Spotlight to European Innovation

Opening remarks by session chair

P. Markus
Senior Manager, R&D and Standards
SEMI Europe, Brussels, Belgium

Abstract
Session chair

Biography
Pantelitsa Markus is Senior Manager, R&D and Standards at SEMI Europe, where she leads activities related to collaborative research and innovation projects, stakeholder engagement, and ecosystem development across the semiconductor value chain. She supports SEMI's Sustainabiity Initiative in Europe and works closely with industry, research organisations, and policymakers to foster innovation and strengthen Europe's semiconductor ecosystem. Pantelitsa is experienced in Horizon Europe and Chips Joint Undertaking initiatives, supporting international partnerships and European industry roadmapping. She holds a BA (Hons) degree from Lancaster University (UK) and a postgraduate degree from Loughborough University (UK).

References

Chips JU as a European Enabler of Key Technologies



J. Kinaret
Executive Director
Chips JU, Brussels, Belgium

Abstract
Coming Soon

Biography
Jari Kinaret was born in Finland and holds M.Sc. degrees in Theoretical Physics and Electrical Engineering from the University of Oulu in 1986 and 1987, respectively, and a Ph.D. in Physics from the Massachusetts Institute of Technology (MIT) in 1992. Prof. Kinaret has worked in various roles at research institutes and universities in Copenhagen, Denmark, and Gothenburg, Sweden. From 2013 to 2023, he served as the Director of the Graphene Flagship, a one-billion-euro research project dedicated to exploring the potential of graphene. In October 2023, Prof. Jari Kinaret assumed the role of Executive Director at Chips Joint undertaking (Chips JU), a European public-private partnership that supports research, development, innovation, and future manufacturing capacities in the European semiconductor ecosystem.

References

Two Perspectives, One Ambition: Connecting European Sovereignty and Industrial Competitiveness



I. Sebastian
Vice President R&D&I Policy
Infineon Technologies AG, Munich, Germany

Abstract

Policymakers and industry naturally approach innovation from different perspectives: Europe strives for technological sovereignty and resilience, while companies must remain competitive in global markets. While these objectives differ, they are closely interconnected. Drawing on Infineon's experience in collaborative research and innovation, this presentation explores how Europe can create the conditions for both objectives to reinforce each other over the long term. Ultimately, the global competitiveness of European companies is a key pillar of Europe's technological sovereignty.

Biography

Ina Sebastian is Vice President for Research and Innovation Policy at Infineon Technologies AG in Germany. She is involved in shaping research programmes on German and European level. The EU Framework Programme for Research and Innovation and the EU Chips Act are part of her expertise. Her second mainstay is various digital topics, such as artificial intelligence, data and microelectronics. She holds a PhD in physics. After she has finished her studies, she worked amongst other things as innovation manager, and as expert for publicly funded programmes and external collaborations at Siemens Corporate Research. She was temporarily seconded as personal advisor to the President of the German acatech (National Academy of Science and Engineering) before taking on her current role at Infineon.

References

Semiconductor-X: Demonstrate a Novel Data Ecosystem for the Semiconductor Supply Chain Accelerating TTM and Improving Resilience



H. Gossner
Senior Principal Engineer
Intel, CEG PESG TEG, Feldkirchen, Germany

Abstract
The presentation demonstrates the novel data ecosystem of Semiconductor-X incorporating secure data exchange between supply chain partners in the semiconductor industry and its suppliers and customers in other industries. It proves the impact on acceleration of decision making and the efficiency increase in documenting sustainibility parameters and regulatory reports. Security aspects and interoperability have been developed by a project team of 30 partners and is currently desiminated internationally.

