



CEA-Leti, CEA-List and PSMC Collaborate to Integrate RISC-V and MicroLED Silicon Photonics into 3D Stacking and Interposer for Next-Generation AI

The two flagship institutes of the French Alternative Energies and Atomic Energy Commission (CEA) are global innovation leaders in microelectronics and intelligent digital systems

GRENOBLE, France – April 3, 2026 – CEA-Leti, a world-leading micro & nanotechnologies research institute, and CEA-List, a specialist in smart digital systems, today announced a strategic collaboration with Powerchip Semiconductor Manufacturing Corporation (PSMC). The collaboration will leverage CEA-List's RISC-V design expertise and CEA-Leti's silicon photonics expertise to introduce high-bandwidth communication and high-efficiency computing technologies into PSMC's established 3D stacking and interposer platforms to deliver solutions for next-generation artificial intelligence (AI) systems.

The semiconductor industry faces mounting challenges, including the physical limits of traditional copper interconnects, increasingly stringent power budgets, and the urgent need for flexible, scalable computing architectures. By integrating short-reach, high-bandwidth optical links for energy-efficient data movement and customizable RISC-V processor architectures, the collaboration directly addresses these constraints and establishes a new paradigm in high-performance data transport and computing architecture.

"RISC-V is transforming processor design by combining openness, flexibility, and cost efficiency. Its customizable architecture allows industrial players to develop solutions tailored to their needs," said Olivier Thomas, Deputy Head of the Digital IC Design Division at CEA-List. "Our joint effort will give customers a customizable compute platform that meets the performance and power targets."

"In the collaboration, microLED is a critical enabling technology that will boost optical-communication throughput using low-power GaN LED solutions," added Sébastien Dauvé, Chief Executive Officer of CEA-Leti.

"This collaboration enriches PSMC's 3D stacking and interposer technology envelope with high-efficiency RISC-V computing IP and high-bandwidth silicon photonics chiplet communication. By leveraging the expertise of CEA-Leti and CEA-List alongside PSMC's technologies, we will provide foundry services to customers for next-generation AI applications," said Dr. Shou-Zen Chang, Chief Technology Officer of PSMC.



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

About CEA-List (France)

Located in the innovation hubs of Paris-Saclay and Grenoble, CEA-List is a leading CEA technological research institute specializing in smart digital systems. Our 1,000 researchers and experts drive R&D programs, from advanced computing architectures, intelligent machines, digital instrumentation to data and systems engineering, designed to integrate AI and the digital thread into industry. By delivering disruptive technologies, we empower our industrial partners to boost their competitiveness while tackling major socio-economic challenges with a focus on human-centric and sustainable innovation. Committed to social and environmental responsibility, CEA-List has held the Institut Carnot label since 2006, reflecting our excellence in partnership-based research.

For more information: list.cea.fr | [Linkedin](#)



Press Release

IMMEDIATE RELEASE

About Powerchip Semiconductor Manufacturing Corporation (PSMC)

PSMC is a leading pure-play semiconductor foundry in the world, with expertise in specialty integrated circuit products that require high-level customization capabilities. Its major product focus includes logic application product foundry services and memory product foundry service. PSMC has established an “Open Foundry” model that integrates with clients’ special device and process demand and provides differentiated foundry solutions to better accommodate clients’ business needs and objectives than a standard process platform. Leveraging the Open Foundry platform, PSMC manufactures integrated circuits for electronic devices across broad and pervasive industries, with focuses on consumer electronics, the internet of things (IoT), electronic vehicles, and artificial intelligence (AI).

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