For Immediate Release

Near-Package Optics Is Only as Reliable as Its Connector: Mixx Backs Open Specifications for Optics Inside the Box

Mixx brings its low-loss SxC™ Connector, at 0.2 dB typical fiber-to-fiber, to the near-package step

SAN JOSE, Calif. – November 4, 2026 – Mixx Technologies, Inc., a US-based venture-backed system-scale optical connectivity company for hyperscale AI infrastructure, today set out its view of high-density optical scale-up as a member of the Expanded Beam Optics Multi-Source Agreement (EBO MSA) and a contributing member of the Open CPX MSA. As hyperscalers move optics into the box, near-package optics is only as reliable as its connector. Mixx's SxC™ Connector, the connectivity layer of its HBxIO™ platform, is an expanded-beam design engineered for the link budget, fiber density, and termination challenges of the near-package step. SxC™, launched in September, keeps loss low: 0.2 dB typical and under 0.5 dB maximum, fiber-to-fiber. The link budget is the total loss of laser power a link can tolerate between the emitter and the receiver, and every connection spends part of it.

Inference needs all-to-all connectivity, which comes down to radix: the number of ports on each switch. A higher-radix network needs fewer switching layers, so packets see less latency, the system draws less power, and fewer parts can fail. Radix also means fiber count: in a single Open Compute Project rack unit, SxC™ carries up to 24,576 fibers, four times the fiber density of MMC. The optical structures are formed at wafer scale, allowing fibers to be placed in a two-dimensional array for high density and low loss.

"AI inference is changing the shape of the network: every processor has to reach every other, and every step up in radix brings more fibers out through the edge of the box," said Vivek Raghuraman, CEO of Mixx Technologies. "Each of those fibers crosses a connector, which is where the link budget is decided. Every recovered dB becomes architectural headroom, and ultimately, economic advantage."

Termination, fixing each fiber into its connector, is a bottleneck across the industry as fiber counts scale. Mixx is addressing it in the design and enabling a high-throughput process, bringing semiconductor assembly techniques.

"Termination grows with every fiber, and the industry has to address it before optics can scale inside the box," Raghuraman said. "With one connector technology across the signal chain, we address termination in one design rather than four. Scaling optics means measuring production in units per hour, not hours per unit."

Mixx builds on the standards and components hyperscalers already trust, so the move to optical connectivity fits the infrastructure operators already run. The Open CPX MSA standardizes the socket beside the package, so that modules can come from multiple vendors. Mixx is building an Open CPX module that pairs the optical engine of its HBxIO™ platform with a detachable SxC™ connector, so the engine and fiber can be tested separately in manufacturing and replaced separately in the field.

“The measure of a solution is whether a hyperscaler can confidently deploy it at scale,” Raghuraman said. “At volume, that means parts that can be tested and replaced on their own. A detachable connector on an open socket supports both, which makes Open CPX the pragmatic step to adopt.”

The industry is moving optical fiber deeper into the network in steps, toward co-packaged optics, and the step being decided now is near-package optics. Near-package optics places the optics next to the host chip, inside the box. At the faceplate, physical-contact connectors have carried the network because technicians can reach and clean every port. At ECOC 2026, the EBO MSA reported that about 80% of network issues are cleaning-related and about 95% of maintenance requests are for cleaning. Inside the box, every connector is harder to reach, so deploying optics at scale requires copper-class dependability.

A physical-contact connector presses two polished end faces together, and single-mode light travels in a core about 9 microns across, so dust, oil, or a scratch can block it. Expanded Beam Optics widens the beam to about 80 microns in one design the EBO MSA has shown, carries it across a small air gap, and refocuses it into the receiving fiber. The end faces never touch. The EBO MSA reports about a 20x reduction in mating force, and about an 85% reduction in install and clean time on EBO-based systems.

The EBO MSA is the industry group developing open, interoperable specifications for Expanded Beam Optics connectivity in AI data centers. Created in March 2026, the EBO MSA now has more than 60 members, both end users and suppliers, and is developing a 128-fiber design specification.

“Hyperscalers are moving optics inside the box now,” Raghuraman said. “The EBO MSA is the start line where hyperscalers want us to be. From there, we hold loss low at high density. SxC™ is the foundational layer for high-density optics in scale-up architectures, inside the box and at its edge.”

About Mixx Technologies

Mixx Technologies, Inc. is a venture-backed deep-tech company founded by the team that commercialized many zero-to-one silicon photonics products. The company is solving the data-movement bottleneck for AI compute infrastructure through its HBxIO™ platform, a multi-

terabit, ultra-high-radix co-packaged optical interconnect architecture enabling cloud service providers to deploy large-scale AI inference at the speed and efficiency hyperscale demands. Mixx is headquartered in San Jose, California, with R&D operations in India and Taiwan. Visit mixxtech.io.