



Leti Innovation Days June 23-25, 2026, Grenoble, France Plenary session

The continuous progress in the semiconductor industry of high performance processors and software has recently given the information technology a steep boost in the form of artificial intelligence (AI). Used correctly AI can be very useful making many applications and functions more efficient and with the ability to search through enormous amount of data, pictures, patterns etc. and give quick answers will this new kind of automation make many operations more efficient and optimal. However do not mistake AI for human wisdom, it can generate errors and return wrong answers and cannot yet reason like a human, and AI uses a lot more energy compared to the human brain. After all AI is a very advanced kind of automation which will be a necessary tool for many companies, organisations, governments etc. in the future.

The energy consumption in the AI data centres is huge and growing strongly as the amount of data increases exponentially. In order to do the computing and communicate all the data back and forth between the clients and the data centre the energy consumption in AI factories is already in the GW range and is increasing almost linear with the number of AI algorithms. Nearly 100 GW of new data centres will be added between 2026 and 2030, doubling global capacity, and it is foreseen that the cloud operations worldwide will consume up to 20% of the total energy generated in the world by 2030. The industry expects massive capital investments in AI-related data centre capacity that could range from about \$3 trillion to \$8 trillion by 2030, according to McKinsey & Company. The high energy consumption of the cloud operations can be a problem for all other activities in the societies globally to get enough electricity from the grid, however thanks to human intelligence this will no doubt be solved in the long run.

Therefore just now there is a strong need to lower the power consumption by making the hardware and software much more effective and the industry has now strong focus on making the electronic components and systems much more sustainable. For example strive the European RESOLVE project to improve efficiency gain of 1000x by 2032 by disrupting innovations in order to get a competitive, secure and sustainable digital world. Microelectronic is entering a new era, and AI is redefining the semiconductor landscape where there will be fundamental changes in how chips are designed and used. CEA-Leti will lower the power consumption with new types of memories, optical network-on-chip (ONoC), smart sensors, and develop new AI models with probability.

"No industry can operate effectively without using AI, and technology from CEA-Leti plays an important role in this transition by strengthening the electronics industry and technology innovation in Europe and accelerate time-to-market", said Sébastien Dauvé, CEO, CEA-Leti.

The LID World Summit 2026 at CEA-Leti in Grenoble, France, with the theme, "Lab to market with sustainable chips to power the next wave of AI factories", gave a good impression of the R&D activities and AI-related innovation in the semiconductor industry.



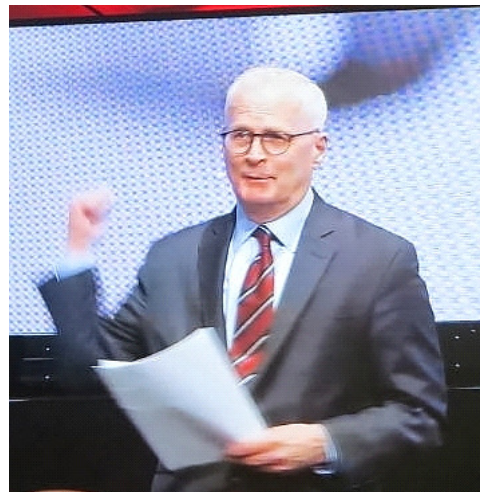
Sébastien Dauvé, CEO, CEA-Leti

"Artificial intelligence (AI) is not a software-service, it is an infrastructure technology redefining everything. In 2026 will six European quantum pilots projects be launched and CEA-Leti participates in three of them based on technology such as superconducting qubit, quantum photonics, and spin qubit"



Jean-René Lèquepeys, deputy director and CTO, CEA-Leti

"In Europe there is a need for advanced chips, memories and IC packaging to be competitive"



John Neuffer, CEO SIA

"The chip market is expected to grow explosively and reach \$2 trillion by 2028 and there are more than 4,500 chips and 20,000 die in a single AI server"



Dr. Atsuyoshi Koike, CEO Rapidus Corp.

"AI gives us the opportunity to offer the shortest turn-around-time due to a rapid and unified Manufacturing-service"



Takaki Murata, senior vice president, Murata

"Silicon capacitors are key enablers for the next-generation of data center power architectures and they enable compact, low-parasitic capacitance closer to the point of load. These type of capacitors excel by stabilizing power supply, Have HF impedance reduction, switching noise reduction and crosstalk suppression"



Hajime Shoji, General manager of Transmission Lab, Sumitomo Electric Industries

"Our aim is to provide compound semiconductor devices (such as InP and GaAs) that enable maximum data transmission with minimum power consumption. Chiplet integration on glass interposer is future"



Stuart Knight, Corporate Officer, Horiba (Kyoto, France)

"We strive to be a global leader in photomask, thin film and wafer inspection with our sensing technology for smart factories and semiconductors processes"



Eric Tang, vice president PSMC
(Powerchip Semiconductor
Manufacturing Corp.)

