

Global Active Optical Cables (AOC) Market Size & Share Analysis - Growth Trends & Forecast (2025 - 2030)
Industry: Technology, Media & Telecom (TMT)
URL: <https://www.mordorintelligence.com/industry-reports/global-active-optical-cables-market>

Global Active Optical Cables (AOC) Market Size and Share Study Period | 2019 - 2030 |

Market Size (2025) | USD 4.66 Billion |

Market Size (2030) | USD 8.79 Billion |

CAGR (2025 - 2030) | 13.50% |

Fastest Growing Market | Asia Pacific |

Largest Market | North America |

Market Concentration | Low |

Major Players*Disclaimer: Major Players sorted in no particular order

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Global Active Optical Cables (AOC) Market Analysis by Mordor IntelligenceThe Global Active Optical Cables Market size is estimated at USD 4.66 billion in 2025, and is expected to reach USD 8.79 billion by 2030, at a CAGR of 13.5% during the forecast period (2025-2030).

The active optical cables market is currently experiencing robust growth, and it is expected to grow further owing to the large-scale adoption of cloud-based services, digitalization, 5G, data centers, and other applications.

* The active optical cable (AOC) market is mostly driven by the increasing need for high-speed data transmission in a variety of applications, including data centers, telecommunications, and consumer electronics. The growing need for data throughput through various applications is expected to drive the demand for the AOC Market.

* The data center market is growing rapidly owing to the large-scale application of cloud technologies, digitalization, and growing demand for AI/ML. According to Cloudscene, a telecommunication services provider, there are approximately 10,978 data center locations worldwide as of December 2023, with numbers growing rapidly. Data centers require robust and high-speed internet connectivity. Therefore, the growth in the data center market is anticipated to drive the AOC market as well.

* 5G implementation is poised to meet the escalating demand for efficient communication, which is crucial for enhancing digital operations. While 5G's broader wavelength enables rapid data transmission, its signals are limited in range compared to 3G and 4G. Consequently, a robust 5G network necessitates a dense array of cell towers, each reliant on high-speed cables for signal transmission, thereby bolstering the demand for the AOC market.

* GSMA forecasts that 5G connections will account for over half (51%) of all mobile connections by 2029, climbing to 56% by the decade's end, solidifying 5G as the leading connectivity technology. 5G has outpaced all previous mobile generations in its rollout, exceeding 1.6 billion connections by the end of 2023, and it is projected to reach 5.5 billion by 2030. Consequently, as 5G continues its rapid expansion, the global active optical cables market is poised for significant growth in the near future.

* Concerns over the security of optical transmissions and potential vulnerabilities in sensitive data applications may impede the widespread adoption of AOCs. Additionally, AOCs often pose greater maintenance and repair challenges compared to traditional copper cables, particularly in sectors requiring swift service interventions.

Global Active Optical Cables (AOC) Market Trends and Insights

Rising Demand for Active Optical Cable in Data Centers to Drive the Market* The global active optical cable (AOC) market has witnessed significant growth in recent years, propelled by the surging demand for high-speed data transmission across industries. With technological advancements, the emphasis on efficient and dependable connectivity solutions has never been more critical. Active optical cables (AOCs) stand out as high-speed cabling solutions, incorporating active elements like lasers and photodiodes directly into the cable assembly. These components are pivotal, facilitating the transmission of optical signals through fiber optic cables. In the realm of data centers, the term '200G AOC' specifically denotes cables engineered to support data rates of 200 gigabits per second (Gbps).

* Additionally, in high-performance computing (HPC) settings demanding substantial computational power, the 200G AOC facilitates swift data exchange between processors and storage units. Organizations leverage high-performance computing for parallel processing, empowering them to execute advanced programs like AI and data analytics. Data centers, especially those emphasizing AI and machine learning, stand to gain significantly from HPC.

* The rise of cloud computing within organizations significantly drives the data center market. According to the Flexera State of the Cloud Report 2023, 72% of companies have adopted hybrid clouds. Yet, this transition frequently means moving beyond conventional private and public cloud infrastructures.

