CEA-Leti and NcodiN Partner to Industrialize 300 mm Silicon Photonics for Bandwidth-Hungry AI Interconnects

A 'Foundational Step Toward Scalable, Wafer-Level Optical Interconnects For Next-Generation Computing'

LOS ANGELES – March 11, 2026 – CEA-Leti and NcodiN, a French deep-tech startup pioneering nanolaser-enabled photonic interconnects, today announced a strategic collaboration to industrialize NcodiN's optical interposer technology on a 300 mm integrated photonics process.

NcodiN, which received €16 million in seed financing last November, is developing optical interconnects designed to relieve a critical data-movement bottleneck limiting performance in next-generation semiconductors. The collaboration will accelerate the company's proof-of-concept work into industrial-grade 300 mm processes—moving beyond copper interconnects and marking a major step toward scalable, in-package, long-reach optical links for future computing architectures and artificial intelligence (AI) chips.

As AI systems demand orders of magnitude increases in bandwidth and energy efficiency, the industry is shifting from copper to optical interconnects.

'World's Smallest Laser on Silicon'

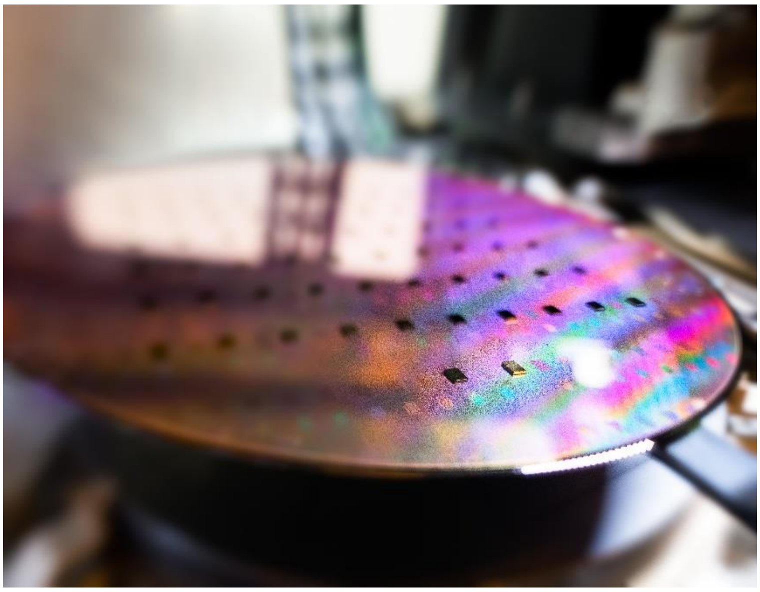
NcodiN is building NConnect, the integrated optical interconnect platform powered by the world's smallest laser on silicon—500× smaller than today's industry-standard devices. The company's nanolaser-enabled photonic interposers pave the way to ultra-dense integration (>5,000 nanolasers/mm^2) and record-low energy operation (~0.1 pJ/bit). Building on CEA-Leti's advanced photonics integration expertise, NcodiN is transitioning its nanolaser to a 300 mm silicon photonics platform. This is a foundational step toward scalable, wafer-level optical interconnects for high-end computing and AI applications.

"NcodiN's nanolaser-enabled photonic interconnects overcome the long-standing bottleneck of bulky, inefficient photonic components that have prevented large-scale adoption," said Francesco Manegatti, co-founder and CEO of NcodiN. "Our collaboration with CEA-Leti aims to demonstrate NConnect's compatibility with 300 mm wafers, which is essential for commercial-scale production and cost-effective adoption in AI-centric processors and high-bandwidth computing systems."

'Turning Point for Optical Interconnects'

Sébastien Dauvé, CEO of CEA-Leti, said the partnership underscores the two parties' shared commitment to enabling scalable photonic infrastructure capable of meeting tomorrow's computing demands.

"Transitioning photonics to a 300 mm CMOS-compatible process is a turning point for optical interconnects that can finally be produced at the scale, cost, and reliability the AI industry requires," he said. "This collaboration with NcodiN highlights a key part of CEA-Leti's mission: transferring advanced semiconductor and microelectronics technologies to industry, where they serve a range of vital markets."



III-V semiconductor dies bonded to 300mm wafer using direct bonding and high-precision alignment

Credit : AUBERT/CEA

About NcodiN
Founded in 2023 in Paris, France, NcodiN is a deep-tech startup pioneering optical interconnects for the next generation of computing. By integrating the world's smallest lasers on silicon, NcodiN develops photonic interposers that surpass the speed and energy limits of copper, enabling systems previously unthinkable. In the More-than-Moore era—when processors grow ever larger and more complex—NcodiN is enabling the paradigm shift to "more-than-copper", providing the optical backbone to scale computing infrastructure efficiently and sustainably.
Learn more at ncodin.com.

About CEA-Leti (France)

CEA-Leti, a technology research institute at CEA, is a global leader in miniaturization technologies enabling smart, energy-efficient and secure solutions for industry. Founded in 1967, CEA-Leti pioneers micro-& nanotechnologies, tailoring differentiating applicative solutions for global companies, SMEs and startups. CEA-Leti tackles critical challenges in healthcare, energy and digital migration. From sensors to data processing and computing solutions, CEA-Leti's multidisciplinary teams deliver solid expertise, leveraging world-class pre-industrialization facilities. With a staff of more than 2,000 talents, a portfolio of 3,200 patents, 14,000 sq. meters of cleanroom space and a clear IP policy, the institute is based in Grenoble (France) and has offices in San Francisco (United States), Brussels (Belgium), Tokyo (Japan), Seoul (South Korea) and Taipei (Taiwan). CEA-Leti has launched 80 startups and is a member of the Carnot Institutes network. Follow us on www.leti-cea.com and @CEA_Leti.

Technological expertise

CEA has a key role in transferring scientific knowledge and innovation from research to industry. This high-level technological research is carried out in particular in electronic and integrated systems, from microscale to nanoscale. It has a wide range of industrial applications in the fields of transport, health, safety and telecommunications, contributing to the creation of high-quality and competitive products.

For more information: www.cea.fr/english

Press Contacts

CEA-Leti Agency
Sarah-Lyle Dampoux
sldampoux@mahoneylyle.com
+33 6 74 93 23 47

Contact NcodiN
Zachary Cho
zachary.cho@ncodin.com
+33 7 81 84 35 24