly every year. Hence, there is a constant trend toward higher bandwidth services and driving the growth of the submarine optical fiber cable market.

For instance, in January 2024, Indian Prime Minister Narendra Modi, in Kavaratti, Lakshadweep, inaugurated the Kochi-Lakshadweep islands submarine optical fiber connection (KLI-SOFC) project among various developmental projects worth more than INR 1,150 crore (USD 13.88 million) covering a wide range of sectors, including water resources, healthcare, technology, energy, and education.

The KLI-SOFC project will boost internet speed, unlocking new possibilities and opportunities. The dedicated submarine OFC will ensure a paradigm shift in communication infrastructure in the Lakshadweep islands, enabling more and faster reliable internet services, educational initiatives, digital banking, telemedicine, e-governance, digital currency usage, digital literacy, etc.

Such developments, coupled with growing smartphone penetration and a growing need for reliable, low-latency, and high-speed communication infrastructure worldwide, are expected to drive the growth of the market studied during the forecast period.

Trans-Pacific Region is Expected to Hold Significant Market Share

Submarine cables carry over 97% of all internet traffic worldwide, and nearly everyone uses the Internet for daily tasks. Due to the Internet's ability to connect people worldwide, international traffic is growing daily. Asia-Pacific accounts for about half of all internet traffic worldwide, which in turn is increasing demand for submarine communication cables. The lack of submarine communication cable systems in the countries in this region is to blame for the need for faster internet services in the Transpacific region, which has prompted the World Bank and the Asia Development Bank to fund new cable systems.

According to the Ministry of Internal Affairs and Communications (Japan), in 2023, the number of fiber-to-the-home (FTTH) subscriptions in Japan reached more than 38 million. In 1999, FTTH was introduced to the Japanese market, providing high bandwidth and high-speed internet access at a comparatively low price.

As of October 2023, according to a joint US-Australian agreement, Alphabet (Google) operated underwater cables that provided internet connectivity to at least eight isolated Pacific Ocean countries. The project aims to expand Google's existing business activities in the region. Micronesia, Kiribati, the Marshall Islands, Papua New Guinea, the Solomon Islands, Timor-Leste, Tuvalu, and Vanuatu are all included in the project.

In January 2023, Infinera announced that Infinera's ICE6 800G coherent optical solution had been deployed to modernize and increase capacity on the trans-Pacific Unity submarine cable system. By upgrading to Infinera's ICE6 solution, the Unity cable system will double capacity and deliver up to 7.4 Tbps per fiber pair. The Unity cable system was ready for service in April 2010, jointly built by a consortium comprising Bharti Airtel Limited, Global Transit Limited (a wholly-owned subsidiary of TIME), Google, KDDI Corp., Telstra, and Singtel.

Moreover, according to Corporate IT, the Fondo de Infraestructura SA of Chile has selected H2 Cable LP, a subsidiary of BW Digital, as a strategic partner for developing the Humboldt Cable System, the first submarine cable connecting Latin America with Asia-Pacific and Oceania. With a projected extension of 14,810 km, the Humboldt Cable System will provide end-to-end connectivity.

Submarine Optical Fiber Cable Industry Overview

The submarine optical fiber cable market is fragmented, with the presence of significant players like Alcatel Submarine Networks Ltd, Fujitsu Ltd, Global Marine Group, HMN Technologies Co., Ltd, and IT International Telecom Inc. Vendors in the market are adopting strategies such as partnerships, mergers, innovations, and acquisitions to enhance their product offerings and gain sustainable competitive advantage.

In September 2023, Orange announced expanding its submarine cable industry's investment to remain at the forefront of cable laying and maintenance technologies. Building a new cable ship represents a more significant investment than converting an

existing vessel. Still, it means that Orange benefits from a ship with a minimal environmental footprint that is fully equipped to meet growing global connectivity needs. The Sophie Germain is 100 meters long and includes A hull designed and tested in a model tank to reduce fuel consumption optimized for cable repairs. A state-of-the-art 450 kW ROV (Remotely Operated Vehicle) is used to cut, inspect, and bury cables stored on board in a dedicated hangar.

Orange Marine designed and built the ROV in-house. Being connected to an onshore power supply will enable it to reduce its carbon emissions when docked. "CLEANSHIP" classification (controlled detection of refrigerant gas leaks, special anti-fouling coating, large waste storage capacity, etc.) A small environmental footprint, allowing a 20% reduction in CO2 emissions and an 82% reduction in nitrogen oxide emissions. Moreover, Orange Marine has defined all these characteristics based on its extensive experience in submarine cable operations.

In September 2023, NEC Corporation completed a long-distance field trial of an optical submarine cable system using a new transponder that, according to NEC, has the world's highest level of transmission performance of 800 gigabits per second (Gbps). This record-breaking field trial was conducted using the Indonesia Global Gateway (IGG) optical submarine cable(*) owned by PT Telkom Indonesia (Persero) Tbk (Telkom), Indonesia's largest telecommunications carrier, and using NEC's latest transponder, the XF3200. In the field trial, NEC conducted wavelength division optical transmission of 800 Gbps optical signals over 2,100 km, the longest recorded.

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