* Active optical cables (AOCs) are pivotal in connecting data center cabling racks and switches, enabling seamless communication between switches and servers. Typically, data centers first install switches, then implement structured cabling, and finally, select the appropriate interconnect products for network access. Copper cables are the most cost-effective choice for short distances, defined as under 90 meters for 10G and under 10 meters for 40G. For medium distances spanning under 500 meters for 10G and 150 meters for 40G, multimode VCSEL (vertical cavity surface emitting laser) transceivers are favored, often complemented by AOCs.

* India's data center market is set for a significant uptick, with forecasts pointing to a climb to USD 4.6 billion by 2025. This growth is fueled by several factors: a growing domestic internet user base, rising demands for cloud computing, government initiatives driving digitalization, and a shift toward localization by digital service providers. Notably, India's data center sector boasts a significant cost advantage, both in its development and operational phases, compared to more mature markets. Currently, key data center hubs are primarily located in Mumbai, Bengaluru, Chennai, Delhi (NCR), Hyderabad, and Pune, with emerging centers in Calcutta, Kerala, and Ahmedabad. As investments in data centers expand, so does the demand for ancillary infrastructure services covering IT, electrical, mechanical, and general construction throughout India.

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North America to Hold a Major Share* North America boasts the world's largest data center market, currently experiencing a notable rise in hyperscale data center construction. This surge is primarily fueled by the escalating demand for cloud services and the ongoing digital transformation. Recent data from Cloudscene, as of March 2024, highlights the United States as the global leader, housing 5,381 reported data centers. Germany and the United Kingdom follow closely, with 521 and 514 centers, respectively. Historically, copper cables have been the go-to for networking links between servers, routers, and switches. With the expanding data center landscape, the demand for active copper cables in the region is set to rise.

* The demand for new data centers in the United States remains strong, with fresh projects unveiled almost weekly. In March 2024, Amazon disclosed its plan to invest a hefty USD 650 million in acquiring a data center adjacent to the Berwick nuclear power plant. This initiative, confirmed by Talen Energy, the operator of the Susquehanna Steam Electric Station in Salem Township, will see Amazon's web services arm spearhead the development of the new data center.

* The development of high-speed internet in the United States is also a major fa

ctor driving the global AOC market. The US Department of Agriculture (USDA) has pledged a total of USD 97 million to assist operators in establishing networks. These networks are aimed at areas lacking connectivity or falling below the US government's set target of 100 Mbps download and 20 Mbps upload speeds for all American households by 2027. This initiative is set to enhance services for 22,000 subscribers across 11 states.

* Green City's Northeast Missouri Rural Telephone Company secured a USD 13.7 million loan to transition six exchanges from copper to fiber-to-the-premises technology. This initiative involves laying down approximately 500 route miles of fiber, with the aim of enhancing services for 1,063 subscribers.

* In October 2023, the US Federal Communications Commission (FCC) initiated a significant investment of approximately USD 18.28 billion to strengthen rural broadband infrastructure. This funding, allocated for a 15-year program commencing in January 2024, targets the deployment of 100/20 Mbps broadband to over 700,000 locations. Furthermore, it aims to upgrade existing services for approximately 2 million locations spread across 44 states. This ambitious broadband expansion is set to have a profound impact on the AOC market.

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Competitive LandscapeThe active optical cables (AOC) market is fragmented in nature. Some major players in the market studied are ACT, Broadcom Inc., Sumitomo Electric, JPC Connectivity, etc. Players in the market are adopting strategies such as partnerships, agreements, innovations, and acquisitions to enhance their service offerings and gain sustainable competitive advantage.

* January 2024: OFS, a prominent figure in the fiber optic solutions realm, unveiled its latest innovation: the LaserWave Dual-Band OM4+ Multimode Optical Fiber. This addition to the lineup, alongside the already esteemed OM4 and OM5 offerings, sets new benchmarks in bandwidth, attenuation, and geometry. The LaserWave Dual-Band OM4+ stands out as a premium yet cost-effective fiber, meticulously crafted for bidirectional (BiDi) applications. It is tailored to bolster the upcoming wave of high-density, low-power multimode links. Its capability to deliver performance akin to OM5 at both 850 nm and 910 nm wavelengths is also noteworthy, which is crucial for bidirectional transmissions. This ensures a consistent 100-meter reach, a vital metric for cutting-edge applications like Terabit BiDi Ethernet, including 800G-SR4.2 and 1.6T-SR8.2.

