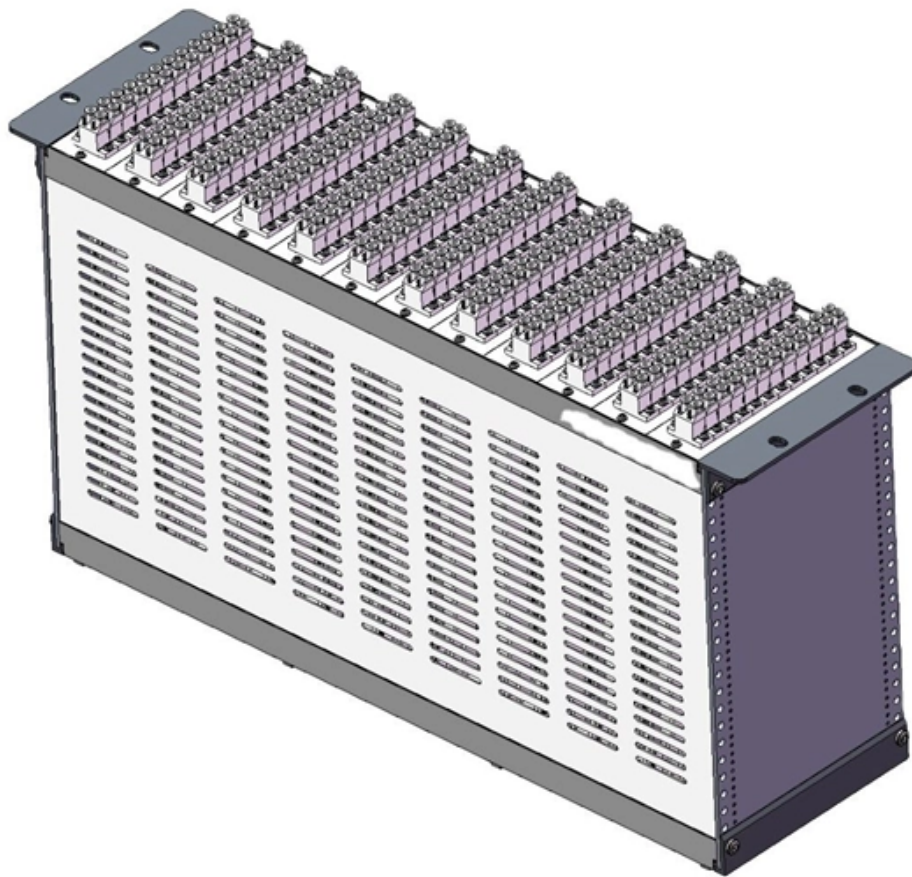




**Adam Tas Corridor Energy**

# **40G Co-packaged Photonics Original Product**





## 40G Co-packaged Photonics Original Product

---

### Next-generation Co-Packaged Optics for Future Disaggregated AI

Co-packaged Optics (CPO) Large-scale data-center networking and switches & Rise of data-intensive AI/ML applications [Broadcom Tomahawk-3] Demands significantly larger off-package I/O bandwidths!



### Co-Packaged Photonics For High Performance Computing: Status

Photonics die or integrated photonics modules co-packaged with compute engines have the potential to deliver significant improvements in power, bandwidth and reach needed to meet the computing and



### Nvidia Unveils Game-Changing Optical Network Switch

Nvidia's new optical network switch, announced at GTC, promises to revolutionize AI data centers by drastically cutting power consumption and



### PIC, Wafer, & Co-Packaged Optics

Quantifi Photonics provides automated high-volume test solutions for PICs, wafer-level devices, and co-packaged optics.



### Co-Packaged Optics

Co-Packaged Optics (CPO) is an advanced Silicon Photonics integration and packaging solution addressing next-gen bandwidth and power challenges. Its

### A large-scale coherent 4D imaging sensor

A 4D imaging architecture using a large-scale, coherent LiDAR focal plane array comprising more than 0.6 million photonic components and associated electronics integrated on-chip



### Integrating silicon photonics with complementary metal-oxide

Complementary metal-oxide-semiconductor-integrated silicon photonics offers a practical path forward by combining high-volume manufacturing with mature photonic building blocks.



## Co-packaged datacenter optics: Opportunities and

Conventional (non-silicon-photonic) optical modules are complex micro-optical systems made with many discrete components, often hand

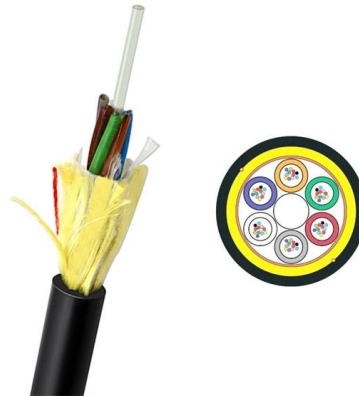


## Co-packaged optics (CPO): status, challenges, and solutions

This section mainly discusses 2D/2.5D/3D silicon photonic co-packaging module developed by IMECAS, 2D MCM photonic module package issues, and the challenges of silicon photonic wafer-level

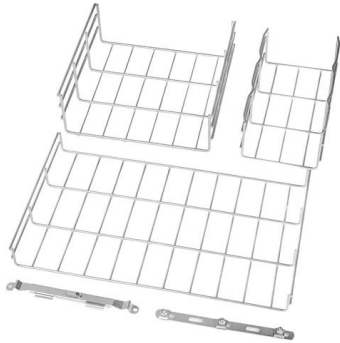
## Products , IPG Photonics Corporation

IPG manufactures a complete set of optical beam delivery components, including scanners and process heads, beam couplers, beam switches, and collimators, all ready for seamless integration with IPG



