NEWS RELEASE

Lumentum Showcases Next-Generation InP Chip Solutions Enabling Scalable AI Data Centers at OFC 2025

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SAN JOSE, Calif.--(BUSINESS WIRE)-- Lumentum Holdings Inc. ("Lumentum"), a global leader in optical and photonic solutions for the cloud and networking markets, announced today new advancements in foundational indium phosphide (InP) photonic chip technologies designed to deliver higher bandwidth and more power efficient connectivity for next-generation AI-driven data centers. Lumentum's latest InP innovations — enabling future 400 Gbps-per-lane optical links, more efficient 200 Gbps-per-lane optical links, and co-packaged optics — will be showcased in live demonstrations and a technical presentation at the 2025 Optical Fiber Communications Conference and Exhibition (OFC) at Lumentum booth #2119 in San Francisco, California, April 1-3.

As AI workloads grow exponentially, optical link speeds in AI back-end networks are doubling approximately every two years — driving a critical need for innovation in leading-edge photonic technologies. At the same time, power availability and cooling requirements are placing increasing constraints on data centers, making energy efficiency more important than ever. Lumentum's InP component technologies directly address both challenges by enabling power-efficient bandwidth scaling in photonic interconnects.

"Building on decades of InP expertise, Lumentum is driving industry technology leadership and volume production readiness for the future 400G per lane generation of optical interconnects, along with more efficient 200G per lane optical interconnects, to enable data center compute capacity scaling," said Matt Sysak, Lumentum CTO of Cloud and Networking. "Lumentum InP technology is also enabling new co-packaged optics solutions to significantly reduce power consumption in AI data center networks, supporting larger AI installations and accelerating the transition from copper to photonic interconnects."

Advancing 400 Gbps-per-Lane Laser Technology

Lumentum is demonstrating 400 Gbps-per-lane photonic technologies poised to enable the 3.2T generation of optical transceivers at OFC 2025 in live demonstrations and partner announcements, including:

- **448G EML:**Lumentum will demonstrate 448 Gbps data transmission using a 224 GBaud PAM4 externally modulated laser (EML) technology in collaboration with Keysight Technologies and NTT Innovative Devices at booth #1301. Lumentum's high-bandwidth InP EML will enable next generation power-efficient, high-speed optical interconnects for AI and cloud infrastructure.
- **450G PAM4 DFB-MZI:**A live demonstration of Lumentum's 450 Gbps PAM4 distributed feedback (DFB) laser with an integrated Mach-Zehnder (MZI) modulator will highlight another of Lumentum's 400 Gbps-per-lane technologies. Also based on Lumentum's high-speed InP photonic technology platform, the DFB-MZI provides superior chirp control, power efficiency, and reduced signal distortion, which are critical advantages for longer reach applications and complements Lumentum's 400 Gbps-per-lane EML technology. See the demonstration at booth #2119.

High-Efficiency 200 Gbps-per-Lane Transmitter Technology

Lumentum today delivers best-in-class transmit and receive components designed to meet the demands of next-generation AI data centers. Transitioning from 100 Gbps to 200 Gbps lane speed enables data center bandwidth scaling to support accelerated AI workloads. Lumentum's 200 Gbps-per-lane InP EMLs are available now.

To address power challenges in bandwidth scaling, Lumentum engineers presented a technical paper at OFC 2025 detailing results from Lumentum's new 200 Gbps-per-lane differential drive electro-absorption modulated laser (DD EML). These lasers operate at a lower drive voltage, reducing power dissipation while offering excellent signal integrity and cross-talk immunity.

Complementing the 200G EMLs is Lumentum's 200G Lens Integrated Photodiode (LIPD) which features high responsivity and wide bandwidth. The 200G LIPD integrates seamlessly with flip-chip bonding techniques.

Ultra-High-Power Lasers for Co-Packaged Optics

Lumentum's breakthrough ultra-high power (UHP) 1310 nm DFB lasers are engineered for the demanding requirements of co-packaged optics (CPO) to support higher-density optical interconnects with enhanced power efficiency, reliability, and density. The UHP platform's proven high reliability is rooted in Lumentum's long-standing leadership in InP pump lasers for demanding Raman amplification applications.

Lumentum was recently selected as an NVIDIA silicon photonics ecosystem partner and Lumentum's ultra-high-power, high-efficiency lasers are integrated into NVIDIA's newly announced Spectrum-X Photonics and Quantum-X Photonics networking switches.

InP photonic technology is a critical enabler of AI data center compute capacity growth. Lumentum continues to innovate and be at the forefront of InP photonic technology and is collaborating closely with industry leaders to shape long-term technology roadmaps. By advancing next-generation InP photonic solutions, the company is enabling power-efficient bandwidth scaling in optical interconnects.

About Lumentum

Lumentum (NASDAQ: LITE) is a market-leading designer and manufacturer of innovative optical and photonic products enabling optical networking and laser applications worldwide. Lumentum optical components and subsystems are part of virtually every type of telecom, enterprise, and data center network. Lumentum lasers enable advanced manufacturing techniques and diverse applications, including next-generation 3D sensing capabilities. Lumentum is headquartered in San Jose, California,

with R&D, manufacturing, and sales offices worldwide. For more information, visit www.lumentum.com and follow Lumentum on Bluesky, Facebook, Instagram, LinkedIn, X, and YouTube.

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