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Marvell to Showcase Industry-First 2nm Optical Technology Demos for AI Data Center Infrastructure at ECOC 2026

- **First 2nm demos:** Demonstrations of first 2nm 400G/lane optical PAM4, first 2nm 800G ZR/ZR+ pluggable with MACsec and first 2nm 1.6T ZR and O-band coherent-lite technologies.
- **Enabling AI infrastructure scaling:** Marvell advanced optical and silicon design leverages leading-edge process nodes to deliver the improvements in performance, bandwidth density and power critical to scaling AI infrastructure efficiently.
- **Innovation on display at ECOC:** Marvell to showcase the breadth of its comprehensive AI infrastructure portfolio through 38 advanced technology demos. These include the Marvell 102.4T co-packaged optics (CPO) platform, alongside additional demos developed with its partner ecosystem.

SANTA CLARA, Calif.--(BUSINESS WIRE)-- [Marvell Technology, Inc.](#) (NASDAQ: MRVL), a leader in data infrastructure semiconductor solutions, today announced industry-first 2nm optical interconnect demonstrations that advance the next generation of AI data center connectivity. The technologies will be showcased at the European Conference on Optical Communication (ECOC) 2026, September 20–24, 2026, in Málaga, Spain, underscoring how Marvell continually delivers new waves of advanced connectivity solutions to scale AI infrastructure.

As AI data center architectures scale from 1.6T to 3.2T and beyond, operators require faster, lower-power and more secure optical interconnects to serve AI scale-up, scale-out and scale-across domains. Increasing bandwidth density while reducing power per bit has become critical to scaling AI infrastructure efficiently.

Building upon a multi-generational history of industry firsts—including the first 5nm 200G/lane 1.6T Marvell® Nova DSPs in 2023, the 3nm 1.6T Ara platform in 2024 and the 2nm 800G Libra DSPs announced earlier this year—today Marvell is extending its portfolio of industry-leading 2nm connectivity solutions, including optical PAM4, coherent-lite PAM4/IMDD and ZR/ZR+ coherent solutions in the 2nm node. These technologies are optimized to enable ultra-high-speed interconnects that deliver faster communication between XPU, CPUs, accelerators, and memory resources and improve energy efficiency to help data center operators manage the ever-increasing power demands of large AI deployments.

At ECOC 2026 Marvell will highlight:

- **First 2nm 400G/lane optical PAM4 demonstration:** Highlighting the company's multi-generational PAM4 leadership, the technology provides low-power, ultra-high-speed

optical connections to help scale AI infrastructure, enabling the transition to 3.2T data center connectivity.

- **First live demonstration of 2nm 800G ZR/ZR+ with MACsec:** Powered by the [Marvell Libra 2nm coherent DSP](#), the 800G ZR/ZR+ OSFP pluggable integrates media access control security (MACsec), expanding the company's extensive coherent DSP and Marvell COLORZ® pluggable portfolios, delivering efficient, high-performance and secure optical transmission for hyperscale AI and cloud data center networks worldwide.
- **First 2nm 1.6T ZR and coherent-lite O-band demonstrations:** The 1.6T ZR and 1.6T coherent-lite demonstrations are powered by next-generation Marvell DSPs [announced earlier this year](#), optimized to deliver high-bandwidth connectivity within and between data center facilities and paving the way for 3.2T connectivity.
- **Advanced CPO technology for next-generation AI fabrics:** The Marvell CPO platform integrates optics directly with AI accelerators and switch silicon, as per-lane speeds and multi-rack AI pods push past copper's reach limits. Demonstrated at 102.4 Tbps with 200G-per-lane silicon photonics, the platform delivers the bandwidth density and power efficiency needed to scale AI fabrics.

"AI data center operators need optical interconnect technologies that deliver higher bandwidth, lower power and greater security across every part of the network," said Xi Wang, senior vice president and general manager, Connectivity Business Unit at Marvell. "These ECOC demonstrations highlight how Marvell continually pushes the envelope of what is possible in optical technology to help hyperscaler and cloud data center customers achieve new levels of performance, efficiency and scalability to drive new waves of innovation."

Marvell Executive Presentations and Booth Demos at ECOC 2026

Marvell executives will also participate in presentations and panels on optical connectivity for next-generation AI data center infrastructure. This includes a fireside chat on new and emerging optical technologies with Senior Vice President and General Manager of the Connectivity Business Group Xi Wang, and sessions by several other Marvell experts. A full lineup of Marvell speaking sessions is available [here](#).

In addition to industry-first 2nm demonstrations, Marvell will also showcase solutions across its AI infrastructure portfolio at [ECOC \(Booth # 2002\)](#), from 224G SerDes and 1.6T optics to coherent interconnects and optical memory fabrics.

To learn more or experience the technology demonstrations at ECOC 2026, contact your Marvell sales representative.

About Marvell

To deliver the data infrastructure technology that connects the world, we're building solutions on the most powerful foundation: our partnerships with our customers. Trusted by the world's leading technology companies for over 30 years, we move, store, process and secure the world's data with semiconductor solutions designed for our customers' current needs and future ambitions. Through a process of deep collaboration and transparency, we're ultimately changing the way tomorrow's enterprise, cloud and carrier architectures transform—for the better.

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Media Contact:
George Millington
pr@marvell.com

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