Industries and Technologies Supported

-

When used as an OptoCompiler-integrated simulator, OptSim: (i) supports electro-optic co-simulation with Synopsys PrimeSim™ HSPICE and PrimeSim SPICE electrical circuit simulators; (ii) integrates seamlessly with Synopsys PrimeWave for advanced simulation, analyses and visualization; and (iii) provides single- and multimode fiber-optic system modeling capabilities. When used as a standalone simulator, Synopsys OptSim supports schematic entry, simulation setup, and visualization.

Figure 2: Synopsys OptSim supports co-simulation of electronic and photonic circuits

Applications include data center and automotive optical interconnects, aerospace and defense radio-over-fiber communication systems, long-haul and passive optical networks, sensor systems such as VCSEL-based 3D sensing, time-of-flight, LiDAR, biometric OCT, and iFoG.

Custom Design and PDK Development

Synopsys Photonic Device Compiler, which is part of the Synopsys OptoCompiler platform, uses RSoft Photonic Device Tools and the Custom PDK Utility to provide photonic IC designers and PDK developers with a powerful solution to generate foundry-specific building blocks as well as augment existing PDKs with your own custom components. This allows designers to automate the process of generating symbols, analytical models, and parametric layouts for Synopsys OptoCompiler and OptSim.

Process Design Kits

Synopsys has the most comprehensive photonic IC foundry support in the industry, with process design kits (PDKs) available from foundries around the world for photonic processes such as silicon, silicon nitride, indium phosphide, polymers, and silica-on-glass. Our solutions have supported more than 1,500 tapeouts.

Our solutions support all technologies:

- Silicon photonics
- InP/III-V
- TriPleX
- SiO2/SiN technologies, including polymers and silica