

imec ITF - Building the silicon backbone of Europe's AI leadership

Welcome Remarks

K. Marent
EVP & Chief Marketing and Communications
Officer
imec, Berlin, Germany



Abstract

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Biography

Katrien Marent has an engineering degree in microelectronics. She joined imec in 1992 as analog design engineer and specialized in design of low-noise readout electronics for high-energy physics. In 1999, she became press responsible and scientific editor at imec's business development division and was responsible for authoring and editing the research organization's numerous company technical documents and publications. In 2001, she was appointed corporate communications director at imec. Her responsibilities expanded in August 2007, when she got the position of external communications director including corporate, marketing and outreach communications. In October 2016, she became VP corporate, marketing and outreach communication. Since April 2020 she is Executive Vice President & Chief Marketing and Communications Officer and member of the executive board of imec.

References

Closing Europe's innovation gap. Seizing Europe's opportunity in the next wave of AI

P. Vandenameele
CEO
imec, Berlin, Germany



Abstract

Artificial intelligence is becoming the defining technology of our era, but its long-term impact depends on one critical challenge: scalability. As AI evolves toward complex, agentic systems operating from cloud to edge, demands on compute, memory, and connectivity are growing at an unprecedented pace. This keynote explores how sustaining the AI revolution requires innovation across the entire technology stack, from advanced CMOS and heterogeneous integration to photonic interconnects and system-level co-optimization. Looking further ahead, emerging paradigms such as quantum and brain-inspired computing may unlock new forms of efficient intelligence. Ultimately, scalable AI will not emerge from a single breakthrough, but from orchestrating a global ecosystem of technologies, disciplines, and innovators.

Biography

Patrick Vandenameele is Chief Executive Officer at imec - a globally recognized R&D center specializing in nanoelectronics and digital technologies - since April 1, 2026. His leadership underpins imec's commitment to addressing market-driven application challenges while advancing its world-class technology platforms through targeted internal investments and external collaborations.

Prior to this appointment as CEO, he served as Executive Vice President and Co-Chief Operating Officer at imec, where he was overseeing and shaping the organization's R&D strategy and its execution. In this position, Patrick was responsible for shaping and driving the center's innovation agenda, ensuring the alignment of research initiatives with emerging market needs, partner priorities and technological frontiers. Previously, as chief portfolio officer at imec until early 2024, he spearheaded strategic initiatives spanning business development, portfolio management, and venture creation.

Holding a PhD from KU Leuven, Patrick began his journey with imec in 1996, contributing to the wireless communications program. In 2000, he transitioned to entrepreneurship, founding and leading several deep-tech ventures, three of which were built on imec technology. Patrick also held senior positions at top semiconductor firms like Qorvo and Hisilicon/Huawei, leading 11 product launches and overseeing over 100 million units shipped. After returning to imec in 2017, Patrick has been instrumental in expanding imec's venture development activities, working closely with the deep-tech venturing fund imec.xpand to strengthen imec's position as a pioneer in technology-driven solutions.

References

Coming Soon

S. Latré
VP AI
imec, Berlin, Germany



Abstract

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Biography

Steven Latré is Vice President AI at imec, the worldwide leading research centre on semiconductors.

In this role, he's responsible for imec's AI portfolio, focusing mainly on the intersection of hardware and software and how next generation AI workloads drive the semiconductor roadmap.

Steven has a 20+ year career in AI, leading and scaling highly technical teams on the intersection of AI and hardware.

Previously he was a professor in AI at the University of Antwerp, Chief AI Officer at OpenChip, a full stack chip player in HPC and AI, and was already previously Vice President AI at imec.

References

Beyond Automotive: Chiplets as the Foundation for Autonomous Edge Platforms

G. Sommer
Regional Managing Director
imec, Berlin, Germany



Abstract

Edge High Performance Compute is becoming the “brain” of autonomous systems, enabling the rapid growth of L2+ and future autonomous mobility capabilities. However, the automotive industry faces a fundamental dilemma: compute requirements are increasing exponentially, driven by AI and advanced perception workloads, while the global automotive market remains relatively flat and cannot absorb the rising costs associated with leading-edge semiconductor technologies.

Imec believes interoperable chiplet architectures provide the path forward. By decomposing complex system-on-chip designs into modular building blocks, chiplets enable heterogeneous integration of compute, AI, safety, and memory functions, each optimized on the most appropriate technology node. This approach improves scalability, yield, cost efficiency, supply-chain resilience, and platform reuse while supporting the transition toward software-defined vehicles.

To accelerate adoption, imec is bringing together complementary initiatives across the chiplet value chain. The Automotive Chiplet Forum (ACF) aligns industry stakeholders around open, interoperable chiplet standards, while the Automotive Chiplet Program (ACP) advances pre-competitive research and technology development. Complementing these efforts, the new Chiplet Acceleration Center (CAC) at imec Germany supports design enablement, prototyping, and the path toward industrial deployment. Together, they help de-risk development, advance quality and reliability, and accelerate the transition from chiplet innovation to real-world automotive applications.