Biography
Harald Gossner holds the position of a Senior Principal Engineer at Intel. He received his diploma degree in physics from Ludwig-Maximilians-University, Munich in 1990 and his PhD in electrical engineering from Universität der Bundeswehr, Munich in 1995. For 15 years he has worked on the development of electrostatic discharge (ESD) protection concepts with Siemens and Infineon Technologies. In 2011 he joined Intel leading the system ESD robustness development for Intel products.
He is the co-founder and co-chair of the Industry Council on ESD Target Levels representing more than 60 companies including all leading semiconductor manufacturers. He is President Emeritus of the EOS/ESD Association, Rome, NY, IEEE Fellow and editor of IEEE Electron Device Letters.
In his role as technology advisor, he is member of the industry advisory boards of the Bavarian Government and of several Fraunhofer institutes. Since 2024 he is leading the project Semiconductor-X, coordinating the development of a dataspace for a resilient supply chain of semiconductors for Europe. He is also responsible for Intel’s activities to build-up a design ecosystem of innovative designs in digital leading edge technologies in Europe.

References

Quantum-Safe Silicon: From Chips to Cyber-Resilient Systems

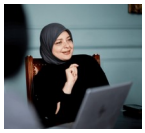
A. K. Marnerides
Asst. Professor of Cyber-Physical Systems Security
KIOS Research and Innovation Centre of Excellence at the University of Cyprus, Electrical & Computer Engineering and Faculty Member, Cyprus, Cyprus

Abstract
The transition to post-quantum cryptography is rapidly becoming a hardware–software co-design challenge. This talk will present ongoing activities within the EU-funded FOCAL project, focusing on crypto-agile architectures, hardware acceleration, trusted execution and programmable edge-to-cloud platforms for practical PQC deployment. Particular emphasis will be placed on how these technologies intersect with the semiconductor ecosystem and can enable scalable, high-performance and quantum-safe systems across automotive, communications and critical infrastructures.

Biography
Prof. Angelos K. Marnerides, Asst. Professor of Cyber-Physical Systems Security at the department of Electrical & Computer Engineering and Faculty Member at the KIOS Research and Innovation Centre of Excellence at the University of Cyprus. He is a Senior Member of the IEEE, has secured over €15M in research and innovation funding, and currently coordinates the €5.8M COCOON and €6.4M FOCAL Horizon Europe projects, while also contributing to European Defence Fund projects. His work bridges advanced cybersecurity research with real industrial, critical-infrastructure and defence applications, including on-going and past collaborations with BAE Systems, Raytheon, Fujitsu, NCSC, GCHQ and the UK Ministry of Defence as well as other EU security and defence agencies. He is also a directly appointed member of the Council for the Cypriot Defence Industry, advising the President of the Republic of Cyprus on defence-industry matters.

References

Sovereign AI at the Edge: Heterogeneous, Decentralised and Collaborative Compute



E. Kanjo
Head of Smart Sensing Lab
Nottingham Trent University, Head of Smart Sensing Lab, Nottingham, United Kingdom

Abstract
Moving AI into the physical world requires heterogeneous systems in which specialised units handle perception, communication, actuation and learning. Beyond existing specialised accelerators and memory-centric designs, the challenge is to coordinate these units across chips and edge devices while minimising data movement. This talk will explore hybrid, decentralised and collaborative architectures combining digital, analogue and neuromorphic computing, low-precision inference, high-precision processing and on-device learning to support sovereign TinyML, edge AI and physical AI.

Biography
Professor Eiman Kanjo is Professor of TinyML and Head of the Smart Sensing Lab at Nottingham Trent University, and Honorary Provost Visiting Professor at Imperial College London. She directs three major initiatives: the EPSRC TinyML Network, the EPSRC GREEN+ Network and the forthcoming TinyML UK Network. She also serves on the EPSRC ICT Strategic Advisory Team and is a public lecturer at the Royal Institution. She was named one of the Top 50 Women in Engineering by the Women's Engineering Society, received the Edge AI Foundation Outstanding Educator Award in 2025, and received a Turing Network Development Award in 2022. Earlier in her career, she held research roles at the University of Cambridge and the University of Nottingham.

References