

# Synopsys and SMART Photonics Expand InP-Based PIC Design Automation

Development of SMART Photonics PDK for Synopsys' PIC Design Suite Enables a Complete and Seamless InP-Based Design Flow

MOUNTAIN VIEW, Calif., Sept. 24, 2018 /PRNewswire/ -- Synopsys, Inc. (Nasdaq: SNPS) and SMART Photonics today announced that a new, production-ready process design kit (PDK) based on SMART Photonics' Indium Phosphide (InP) process is now available in [Synopsys' OptSim™ Circuit tool](#) to support InP-based photonic integrated circuit (PIC) design and simulation. Synopsys' PIC Design Suite, which comprises OptSim Circuit and OptoDesigner tools, provides a seamless PIC design flow from idea to manufacturing from a single solutions provider. The addition of the SMART PDK to OptSim Circuit, combined with the PDK's availability in OptoDesigner, enables users to use the PIC Design Suite to schematically capture and simulate InP-based PIC designs with the SMART PDK building blocks, and then synthesize and verify a SMART-foundry-compatible layout.

As PIC technologies advance, photonic design automation (PDA) software has become critical for improving PIC design productivity, driving time to market, and reducing costs. PDKs provide a crucial link between PDA circuit simulation and layout tools by supporting efficient design concept verification, signoff checks, and mask generation. The Synopsys PIC Design Suite, together with the [RSoft™ photonic device modeling tools](#), give PIC designers and PDK developers a powerful infrastructure for creating and using custom PDKs, which is vital for generating foundry-specific intellectual property (IP), as well as augmenting existing PDKs with custom components, such as the SMART PDK.

"PhoeniX Software was the first commercial software partner with a proven track record for designing photonic circuits. The acquisition of PhoeniX and the OptoDesigner tool by Synopsys strengthens collaboration further and enables customers to move forward to use a single partner for the full simulation and design flow," said Jeroen Duis, business developer of SMART Photonics. "We have been working closely with the Synopsys team to complete our PDK for use with the OptSim Circuit and OptoDesigner tools. This will help our mutual customers create more complex designs with a higher quality and shortened time to market."

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

Learn more about Synopsys' PIC Design Suite at the European Conference on Optical Communication (ECOC) in Rome, Italy, September 24-27, 2018, in Synopsys booth 713.

## About SMART Photonics

SMART Photonics is a European manufacturer of InP Photonics components with production and research facilities located in Eindhoven, The Netherlands. SMART Photonics offers a versatile production and development portfolio of generic technology as well as engineered custom processes. The production services range from epitaxial growth and regrowth to coating and testing of the individual chips. SMART Photonics accommodates both proof-of-concept and volume manufacturing. The generic integration process is specifically designed to provide short turn-around time and low-cost prototyping and volume manufacturing for photonic integrated circuits. For further information, please visit [www.smartphotonics.nl](http://www.smartphotonics.nl).

## 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 15<sup>th</sup> 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](http://www.synopsys.com).

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