

# **Demand for AI Computing Power Optical Modules**





## Overview

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The global AI optical module market grew from RMB 600 million (USD 90 million) in 2020 to RMB 6 billion (USD 900 million) in 2024, achieving a compound annual growth rate (CAGR) of 82. Looking ahead, propelled by continuous iterations of next-generation high-speed products (such as 1.2T), the State Council issued the "Overall Layout Plan for Digital China Construction. Introduction: The Rise of AI Elevates Optical Modules to Strategic Importance With the rapid rise of AI technologies, data has become a new production factor. The high-speed, low-latency, and energy-efficient flow of this data requires a robust communication infrastructure. Product Type Outlook (Transceivers, Optical Amplifiers, Optical Switches), Application Outlook (Telecommunications, Data Centers, Enterprise Applications, Automotive, Healthcare), End-Use Outlook (Industrial, Non-Industrial, Consumer) The AI Computing Optical Modules Market size was estimated at. A surge in AI development created a new wave in demand for optical connectivity in 2023-2025 and it will sustain the market's growth.



## Demand for AI Computing Power Optical Modules

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# ITPro Today, Network Computing, IoT World Today combine

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ITPro Today, Network Computing and IoT World Today have combined with TechTarget. The page you are looking for may no longer exist.

## Why optical networking matters for AI: GPUs create the compute. Optical

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Why optical networking matters for AI: GPUs create the compute. Optical interconnect helps those GPUs work together as one giant system. As AI clusters get larger, faster and more power



## **AI Server Demand to Drive Memory Contract Price Increases in 2Q26**

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As demand in the retail market, as well as for memory cards and USB drives, continues to contract under pricing pressure, module makers are facing dual challenges in costs and sales,

## **Wall Street AI chip love moves from Nvidia to Intel, AMD and Micron**

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Demand for CPUs is skyrocketing as the AI race moves from chatbots to agents. While Nvidia dominated the early years of the AI infrastructure boom, the wealth is now being spread to

**In 2026, \$NVDA put \$15,000,000,000 in 7 AI super companies so far.**

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\$ETN Eaton -> AI power demand is becoming the next trillion-dollar bottleneck. Eaton provides the electrical infrastructure needed to sustain hyperscale AI expansion.

## **2026 Semiconductor Industry Outlook , Deloitte Insights**

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The semiconductor industry is navigating a high-stakes paradox in 2026. While soaring artificial intelligence-driven demand is pushing revenues to

## **Silicon Photonics and Co-Packaged Optics at the Heart**

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Yole Group unveils its latest photonic market and technology analyses, Silicon Photonics 2025 and Co-Packaged Optics for Data Centers 2025, which



## **Google's High-Speed Interconnect Architecture to Push**

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Google's next-generation TPU, Ironwood, integrates a 3D Torus network topology with the Apollo optical circuit switch (OCS) all-optical network,

## **TrendForce reports the global AI optical transceiver market**

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TrendForce reports the global AI optical transceiver market is projected to surge from \$16.5B in 2025 to \$26B in 2026, growing over 57% annually. Demand is driven by AI data center

## **Watch Jensen Huang's GTC 2026 Keynote: On Demand**

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NVIDIA GTC 2026 Keynote Catch all the highlights and announcements from NVIDIA CEO Jensen Huang's keynote. He'll cover the latest advancements

## **Five Key Trends of Co-Packaged Optics (CPO) in 2026**

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To address the energy demand from AI, co-packaged optics (CPO) brings optical engines directly adjacent to switch ASICs, accelerators, and

## **CPO (Co-Packaged Optics) Fast Ramp Rate Test Chamber for AI**

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As artificial intelligence, cloud computing, and hyperscale data center technologies continue evolving, the demand for higher bandwidth and lower power consumption is accelerating



## **Optical Bottleneck in AI: Data Center Interconnects Limit AI**

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Forecasts show AI compute could hit 25 FP8 TOPS by 2028, while the required inter-rack bandwidth climbs to 2.4 PB/s -- a tenfold jump in optical module shipments.

## **Development trend of optical**

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Between 2003 and 2024, over nearly two decades, the demand for intelligent computing power has grown by a hundred billion times. The breakthrough progress in AI large models has sparked a

## **Optical Module Products for AI Computing**

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Discover the increasing demand for optical modules in AI computing and the role they play in supporting high-speed data transmission. Learn about

## **The Application of Optical Modules in AI Technology**

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Optical modules reduce power consumption and improve system stability, allowing AI systems to run longer with fewer interruptions. These

## **Nasdaq: Stock Market, Data Updates, Reports & News**

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## **AI Computing Power Demand Boosts Gallium Arsenide: How US**

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As AI servers advance toward 800G and 1.6T, demand for optical modules is experiencing multi-fold growth. According to Win Semiconductors' financial reports, although the company's capacity

## **Analyzing Optical Modules in the AI Era**

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In the AI era, optical modules are crucial for data transfer. As AI expands in cloud services and data - heavy apps, demand for them grows. This

## **Deep, \$TSEM: SiPho Capacity Inflection Drives Multi-Fold Growth**

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Separately, we have highlighted the rapid progression of Optical Scale-Up, with volume production expected to commence in 2027. Delivering over 10x the optical bandwidth of



## **LightCounting :: Scale-up networks in AI Clusters is a**

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Use of optical connectivity in AI scale-up networks will contribute to the market's expansion in 2026-2030. We expect that CPO will emerge as the best option for

## **AI data centers hit interconnect limits, boosting optical module demand**

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The surge in optical module stocks reflects a deeper shift in AI infrastructure: the bottleneck is no longer computing power alone, but how that power is connected.



## **AI Computing Optical Modules Market Size, Growth Outlook 2034**

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Innovation in optical module technologies is a key trend shaping the AI Computing Optical Modules Market. Manufacturers are investing in research and development to create advanced optical

## **Global AI Optical Module Market: Size, Growth, and**

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This growth is primarily fueled by three core drivers: explosive growth in AI computing power demand, global data center upgrades, and cloud service

## **AI to drive 165% increase in data center power demand**

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At present, Goldman Sachs Research estimates the power usage by the global data



center market to be around 55 gigawatts (GW). This is comprised

## How AI Revolutionizes the Optical Module Industry

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Powered by the dual engines of AI and cloud computing, the optical module industry is evolving from a support role into strategic infrastructure.

## High-Speed Optical Module Demand Soars: AI

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Discovering the intersection of AI computing and escalating market trends, the reliance on optical modules has surged. From high-scale

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