Building on the success of ACP, imec is expanding its vision beyond automotive with the launch of the Autonomous Edge Chiplet Program (AECF), addressing shared compute needs across robotics, humanoids, aerospace, and security applications. Complemented by the development of a reference autonomous edge platform, this cross-industry strategy aims to accelerate innovation, reduce costs, strengthen resilience, and establish interoperable chiplets as the foundation for next-generation autonomous systems.

Biography

Dr. Grit Sommer is the Regional Managing Director of imec Germany, a position she has held since July 2026. With almost three decades of experience in the semiconductor industry, she is recognized as a strategic technology leader, transformative executive, and accomplished people manager, combining deep technical expertise with a strong track record of building high-performing global organizations. Prior to joining imec, Dr. Sommer spent 20 years with Infineon Technologies, where she held a series of international leadership positions across Germany and Singapore. Most recently, she served as Senior Director Global Product Engineering Digitalization, leading the digital transformation of end-to-end product engineering across a global network of manufacturing and R&D sites. In this role, she drove the adoption of advanced analytics and artificial intelligence, enabling significant improvements in product development efficiency, yield optimization, and quality management. Throughout her career, Dr. Sommer has successfully led multicultural

teams across Europe, Asia, and the Americas, managing organizations with of up to 50 experts and influencing more than 1,000 employees worldwide. Her expertise spans semiconductor technology, advanced packaging, product engineering, manufacturing excellence, digitalization, and innovation management. She has consistently delivered business impact through strategic program leadership, operational excellence initiatives, and technology-enabled transformation. Before her tenure at Infineon, Dr. Sommer held research and leadership roles at the Fraunhofer Institute for Reliability and Microintegration (IZM), where she established and led advanced RF modelling and simulation activities and managed numerous industry and publicly funded research programs. Dr. Sommer holds a PhD (Dr.-Ing.) in Electrical Engineering and Computer Science from TU Berlin, specializing in RF modelling and design optimization. She also earned her Engineering Degree (Diplom-Ingenieur) in Electrical Engineering from TU Berlin with distinction. In addition to her executive responsibilities, she has served as a board member supporting the strategic development of Fraunhofer IZM and has contributed to industry governance and leadership selection processes. Driven by curiosity, innovation, and an entrepreneurial mindset, Dr. Sommer is passionate about advancing semiconductor technologies and strengthening Germany's role in the global microelectronics ecosystem.

References

From Vision to Impact: Three Years of NanoIC Enabling Future Semiconductor Technologies

F. Holsteyns
VP R&D Unit Process & Modules
imec, Berlin, Germany



Abstract

Three years after its launch, NanoIC grows into a collaborative European innovation ecosystem that accelerates the development of the chips of the future. Driven by a shared ambition to strengthen the semiconductor innovation and expand manufacturing capabilities, NanoIC brings together industrial and research partners around advanced technology platforms and infrastructure. By highlighting key achievements in Logic, Memory and Heterogeneous Integration, we showcase how collaborative R&D and shared infrastructure can accelerate innovation and reduce barriers to technology development. Engagement with companies, leveraging this new ecosystem, allows to jointly shape the next generation of semiconductor technologies together.

Biography

Frank Holsteyns has been serving as the VP of R&D at imec, leading the Unit Process and Module Department since July 1, 2023. Before stepping into this role, he was the director of the same department, where he managed various process-development-focused groups, including surface and interface processing, etch, thin film deposition, epitaxy, plating, chemical mechanical polishing, layer transfer, and assembly.

Frank's journey at imec began in 2000, where he concentrated on wet cleaning research for semiconductor devices. His work in this area culminated in a PhD in Bio Engineering (surface chemistry) from KU Leuven, Belgium. In 2006, he transitioned to Lam Research AG in Villach, Austria, as a research scientist. There, he coordinated a university and research network focused on fluid dynamics, particularly cavitation, droplet impact, wetting, and dewetting.

In 2012, Frank returned to imec, taking on the role of manager for the Surface and Interface Processing Group. In this position, he specialized in wet clean and etch processes, as well as isotropic dry etches.

References

Design enablement services - lowering the barrier for IC design companies

R. Hoofman
Strategic Development Director
imec, Berlin, Germany



Abstract

As part of the EU Chips Act, the EU Chips Design Platform (EuroCDP) has been launched. EuroCDP's mission is to lower the barrier for fabless IC design companies, in particular startups. This will be done by lowering the technical barriers and the cost of the design process, plus in addition dedicated venture development together with private investors. EuroCDP is designed as a one-stop marketplace for startups, SMEs, and research teams, offering streamlined access to advanced design tools, manufacturing, IP, training, and funding.

Biography

Romano Hoofman is Strategic Development Director at imec since 2016. He is responsible for the coordination of both the EU Chips Design Platform and the EUROPRACTICE Service. In addition, his team is responsible for providing technology access and design enablement for the NanoIC pilot line, 2D-PL and SPINS (Quantum pilot line). He started his career in industry, where he worked as a Principal Scientist at Philips Research and later on NXP Semiconductors. He covered many different R&D topics, ranging from CMOS integration, advanced packaging, thin film batteries, photovoltaics and (bio)sensors. Romano received his PhD from the Technical University of Delft in 2000, where he investigated charge transport in semi-conducting polymers. He has authored more than 30 publications and holds more than 10 patents in various research areas.

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