"Our open 3D AI foundry solution can handle wafer-on-wafer up to 8x DRAM wafers stacked with a logic wafer"



Babak Sabi, Sabi Tech Advisor

"The next-gen AI package is a quarter panel package, 240x240 mm, and thermal and power delivery are critical challenges"



Kun-Lin Lin, Deputy Director,
NIAR/TSRI

"Taiwan's semiconductor success formula is based upon world-class semiconductor ecosystem, most advanced semiconductor technology, and highest density of semiconductor talent in the world"



Audrey Charles, senior vice
president, Lam Capital

"Our advanced process technologies for 3D packaging with atomic-level precision can deliver the stronger needed at the AI factories and Lam's Dextro cobots are leading the way in automated maintenance"



Bill Chang, co-founder president and CTO, Density AI

"In our design of AI engines we are focusing on full stack chips, time-to-market is critical and we cannot wait until standards appear"



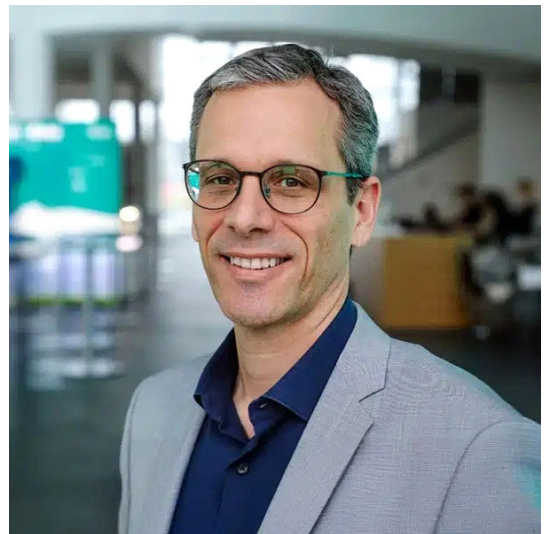
Tim Breen, CEO, GlobalFoundries (in a video link)

"Technology is relevant only when it is useful"



Alexandre Shirakawa, VP of Engineering, Skyworks Solutions

"Our innovation of RF front-end solutions target the AI-based factories with robots and automated sensor-rich production environment"



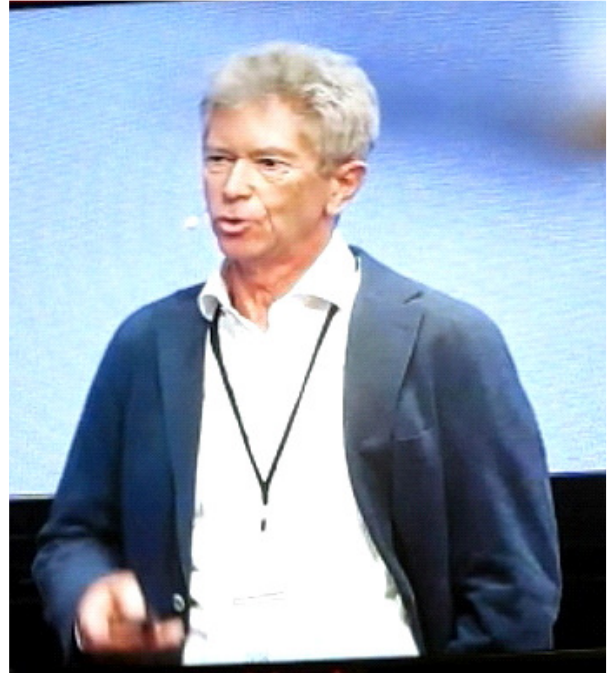
Laurent Rémont, CEO, Soitec

"Thanks to the low standby leakage that maximize battery life the FD-SOI substrates are enabling edge AI to be always on. To scale AI economical and sustainable there is no equivalent to the FD-SOI substrate"



Elliott Mc Namara, Senior Vice President, ASML

"To support 3D integration and advanced packaging ASML release a wide field, large process window, high throughput scanner. 3D uses 3x higher UV dose and a skyline scanner instead of using a stepper gives 4x higher efficiency"



Anton Hofmeister, general manager central R&D, STMicroelectronics

"There is no data without sensors and no AI without sensors. We develop with a customer textile sensing to enable a robot hand to feel like a human. AI adaptation boosts the need for intelligent and low-latency sensing which is key for physical AI"



Thomas Rueckes, CEO, Ferroelectrical memory Co.

"DRAM+ persistent memory combines HfO2 materials and deliver the speed of DRAM plus data retention. NVM is the solution suitable for hyperscaler AI factories, and FMC focuses on FeRAM to the high end of the market"