

Imec and ASML sign Memorandum of Understanding (MOU) to support semiconductor research and sustainable innovation in Europe
ASML is making a substantial commitment in imec's future state-of-the-art pilot line

Leuven (Belgium) and Veldhoven (the Netherlands), June 28, 2023 – Imec, a leading research and innovation hub in nanoelectronics and digital technologies, and ASML Holding N.V. (ASML), a leading supplier to the semiconductor industry, today announce that they intend to intensify their collaboration in the next phase of developing a state-of-the-art high-numerical aperture (High-NA) extreme ultraviolet (EUV) lithography pilot line at imec.

The pilot line is intended to help the industries using semiconductor technologies to understand the opportunities that advanced semiconductor technology can bring and have access to a prototyping platform that will support their innovations. The collaboration between imec, ASML and other partners will enable the exploration of novel semiconductor applications, the potential development of sustainable, leading-edge manufacturing solutions for chip makers and end users, as well as the development of advanced holistic patterning flows in collaboration with the equipment and material ecosystem.

The Memorandum of Understanding signed today includes the installment and service of ASML's full suite of advanced lithography and metrology equipment in the imec pilot line in Leuven, Belgium, such as the latest model 0.55 NA EUV (TWINSCAN EXE:5200), latest models 0.33 NA EUV (TWINSCAN NXE:3800), DUV immersion (TWINSCAN NXT:2100i), Yieldstar optical metrology and HMI multi-beam. The intended engagement represents a very significant value in the advanced pilot line.

This groundbreaking new High-NA technology is crucial for developing high-performance energy-efficient chips, such as next-generation AI systems. It also enables innovative deep-tech solutions that could be used to tackle some of the major challenges our society is facing in for instance healthcare, nutrition, mobility/automotive, climate change and sustainable energy. Significant investments are needed to secure industry-broad access to High-NA EUV lithography beyond 2025 and retain the related advanced node process R&D capabilities in Europe.

This Memorandum of Understanding kickstarts the next phase of intensive collaboration between ASML and imec on High-NA EUV. The first phase of process research is being executed in the joint imec-ASML High-NA lab using the first High-NA EUV scanner (TWINSCAN EXE:5000). Imec and ASML collaborate with all leading-edge chipmakers and materials and equipment ecosystem partners, with the goal to prepare the technology for the fastest possible adoption in mass manufacturing. In the next phase, these activities will be ramped up in the imec pilot line in Leuven (Belgium) on the next-generation High-NA EUV scanner (TWINSCAN EXE:5200).

The intensified collaboration plans on lithography and metrology technology between the two semiconductor players are in line with the ambitions and plans of the European Commission and its member states (Chips Act, IPCEI) in order to strengthen innovation to tackle societal challenges. Part of the collaboration between imec and ASML is therefore captured in an IPCEI proposal which is currently in review by the Dutch government.

"ASML is making a substantial commitment in imec's state-of-the-art pilot fab to support semiconductor research and sustainable innovation in Europe. As artificial intelligence (AI) rapidly expands into domains such as natural language processing, computer vision and autonomous systems, the complexity of tasks escalates. Therefore, it is crucial to develop chip technology that can meet these computational demands without depleting the planet's precious (energy) resources," said Peter Wennink, President and Chief Executive Officer of ASML.

"This commitment from ASML, which builds on over 30 years of successful collaboration, sends a powerful signal of our unwavering dedication to drive the advancement of sub-nanometer chip technology," commented Luc Van den hove, President and Chief Executive Officer of imec. "This collaboration serves as a testament to the strength that lies in unity

within the chip industry. While these projects enable us to fortify our regional strengths initially, they also pave the way for future global cooperation, allowing partners worldwide to benefit from local breakthroughs. It is through these collective efforts that we can truly accelerate innovation and propel the semiconductor industry to new heights.”

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About imec

Imec is a world-leading research and innovation center in nanoelectronics and digital technologies. Imec leverages its state-of-the-art R&D infrastructure and its team of more than 5,500 employees and top researchers, for R&D in advanced semiconductor and system scaling, silicon photonics, artificial intelligence, beyond 5G communications and sensing technologies, and in application domains such as health and life sciences, mobility, industry 4.0, agrofood, smart cities, sustainable energy, education, ... Imec unites world-industry leaders across the semiconductor value chain, Flanders-based and international tech, pharma, medical and ICT companies, start-ups, and academia and knowledge centers. Imec is headquartered in Leuven (Belgium), and has research sites across Belgium, in the Netherlands and the USA, and representation in 3 continents. In 2022, imec's revenue (P&L) totaled 846 million euro. Further information on imec can be found at www.imec-int.com.

About ASML

ASML is a leading supplier to the semiconductor industry. The company provides chipmakers with hardware, software and services to mass produce the patterns of integrated circuits (microchips). Together with its partners, ASML drives the advancement of more affordable, more powerful, more energy-efficient microchips. ASML enables groundbreaking technology to solve some of humanity's toughest challenges, such as in healthcare, energy use and conservation, mobility and agriculture. ASML is a multinational company headquartered in Veldhoven, the Netherlands, with offices across Europe, the US and Asia. Every day, ASML's more than 40,500 employees (FTE) challenge the status quo and push technology to new limits. ASML is traded on Euronext Amsterdam and NASDAQ under the symbol ASML. Discover ASML – our products, technology and career opportunities – at www.asml.com.