* January 2024: Telstra International teamed up with Trans Pacific Networks (TPN) to introduce the Echo cable system, marking the inaugural subsea cable directly linking the United States and Singapore. The initial segment of the Echo cable, a dedicated fiber-optic line linking Guam and the United States, is set for a mid-2024 debut, with subsequent segments slated for 2025. Upon completion, the cable will seamlessly link California, Jakarta, Singapore, and Guam. Telstra emphasizes that this system will not only forge a new route but also promise a network infrastructure characterized by low latency, high speeds, and robust resilience.

Global Active Optical Cables (AOC) Industry Leaders* ACT

* Broadcom Inc.

* IOI Group

* Sumitomo Electric Industries, Ltd.

* JPC Connectivity

* *Disclaimer: Major Players sorted in no particular order

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Recent Industry Developments* February 2024: Finolex Cables, in a strategic move, inked an MoU with the Maharashtra government, India, committing INR 580 crores (approximately USD 69.5 million) to bolster its optic fiber cable operations. With the impending nationwide 5G deployment and an escalating need for fiber-to-home connectivity, the company foresees a significant uptick in demand.

* April 2024: Sterlite Technologies Ltd (STL), an optical and digital solutions company, declared that its fiber optic cable products, produced in the United States, adhere to the 'Build America, Buy America' (BABA) mandates outlined in the Infrastructure Investment and Jobs Act (IIJA). As part of its "In America, For America" initiative, STL introduced the 'Rapid' series of optical fiber cables. These cables, spanning from high-capacity ribbonized variants to ruggedized designs, cater to various applications such as duct, direct burial, aerial, and last-mile connectivity, as highlighted in the company's official statement.

Table of Contents for Global Active Optical Cables (AOC) Industry Report1. INTRODUCTION

- * 1.1 Study Assumptions and Market Definitions

- * 1.2 Scope of the Study

2. RESEARCH METHODOLOGY

3. EXECUTIVE SUMMARY

4. MARKET INSIGHTS

- * 4.1 Market Overview

- * 4.2 Analysis of Macro-economic Scenarios (Recession, Russia-Ukraine Crisis, etc.)

- * 4.3 An Assessment of the Impact of and Recovery from COVID-19 Pandemic

5. MARKET DYNAMICS

- * 5.1 Market Drivers* 5.1.1 Change in the Telecom Sector Toward Faster Optical Networks

- * 5.1.2 Increased Need for Higher Bandwidth

- * 5.1.3 Rising Demand for Active Optical Cable in Data Centers

- * 5.1.4 Digitalization and High Adoption of 5G Connectivity

- * 5.2 Market Challenges* 5.2.1 Significant Initial Cost and Optical Network Security Fiber Hacking

- * 5.2.2 Significant Power Consumption Concerns

- * 5.2.3 Lack of Technical Expertise

- * 5.3 Analysis of Pricing and Technical Specifications

- * 5.4 Technology Insights on Direct Attach Cables (Active and Passive) vs. Active Optical Cable

- * 5.5 Global Trade Analysis

- * 5.6 Key Insights into Most Common Form Factor Specifications of AOC

- * 5.7 Key Insights into Various Protocol Types of AOC

6. MARKET SEGMENTATION

- * 6.1 By Application Area* 6.1.1 Data Center

- * 6.1.2 Telecommunication

- * 6.1.3 High-Performance Computing (HPC)

- * 6.1.4 Consumer Electronics

- * 6.1.5 Industrial Applications

- * 6.1.6 Other Applications

- * 6.2 By Region* 6.2.1 North America
 - * 6.2.1.1 United States
 - * 6.2.1.2 Canada
- * 6.2.2 Europe
 - * 6.2.2.1 United Kingdom
 - * 6.2.2.2 Germany
 - * 6.2.2.3 France
- * 6.2.3 Asia
 - * 6.2.3.1 China
 - * 6.2.3.2 India
 - * 6.2.3.3 Japan
 - * 6.2.3.4 Australia and New Zealand
- * 6.2.4 Latin America
- * 6.2.5 Middle East and Africa

