Lightmatter Announces Reference Architecture Initiative with Industry Leaders in the Open Compute Project for Co-Packaged Optics

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Open specification and ecosystem collaboration aims to facilitate AI infrastructure transition to integrated optics for hyperscalers

Mountain View, Calif. – March 16, 2026 – Lightmatter, today announced a new collaborative initiative within the Open Compute Project (OCP) to create open specifications for a shared reference architecture enabling interoperable Co-Packaged Optics (CPO) in next-generation AI systems. The announcement, in conjunction with the submission of a white paper titled “Open Collaboration for CPO-Enabled AI Systems,” will initiate the project. This proposal underscores Lightmatter’s commitment to advancing AI infrastructure in open collaboration with ecosystem leaders, including Celestica, Corning Incorporated, Dell Technologies, Inc., Flex, Foxconn Interconnect Technology, Hyve Solutions, Keysight, Qualcomm Technologies, Inc., and Quanta Cloud Technology.

The exponential increase in AI workloads has exposed a critical bottleneck in electrical interconnects, which is now driving the industry toward CPO solutions to scale next-generation AI infrastructure. CPO offers a solution by integrating photonics directly with silicon, providing massive increases in bandwidth that contribute to large gains in compute, power and space efficiency. However, the complexity of CPO systems presents challenges around integration, interoperability, reliability and scaling across a diverse supply chain. This project directly addresses the need for collaborative open standards that will enable a robust ecosystem, high-volume production and seamless integration of CPO in hyperscale data centers.

“The AI revolution is at a pivotal moment, and we must ensure interoperable solutions that can be produced and deployed at scale across the industry’s diverse ecosystem,” said Nick Harris, Ph.D., Founder and CEO at Lightmatter. “We believe the answer is in open collaboration. By working with the OCP community, we can define the standards that will unlock the full potential of CPO, enabling a vibrant ecosystem across the hyperscaler supply chain. We are already seeing strong support from industry leaders who recognize the urgency of this effort.”

This collaboration proposes to bring together AI system architects, advanced manufacturing partners, and networking leaders to align on a shared vision and roadmap for CPO. The goal is to develop open standards for components and systems and to establish a framework for interoperability testing and certification.

Analyst Perspective from Dell’Oro : “The rapid growth of AI workloads is creating immense pressure on the entire data center stack, with the interconnect fabric emerging as a major bottleneck,” said Sameh Boujelbene, Vice President, Market Research at Dell’Oro Group. “The industry has long recognized the critical role of Co-Packaged Optics in addressing power, performance, and density challenges. An open, collaborative initiative like the one proposed by Lightmatter is crucial to bridging the technological and supply chain gaps that have hindered widespread adoption, accelerating the path to next-generation AI infrastructure.”

This initiative is already generating significant interest and support among leading ecosystem vendors and experts who recognize the importance of open, interoperable CPO-enabled AI infrastructure:

Celestica: “Celestica is a long-standing participant in the OCP community, we support industry collaboration to advance open networking and hardware solutions,” said Randy Clark, VP, System Design Engineering, Celestica. “Industry efforts exploring areas such as open standards for co-packaged optics contribute to the ongoing work supporting the next generation of high-performance, open AI infrastructure.”

Corning Incorporated: “Co-Packaged Optics represents a fundamental shift in how optical connectivity is designed, manufactured, and deployed for large-scale AI systems,” said Benoit Fleury, Photonics Connectivity Solutions Commercial Director at Corning Optical Communications. “Successfully deploying CPO at scale will require tight integration of photonic materials, optical fibers, high-density connectivity, advanced packaging, and system-level design, all delivered with the performance and reliability that hyperscalers demand. Corning supports this OCP initiative to define open-reference architectures and specifications that enable broad interoperability and manufacturability across the ecosystem as it transitions from pluggable to integrated optics for next-generation AI infrastructures.”

Flex: “Delivering next-generation AI infrastructure requires a resilient, transparent supply chain and strong industry collaboration,” said Rob Campbell, President, Communications, Enterprise and Cloud at Flex. “As a longstanding contributor to the Open Compute Project, Flex is dedicated to advancing open standards that strengthen the data center ecosystem. Supporting this initiative builds on our close collaboration with customers on CPO, accelerating interoperability and certification frameworks that are essential to the widespread deployment of CPO-based systems globally.”

Foxconn Interconnect Technology, LTD: “As a leading provider of advanced IT infrastructure for GPU-accelerated computing, Foxconn understands the immense pressure on data center interconnects,” said Joseph Wang, CTO at Foxconn Interconnect Technology. “The lack of standardization in Co-Packaged Optics is a significant hurdle for widespread adoption. We believe that by joining this OCP initiative, we can help define a common framework that will accelerate the development and deployment of CPO solutions, enabling our customers to build more powerful and efficient AI systems.”

Hyve Solutions: “As exponential increases in AI training and inference workloads push up against existing interconnect limits, Co-Packaged Optics presents an opportunity for a more efficient and unified scale-up and scale-out network architecture,” said Winnie Lin, VP of Engineering at Hyve Solutions. “By contributing to this OCP reference architecture, we are helping to build an interoperable framework that enables hyperscalers to deploy more scalable, energy-efficient compute clusters with the performance and density required to drive the next wave of AI model innovation.”

Keysight: “As AI workloads push the boundaries of data center infrastructure, the industry requires aligned approaches to ensure seamless interoperability and performance at scale,” said Dr. Joachim Peerlings, Vice President and General Manager at Keysight’s Networks and Data Center Group. “Keysight is proud to support OCP’s AI Infrastructure Standards initiative, bringing our deep expertise in high-speed electrical and optical validation and emulation to this collaborative ecosystem. By establishing robust, open standards for next-generation interconnects, we are helping innovators mitigate risk and accelerate the path from CPO design to optically connected zettascale computing.”

Qualcomm Technologies: “As Qualcomm Technologies continues to scale its high-performance, power-efficient compute architecture from the edge into the hyperscale data center, the need for a collaborative and open

interconnect framework has never been greater," said Tony Chan Carusone, Technology Executive, Qualcomm Technologies, Inc. and Former CTO of Alphawave Semi, a Qualcomm company. "A shared reference architecture for Co-Packaged Optics is essential for fostering a diverse ecosystem that can deliver the interoperability and scalability required for the next generation of AI infrastructure."

Quanta Cloud Technology (QCT): "QCT is committed to providing powerful and efficient open infrastructure for AI-enabled data centers," said Mike Yang, President of QCT. "We are pleased to support this collaborative initiative to standardize Co-Packaged Optics, which will accelerate the development of more powerful, scalable, and efficient solutions for our customers and the broader AI community."

Lightmatter invites other industry leaders and system architects to join the initiative and help shape the future of AI interconnects. We are prepared to contribute our expertise and actively engage with standards bodies–including the OIF, IEEE, and OCP–and with MSAs, including XPO and OIP, to accelerate the adoption of this transformative technology.

To learn more or to join this Open Collaboration for CPO-Enabled AI Systems project, please contact our team at ecosystem@lightmatter.co.

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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