

Synopsys and IMECAS Collaborate to Offer Silicon Photonics in China

MOUNTAIN VIEW, Calif., July 10, 2018 /PRNewswire/ -- Synopsys, Inc. (Nasdaq: SNPS) and the Institute of Microelectronics of Chinese Academy of Sciences (IMECAS) announced that a new, production-ready silicon photonics process design kit (PDK) based on IMECAS' 8-inch CMOS process is now available in the [Synopsys PhoeniX OptoDesigner](#) photonic integrated circuit (PIC) layout software.

Photonics, or the manipulation and movement of light waves, represents a new and growing opportunity for integrated circuit (IC) foundries with applications in high-speed data communications, advanced sensing, and imaging markets. Photonics promises orders-of-magnitude speed improvements with reduced power consumption for data transmission and ultra-sensitive sensing capabilities in multiple domains.

The IMECAS PDK gives access to passive photonic components optimized for the 1550-nanometer (nm) communications wavelength, including several versions of single-mode waveguides, grating couplers, MMIs, waveguide crossings, and thermo-optic heaters used for light modulation. IMECAS' silicon photonics offerings include quarterly MPW runs with expected chip delivery times of approximately three months from the beginning of the MPW run.

"Our new silicon photonics offerings are showing good measured performance and are competitive at the international level," said Zhihua Li, director of the Silicon Photonics Platform of IMECAS. "We are extremely pleased to be working with Synopsys to ensure our silicon photonics PDK is supported by the Synopsys photonic IC design flow, which is the de facto industry standard for automated PIC design."

The jointly developed PDK supports the Synopsys PhoeniX OptoDesigner layout suite that preserves connectivity for a correct-by-construction synthesis of all GDS layers required to hand off the design to IMECAS. Included in the design flow are physical design rules to check the manufacturability of a designer's circuit in the IMECAS silicon photonics process.

"This is another example of a world-class foundry taking advantage of the new opportunities offered by silicon photonics," said Tom Walker, group director of R&D for Synopsys' Photonic Solutions. "We are excited to be working with IMECAS and to be able to give our mutual customers the ability to design advanced custom photonic applications using the IMECAS silicon photonics process."

About IMECAS

The Institute of Microelectronics of Chinese Academy of Sciences (IMECAS) is the key research and development institution with the most comprehensive allocation in China's electronics industry. It is the supporting institution of CAS R&D Center for "Internet of Things," CAS Electronic Design Automation Center (EAD Center), and the school of Microelectronics of University of Chinese Academy of Sciences (UCAS). It is also the lead organizational unit of prospective IC equipment and process R&D, which is one of the National Science and Technology Major Projects. IMECAS released the first 8-inch silicon photonics platform in China in 2017. Learn more about IMECAS at <http://english.ime.cas.cn/>.

About Synopsys

Synopsys, Inc. (Nasdaq: SNPS) is the Silicon to Software™ partner for innovative companies developing the electronic products and software applications we rely on every day. As the world's 15th largest software company, Synopsys has a long history of being a global leader in electronic design automation (EDA) and semiconductor IP and is also growing its leadership in software security and quality solutions. Whether you're a system-on-chip (SoC) designer creating advanced semiconductors, or a software developer writing applications that require the highest security and quality, Synopsys has the solutions needed to deliver innovative, high-quality, secure products. Learn more at www.synopsys.com.

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