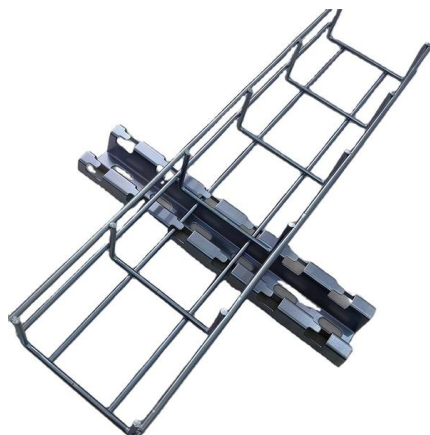
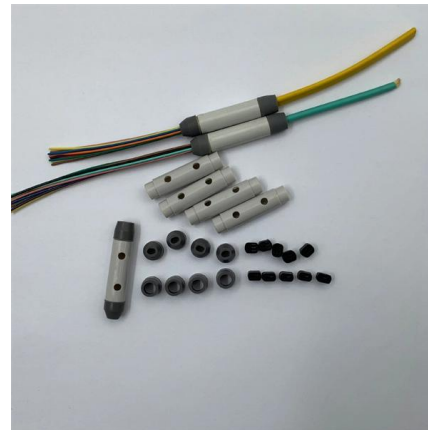
## Two-photon lithography for integrated photonic packaging

Mahajan, R. et al. Co-packaged photonics for high performance computing: status, challenges and opportunities. Journal of Lightwave Technology 40, 379-392 (2022).



### Micromirror fabrication for co-packaged optics using 3D

Co-packaged optics (CPO) is a key technology for addressing power bottlenecks in datacenters by integrating optical and electrical components and



### Co-packaged optics are inching closer to

Silicon photonics is now a well-established technology and market for optical transceivers. In 2021, more than 9 million silicon photonic transceivers were shipped for datacenters.

### Marvell Advances Co-Packaged Optics and Advanced

Nagarajan highlighted how co-packaged optics is transforming data center architectures by integrating photonics and electronics on a common





## Co-Packaged Optics - List of Examples - Ansys Optics

Ansys Lumerical and Zemax toolsets provide the best-in-class solutions to simulate and design complete optical coupling systems for co-packaged optics and other integrated photonics applications.

## Co-packaged optics (CPO): status, challenges, and solutions

Co-packaged optics (CPO) is a disruptive approach to increasing the interconnecting bandwidth density and energy efficiency by dramatically shortening the electrical link length through advanced

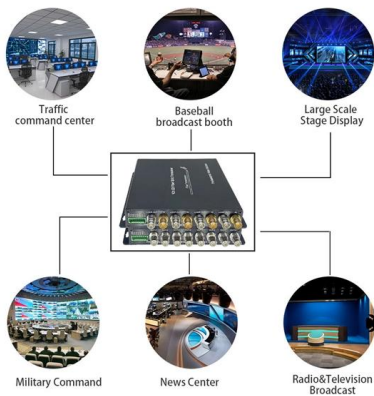


## Heterogeneous Integration Technology Drives the

The rapid growth of artificial intelligence (AI), data centers, and high-performance computing (HPC) has increased the demand for large bandwidth,

## IBM Brings the Speed of Light to the Generative AI Era

IBM has unveiled breakthrough research in optics technology that could dramatically improve how data centers train and run generative AI models.



### **CPO (Co-Packaged Optics Solutions) , ASMPT SEMI**

CPO solutions by ASMPT enable high-speed data and energy-efficient Co-Packaged Optics packages--optimize electronics and photonics integration now.

### **Ethernet Switching for AI and the Cloud , NVIDIA**

Introduction NVIDIA Spectrum Ethernet Switches  
NVIDIA Spectrum(TM) Ethernet switches accelerate networking for all layers of software and hardware. Fully standards-based Ethernet, they power



### **Why Co-Packaged Optics Are a Game Changer , RealIZM**

Nevertheless, the most mature technology for such co-packaged solutions is still silicon photonics as an interposer. What is your opinion about the general



## Co Packaged Optics (CPO) - Scaling with Light for the

Co-Packaged Optics (CPO) has long promised to transform datacenter connectivity, but it has taken a long time for the technology to come to market,



## Co-packaged optics can supercharge generative AI computing

With this innovation, IBM can produce co-packaged optics modules at its Bromont facility. The team is building out a roadmap for

## Coherent Demonstrates Multiple Technologies for Co

These demonstrations highlight Coherent's ability to support multiple optical architectures for co-packaged optics, leveraging its expertise across key



## A\*STAR -- Powering the Future of Silicon Photonics

These platforms are widely applied in high-speed networking chips, AI accelerators, and Co-Packaged Optics (CPO) modules. Silicon Photonics &



## Co-Packaged Photonics For High Performance Computing: Status

Photonics die or integrated photonics modules co-packaged with compute engines have the potential to deliver significant improvements in power, bandwidth and reach needed to meet the



## Ultrafast laser processing of glass waveguide substrates

Grenier JR, Brusberg L, Wieland KA, Matthies J and Terwilliger CC (2023) Ultrafast laser processing of glass waveguide substrates for multi-fiber

## What is Co-Packaged Optics?

Learn how co-packaged optics is reshaping data center networks by slashing power use and unlocking massive bandwidth for next-gen AI performance.





## **Co-packaged datacenter optics: Opportunities and challenges**



Conventional (non-silicon-photonics) optical modules are complex micro-optical systems made with many discrete components, often hand-assembled, and packaged in low densities with relatively

## **Contact Us**

---

For datasheets, pricing, or custom telecom energy solutions, please visit:  
<https://www.koskolong.co.za>