

Why are optical module prices skyrocketing



Article Overview

Optical module prices are surging due to skyrocketing AI-driven demand, supply bottlenecks in high-speed modules, and sharply rising costs of critical materials like indium phosphide.

Key Drivers of Price Increases

1. Exploding AI Demand: The rapid growth of AI computing power is driving massive expansion in data centers, which require high-speed optical modules such as 800G and 1.6T. Each AI server consumes significantly more optical modules than conventional servers, creating a multiplicative demand effect . Morgan Stanley forecasts AI optical module shipments to rise from 73 million units in 2026 to 158 million units in 2028, reflecting a surge in both volume and unit prices . 2. Supply Bottlenecks and Technological Barriers: High-end optical modules are complex to manufacture. Production capacity for 800G modules is limited, and 1.6T modules are just being introduced. Leading manufacturers hold pricing power due to high R&D costs and rapid technological iteration. Advanced packaging capacity, such as CoWoS, is restricted to a few companies like TSMC and ASE, further constraining supply . 3. Raw Material Shortages: Indium phosphide (InP), the essential substrate for high-speed optical modules, has seen prices nearly triple from \$800 to \$2,300-\$2,500 for 2-inch wafers between early 2025 and April 2026. InP is irreplaceable for high-performance lasers and photodiodes due to its direct bandgap and efficiency at critical fiber-optic wavelengths. Rising indium prices and limited global production (with China controlling 70%) are cascading through the supply ch...

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In general, the price increase of optical modules is the inevitable result of strong demand (the AI computing power race)

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As someone who tracks telecom supply chains, I see this as a critical inflection point. Let's dissect the key drivers

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The post The Physical Bottleneck of AI: Why Optical Fiber Prices Are Skyrocketing appeared first on PlanHub.ca The Blog -

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In this post, we break down the current market status, the root causes behind the sudden price spikes, and what to

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://www.watermanfinance.co.za>

Email: sales@watermanfinance.co.za

Phone: +49-176-8294713

Address: Neue Mainzer Str. 66-68, 60311 Frankfurt am Main, Germany

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