7. COMPETITIVE LANDSCAPE

- * 7.1 Company Profiles* 7.1.1 JPC Connectivity
- * 7.1.2 Shenzhen Sopto Technology Co. Ltd
- * 7.1.3 Linkreal Co. Ltd
- * 7.1.4 Broadcom
- * 7.1.5 Sumitomo Electric Lightwave Inc.
- * 7.1.6 Black Box
- * 7.1.7 ACT
- * 7.1.8 IOI Technology Corporation
- * 7.1.9 ETU-Link Technology Co. Ltd
- * 7.1.10 Amphenol Corporation

* *List Not Exhaustive

8. MARKET OPPORTUNITIES AND FUTURE TRENDS

**Subject to Availability

Global Active Optical Cables (AOC) Market Report ScopeActive optical cables (AOC) incorporate optoelectronic modules in their connector heads, converting electrical signals to light. In contrast to passive copper cables that transmit signals through copper wires, AOCs necessitate intermediary signal conversions. Specifically, an AOC employs a dedicated chipset or driver, in tandem with laser technology, to transform electrical signals into photons. These photons travel through the cable and are ultimately converted back into electrical impulses at the opposite end.

The report covers the global active copper cables (ACC) market Companies, and the market is segmented by application (data center, telecommunication, high-performance computing (HPC), consumer electronics, industrial applications, and other applications), and region (North America (United States and Canada), Europe (United Kingdom, Germany, and France), Asia-Pacific (China, India, and Japan), Latin America, and the Middle East and Africa). The report offers market sizes and forecasts in value (USD) for all the above segments.

By Application AreaData Center |
 Telecommunication |
 High-Performance Computing (HPC) |
 Consumer Electronics |
 Industrial Applications |
 Other Applications |
 By RegionNorth America | United States |
 | Canada |
 Europe | United Kingdom |
 | Germany |

- | France |
- Asia | China |
- | India |
- | Japan |
- | Australia and New Zealand |
- Latin America |
- Middle East and Africa |
- By Application Area | Data Center |
- | Telecommunication |
- | High-Performance Computing (HPC) |
- | Consumer Electronics |
- | Industrial Applications |
- | Other Applications |
- |
- By Region | North America | United States |
- | | Canada |
- | |
- | Europe | United Kingdom |
- | | Germany |
- | | France |
- | |
- | Asia | China |
- | | India |
- | | Japan |
- | | Australia and New Zealand |
- | Latin America |
- | Middle East and Africa |

Key Questions Answered in the ReportHow big is the Global Active Optical Cables Market? The Global Active Optical Cables Market size is expected to reach USD 4.66 billion in 2025 and grow at a CAGR of 13.5% to reach USD 8.79 billion by 2030.

What is the current Global Active Optical Cables Market size? In 2025, the Global Active Optical Cables Market size is expected to reach USD 4.66 billion.

Who are the key players in Global Active Optical Cables Market? ACT, Broadcom Inc., IOI Group, Sumitomo Electric Industries, Ltd. and JPC Connectivity are the major companies operating in the Global Active Optical Cables Market.

Which is the fastest growing region in Global Active Optical Cables Market? Asia Pacific is estimated to grow at the highest CAGR over the forecast period (2025-2030).

Which region has the biggest share in Global Active Optical Cables Market? In 2025, the North America accounts for the largest market share in Global Active Optical Cables Market.

What years does this Global Active Optical Cables Market cover, and what was the market size in 2024? In 2024, the Global Active Optical Cables Market size was estimated at USD 4.03 billion. The report covers the Global Active Optical Cables Market historical market size for years: 2019, 2020, 2021, 2022, 2023 and 2024. The report also forecasts the Global Active Optical Cables Market size for years: 2025, 2026, 2027, 2028, 2029 and 2030.

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Global Active Optical Cables (AOC) Market ReportStatistics for the 2025 Global Active Optical Cables (AOC) market share, size and revenue growth rate, created by Mordor Intelligence™ Industry Reports. Global Active Optical Cables (AOC) analysis includes a market forecast outlook for 2025 to 2030 and historical overview. Get a sample of this industry analysis as a free report PDF download.

Global Active Optical Cables (AOC) Report Snapshots* Global Active Optical Cables (AOC) Companies