Imec and Synopsys Expand FinFET Collaboration to 10 Nanometer Geometry

Collaboration Enhances Synopsys' Sentaurus TCAD Models for Next-generation FinFET Technology

LEUVEN, Belgium, and MOUNTAIN VIEW, Calif., Dec. 12, 2012 /PRNewswire/ -- Imec, the Belgian nanoelectronics research center, and Synopsys, Inc. (Nasdaq:SNPS), a global leader accelerating innovation in the design, verification and manufacturing of chips and systems, today announced that they have expanded their collaboration in the field of Technology Computer Aided Design (TCAD) to next-generation FinFET technology at 10 nm. The collaboration builds on extensive work done at 14 nm and several other process geometries, and will calibrate Synopsys' Sentaurus™ TCAD models to support the next-generation FinFET devices. The collaboration will include 3-D modeling of new device architectures and materials that will enable the semiconductor industry to continue to deliver products with higher performance and lower power consumption.

"Our focus is to address semiconductor device and material challenges at 10 nanometers and beyond," said Aaron Thean, director of the logic program at imec, Inc. "Collaborating with Synopsys, the market and technology leader in TCAD, helps us maximize the impact and reach of our advanced research programs."

Imec is partnering with leading IC companies for research in advanced CMOS scaling. Device scaling beyond feature-size reduction requires research on a range of new technologies, including new materials, device architectures, 3-D integration, and photonics. The collaboration between imec and Synopsys specifically focuses on the development and optimization of new device architectures based on FinFETs and tunnel FETs (TFETs). At this week's IEEE International Electron Devices Meeting (IEDM 2012, San Francisco, USA, December 8-10, 2012), imec presented a paper on the use of stressors to boost carrier mobility, which is critical to scale FinFET devices at 10 nm and beyond. Insights and understanding obtained through the usage of Synopsys' TCAD tools will allow imec to accelerate this research.

"This expanded collaboration with imec enables us to extend Synopsys' industry-leading TCAD simulation tool for next-generation FinFET device modeling and development," said Howard Ko, general manager and senior vice president of the silicon engineering group at Synopsys. "Imec is recognized worldwide for its expertise, excellent research facilities and industry focus, and our partnership will help to further advance our TCAD solutions."

About imec

Imec performs world-leading research in nanoelectronics. Imec leverages its scientific knowledge with the innovative power of its global partnerships in ICT, healthcare and energy. Imec delivers industry-relevant technology solutions. In a unique high-tech environment, its international top talent is committed to providing the building blocks for a better life in a sustainable society. Imec is headquartered in Leuven, Belgium, and has offices in Belgium, the Netherlands, Taiwan, US, China, India and Japan. Its staff of close to 2,000 people includes more than 600 industrial residents and guest researchers. In 2011, imec's revenue (P&L) was about 300 million euro. Further information on imec can be found at www.imec.be.

About Synopsys

Synopsys, Inc. (Nasdaq:SNPS) accelerates innovation in the global electronics market. As a leader in electronic design automation (EDA) and semiconductor IP, its software, IP and services help engineers address their design, verification, system and manufacturing challenges. Since 1986, engineers around the world have been using Synopsys technology to design and create billions of chips and systems. Learn more at www.synopsys.com.

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