Coherent Introduces Next-Gen 2D VCSEL and Photodiode Arrays To Accelerate AI-Driven Optical Interconnects

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SAXONBURG, Pa., Sept. 25, 2025 (GLOBE NEWSWIRE) -- Coherent Corp. (NYSE: COHR), a global leader in photonics, today announced a breakthrough in short-reach optical interconnect technology with the demonstration of its next-generation 2D VCSEL and photodiode (PD) arrays. Best suited for “slow and wide” interconnections in scale-up AI networks, these arrays enable power-efficient and compact links optimized for short reach, addressing the surging data traffic demands in modern datacenters.

Leveraging its proven 100G PAM4 multimode VCSEL and PD platform, Coherent has introduced a high-density 2D array architecture (1.6T, 850 nm, 32x50G NRZ) that enables copper link replacement and optimal degree of parallelism. With advantages in low power consumption, reduced latency, and cost efficiency, these arrays are designed to support the transition to Near-Packaged Optics (NPO) and Co-Packaged Optics (CPO), accelerating the deployment of AI/ML workloads in hyperscale datacenters.

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“We are continuously anticipating the needs of next-generation datacenter interconnects. Our high-density multimode 2D VCSEL and PD arrays represent an important step forward in enabling parallelism, power-efficient design, and flexible architectures that will shape the future of AI and machine learning networks,” said Karlheinz Gulden, Senior Vice President, Laser and Subsystems at Coherent.

As an initial step toward enabling high-performance AI/ML scale-up links, Coherent will introduce 1060 nm backside-emitting (BSE) flip-chip VCSEL/PD array variants in 2026, expanding its product portfolio for next-generation optical networking. Attendees can experience this innovation firsthand at ECOC 2025, Booth C3124 in Copenhagen, Denmark, September 29 – October 1, 2025.

About Coherent

Coherent is the global photonics leader. We harness photons to drive innovation. Industry leaders in the datacenter, communications, and industrial markets rely on Coherent’s world-leading technology to fuel their own innovation and growth.

Founded in 1971 and operating in more than 20 countries, Coherent brings the industry’s broadest, deepest technology stack; unmatched supply chain resilience; and global scale to help its customers solve their toughest technology challenges. For more information, visit us at coherent.com.

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A photo accompanying this announcement is available at: https://www.globenewswire.com/NewsRoom/AttachmentNg/35cc663b-5b75-4ec4-802f-b548b52867b0