Lightmatter Joins XPO MSA as Founding Member to Accelerate High-Density Optical Interconnects for AI Data Centers

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MOUNTAIN VIEW, Calif. — March 12, 2026 — Lightmatter, the leader in photonic (super)computing, today announced its role as a founding member of the XPO (eXtra-dense Pluggable Optics) Multi-Source Agreement (MSA). Organized by Arista Networks, the XPO MSA aims to define a next-generation optical transceiver form factor designed to meet the massive bandwidth, reliability, and density requirements of hyperscale AI data centers.

As AI models grow in complexity, traditional pluggable optical transceivers have struggled to keep pace with the performance demands of next-generation switches and XPUs. The XPO specification addresses these bottlenecks by enabling a 4X increase in switch rack density compared to conventional pluggable transceivers, including OSFP. As a founding member, Lightmatter is leveraging its silicon photonics expertise to help evolve pluggable architecture, bringing its industry-leading bandwidth density as a key differentiator.

“The rapid growth of AI infrastructure requires a fundamental rethinking of interconnects across the entire data center,” said Nick Harris, Ph.D., Founder and CEO of Lightmatter. “Joining the XPO MSA allows Lightmatter to contribute our expertise in high-bandwidth-density, bidirectional photonics to a collaborative, multi-vendor ecosystem. We are committed to delivering differentiated solutions that eliminate data bottlenecks across all interconnect categories, helping the industry move beyond the limitations of traditional pluggables and copper-based interconnects.”

Key advantages of the XPO platform, enhanced by Lightmatter’s Passage™ photonic interconnect technology, include:

- **Higher Bandwidth Density**: Best-in-class fiber bandwidth density with Lightmatter’s industry-leading bi-directional link architecture.
- **Integrated Liquid Cooling**: The XPO design features an integrated cold plate, the most efficient way to manage heat in next-generation liquid-cooled AI data centers.
- **Enhanced Reliability**: By reducing component counts and operating at lower temperatures, XPO offers substantial improvement in reliability per bit.
- **Architectural Flexibility**: The MSA supports a range of optics technologies—including standards such as Data Center Reach, Fabric Reach and Long Reach.

Lightmatter will showcase its latest photonic innovations at the Optical Fiber Communication (OFC) conference in Los Angeles, from March 15-19, 2026. For more information, please visit https://lightmatter.co/event/ofc-2026/.

About Lightmatter

Lightmatter® is leading a revolution in AI data center infrastructure, enabling the next giant leaps in human progress. The company's groundbreaking Passage platform—the world's first 3D-stacked silicon photonics engine—and Guide®—the industry's first VLSP™ light engine—connect thousands to millions of processors. Designed to eliminate critical data bottlenecks, Lightmatter's technology delivers unprecedented bandwidth density and energy efficiency for the most advanced AI and high-performance computing workloads, fundamentally redefining the architecture of next-generation AI infrastructure. Visit www.lightmatter.co to learn more.

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