



Technological advances and sustainable innovation

Advanced electronics are in high demand and the global semiconductor market is growing exponentially and expected to reach 1000 Mia. USD in 2030. Almost all activities in the modern societies are dependent on digital technology, making semiconductors to vital strategic high-tech components and important to national and economic security. The strong semiconductor growth is due to megatrends such as electric vehicles, AI, 5G/6G, industry 4.0, edge computing, healthcare, smart cities, AR/VR/MR, etc. The semiconductor industry is at the center of technological advances with opportunities for making a positive impact on future products and a better world. The companies in the industry have strong focus on developing and produce energy efficient products and making the chip processes sustainable, and what it means to develop fair, sustainable and trusted electronics. However the simultaneous growth in device demand and focus on sustainability is a challenge.

The Leti Innovation Days Conference gave a good impression of what the semiconductor industry and the chip companies are striving at to make better products, reduce the impact on the global climate and reach 75% carbon footprint reduction by 2040.

Worth mentioning from the LID23 Plenary Session are engineered wafer substrates such as FD-SOI and RF-SOI which are saving energy and reduce CO2 footprint. The new 10 nm and 7 nm FD-SOI generations from CEA-Leti excel further with their ultra-low-power efficiency, optimal PPAC balance, outstanding analog/RF and integrated phased change RAM. Leti plans also to develop disruptive technology based on gate-all-around technology down to 1 nm and beyond.

Manufacturers of IC process equipment that is necessary to make advanced chips of high complexity must make solutions that are able to execute a range of highly challenging process steps required to create faster, more cost effective and sustainable chip innovation.

Digitalization increases effectivity, and more use of green electricity increases decarbonization, giving together green and smart energy equal to sustainability, also called electricity 4.0.

The focus at HP are computer products that can recircle from cradle-to-grave and again from grave-to-cradle refurbishing used products, and use of recycled materials and energy efficient components. This focus gives lowest lifetime energy footprint.

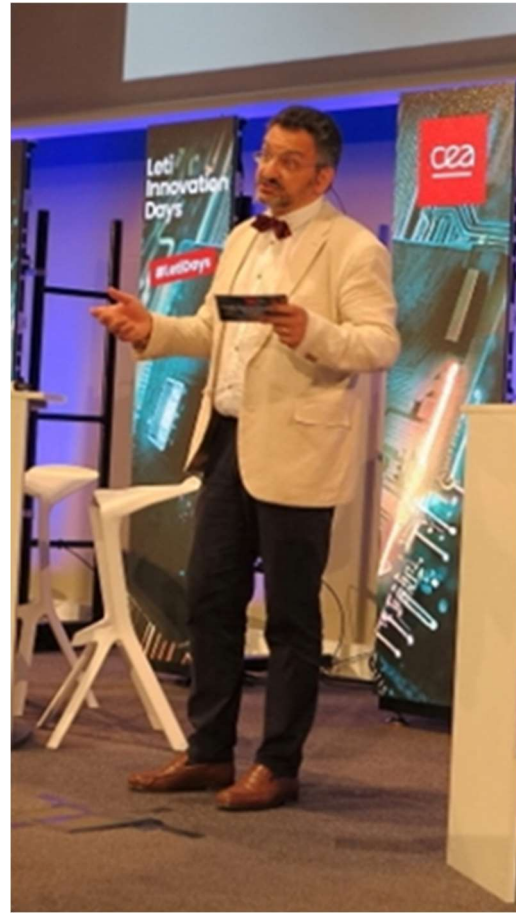
Nature can be a source of inspiration for semiconductors, and Wild Innovation Agency inspires the industry to think out the box, and emphasizes that nature is high-tech in low-tech package, an idea the IC industry maybe could copy.

Japan revitalizes its semiconductor industry after being 10 years behind the advanced chip development in the world. And the Japanese companies, Rapidus and LSTC, plan the next IC generation beyond 2 nm in new buildings at Hokkaido Valley, Japan's Silicon Valley.



Sébastien Dauvé, CEO, CEA-Leti

The semiconductor industry must
develop fair, sustainable and trusted electronic



Michael Tchagaspian CEA-Leti, Event Chairman

Deep tech solutions for future products



Jean-René Lèquepeys CTO, CEA-Leti

FD-SOI is a very energy efficient solution
for mixed signal design



Johannes Müller, Global Foundries

IoT is the first computer technology
that don't follows Moore's law



Tim Archer CEO, LAM Research. We deliver
process solutions for next generation innovation



Ned Curic CEO, Stellantis. Cars are too complex with
too many chips and software



Hisashi Kanazashi, Director IT Div., METI
Japan is 10 years behind the global IC industry and
needs now further development



Pierre Barnabé CEO, Soitec. Innovative
semiconductor materials are the key to a
sustainable future



Frédéric Godemel EVP, Schneider Electric.
More technologies will save energy and
make power consumption more effective



David Andre Chief Science Officer, Google X.
Our Moonshot project combines problem-
solution and AI-technology



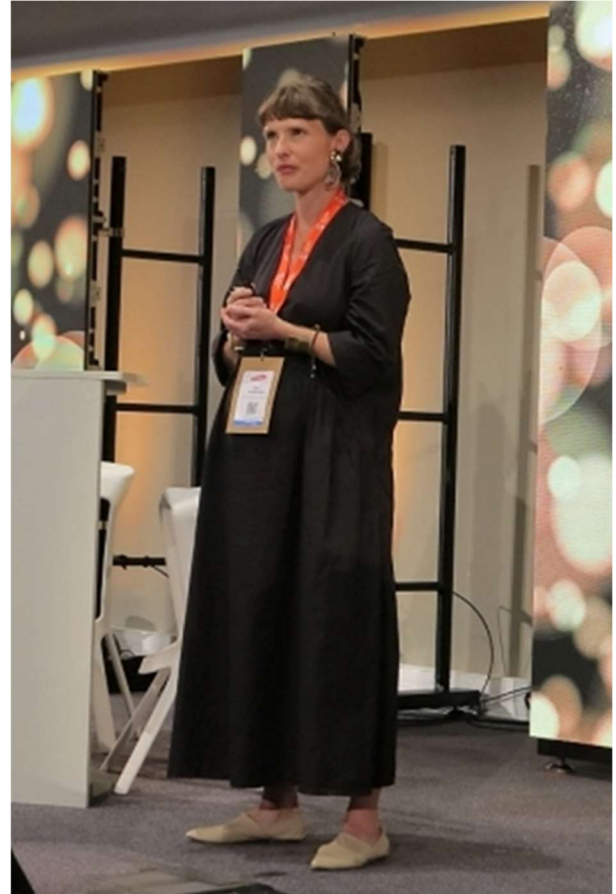
Mukesh Khare GM, IBM Semiconductors.
WatsonX is IBM's generative AI-platform.
Reducing the number of bits in AI is
effective and saves resources.



Serge Nicoleau TDP General Manager,
STMicroelectronics. We use FD-SOI substrat
that is unmatched for ULP applications in
cost sensitive markets.



Agnieszka Thonet HP Technology Strategy
We want to become the most sustainable and just technology company.



Darja Dubravcic Founder, Wild Innovation Agency.
Copying nature: The question is not is it possible, but rather are we capable doing it.



Jean-Laurent Philippe CTO, Intel EMEA.

Intel strengthen relationships with European research
Institutes in driving Moore's law.



Tetsuro Higashi Chairman, Rapidus

Our mission aims at sustainable growth of
leading-edge semiconductor industry in
Japan.

