

## OFC 2022: EV Group and Teramont developing packaging tech for PICs – March 10, 2022



EV Group (EVG), a supplier of wafer bonding and lithography equipment for the MEMS, nanotech, and semiconductor markets, and Teramont, a developer of scalable solutions for connecting optical fibers to silicon chips, have announced, at this week's OFC expo, a collaboration on implementing wafer-level optics to solve a major obstacle of silicon photonics, namely fiber chip packaging. The collaboration will leverage EVG's nanoimprint lithography (NIL) technology, expertise and services with Teramont's PhotonicPlug technology.

Standard CMOS wafers that implement silicon photonics chips will be post-processed using EVG's NIL technology to implement optical elements such as mirrors and lenses for Teramont's self-aligning optics. This approach is designed to enable flexible beam extraction from the chips and easy connection to a large number of optical fibers. It also enables wafer-level optical inspection capabilities to enhance silicon photonics wafer manufacturing.

The collaboration is being carried out within EVG's NILPhotonics Competence Center at its headquarters in St. Florian, Austria. The Center provides an open access innovation incubator for customers and partners across the NIL supply chain to collaborate to shorten development cycles and time to market for innovative photonic devices and applications.

**Hesham Taha**, CEO of Teramount, commented, *“Our joint work with EVG has been very successful in producing this innovative synergy between wafer-level optics and silicon photonics wafer manufacturing. By offering this capability to the industry, Teramount solves one of the major hurdles to further adoption of optical connectivity.”*

### **Avicena, Lumileds create microLED-based chip interconnects**

AvicenaTech is demonstrating its LightBundle multi-terabit/s chip-to-chip interconnect technology at this week’s OFC expo in San Diego. The company says that interconnects “have become the key bottleneck in modern compute and networking systems.”

*“We have already demonstrated links at less than 2pJ/bit using our LightBundle technology,”* commented **Bardia Pezeshki**, founder and CEO of Avicena, *“and will soon demonstrate sub-1pJ/bit links.”*

LightBundle is based on arrays of innovative GaN micro-emitters that leverage the microLED display ecosystem and can be integrated onto high performance CMOS ICs. The firm is working with Lumileds, a GaN LED innovators, to rapidly ramp production of highly optimized microLED arrays.

*“Avicena’s demonstration of record low power consumption with its LightBundle interconnect technology is proof of the advances Lumileds has made in microLEDs,”* said **Willem Silleviss-Smitt**, Head of Marketing at Lumileds. *“We are looking forward to enabling vastly lower power demand in data center interconnects.”*

### **Effect Photonics and Jabil Photonics to co-develop coherent Modules**

Effect Photonics and Jabil Photonics have announced at OFC 2022 that they intend to co-develop a new generation of coherent optical modules. The modules are intended to provide an innovative solution for *“network operators and hyperscalers that want to take advantage of the high-end performance with QSFP-DD small footprint, low power consumption and cost, field replaceability and vendor interoperability for cloud data center interconnects,”* the company stated.

The next-generation coherent optical modules address the need for the ever-increasing flow of data, ensuring continuity of service, security concerns, global expansion and the growing demands for sustainability. This opportunity brings together the core competencies of both companies in a collaborative effort to continuously introduce advanced optical technologies in a rapidly changing market.

*“One of the ambitions we have as an organization is to build strong partnerships to increase our ability to develop and deliver cutting-edge solutions for our customers,”* said **Harald Graber**, CCO at Effect Photonics.

*“Hyperscalers are at the forefront of dealing with this seemingly never-ending growth in Internet traffic. This co-development with Jabil allows us to jointly innovate to get affordable, best-in-class solutions to market faster. Jabil will allow us to deliver reliably at a far greater scale to our global customer base.”*

*“Pluggable coherent transceivers are enabling new open architectures through disaggregation of switches, transceivers and optical line systems that are needed for the massive surge in data driven by cloud and 5G applications,”* commented **Stefano Schiavoni**, vice president and GM of Jabil’s Photonics business unit.

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