

# Synopsys Announces Release 2016.06 of the RSoft Photonic System Design Suite

Latest Release Delivers New Capabilities for the Design of Manufacturable Photonic Integrated Circuits

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## Highlights:

- New interface with Phoenix Software's OptoDesigner facilitates photonic integrated circuit development path from simulation to fabrication
- Expanded application design libraries provide customers an excellent resource to quickly build and simulate fiber-optic communication systems

Synopsys, Inc. (Nasdaq: SNPS) today announced the latest release of its RSoft™ Photonic System Design Suite, the company's industry-leading software for the design of optical communication systems and photonic integrated circuits at the signal propagation level. Version 2016.06 of the Synopsys RSoft Photonic System Design Suite introduces a new interface to Phoenix Software's OptoDesigner chip and mask layout tool to streamline design and fabrication processes for photonic integrated circuits (PICs). In addition, the release expands the software's extensive application design libraries to help engineers quickly build optical communication systems for a variety of applications, including high-speed optical networks, data center interconnects, silicon photonics, and automotive fiber-optic links. The new project design files and application notes reflect emerging trends and innovations in the industry.

## Enhanced PIC Design with Phoenix Software's OptoDesigner

Synopsys OptSim™ Circuit interface, part of the RSoft Photonic System Design Suite, is used to design, optimize and simulate next-generation PICs. OptSim Circuit delivers a new interface with Phoenix Software's OptoDesigner that supports a comprehensive PIC design flow from simulation to fabrication. In OptSim Circuit, users can load foundry process design kits (PDKs), create a PIC schematic from PDK building blocks, and simulate and optimize the PIC. Users can then export netlist information to OptoDesigner to synthesize PIC mask layouts for fabrication. The interface uses an application programming interface (API) compliant with PDAFlow standards for interoperability with a wide range of foundry PDKs to enhance PIC design reliability.

"Transitioning from ideas to fabrication is a multi-stage process in the photonic integration ecosystem," said Twan Korthorst, CEO of Phoenix Software. "The new PDAFlow-compliant interface between OptSim Circuit and Phoenix Software's OptoDesigner provides designers with the ability to create manufacturable mask layouts from OptSim Circuit schematics. Together, these tools provide a path to support the industry in leveraging photonic PDK libraries and bring photonic integrated circuits into a wide variety of application areas."

"The OptSim Circuit interface with Phoenix Software's OptoDesigner helps RSoft product customers accelerate the design and fabrication of PICs," said George Bayz, vice president and general manager of Synopsys' Optical Solutions Group. "The development of manufacturable PICs is important for supporting faster, energy-efficient fiber optic networks, more effective bandwidth utilization and ever-increasing network traffic growth."

## Expanded Libraries of Application Examples

Version 2016.06 adds new project design files and application notes to the Photonic System Design Suite's extensive pre-supplied design libraries to help customers quickly build and simulate fiber-optic systems and PICs. The application notes provide pre-built design files for a number of emerging areas of research and industry innovations, including silicon photonics and photonic integration, spectrally efficient data center networks, high-speed optical interconnects and automotive large-core fiber links.

OptSim library enhancements:

- Updated n-PAM digital signal processing (DSP) library functions, including a more accurate analytical bit error rate (BER) calculation, improved automatic threshold calculation, and support for nonlinear level spacing for systems using Mach-Zehnder modulators.
- New application notes analyzing and estimating penalties from total jitter, crosstalk, ground noise pickup, multipath interference and intermodulation distortions. The notes are useful for designers of Ethernet systems, data center links, high-speed optical interconnects, analog radio-over-fiber systems and optical networks.

OptSim Circuit library enhancements:

- New application notes for designers of silicon photonics, PICs, photonic sensors and transceiver chips.

ModeSYS™ library enhancements:

- New application notes for designers of multimode fiber-optic communication systems, large-core, step-index (LC-SI) fiber-based automotive links and interconnects.

### **Availability & Resources**

The RSoft Photonic System Design Suite version 2016.06 is available now. Customers with a current maintenance agreement can download the software from the Synopsys website using their SolvNet® account.

### **About Synopsys' RSoft Products**

Synopsys' RSoft products are leading solutions in photonic design software and serve several industries including optical communication, optoelectronics and semiconductor manufacturing. RSoft products provide a full range of design, optimization and planning tools for optical communications, as well as solutions for optoelectronics components and subsystems. For more information, visit <http://optics.synopsys.com/rsoft>.

### **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 quality and security solutions. Whether you're a system-on-chip (SoC) designer creating advanced semiconductors, or a software developer writing applications that require the highest quality and security, 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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