PhoeniX Software Announces OptoDesigner 5.1.4 for Integrated Photonic Chip Design
New Version adds Enhanced Component Placement and Waveguide Routing Features

October 26, 2017 Enschede, the Netherlands. PhoeniX Software, the premier software solutions provider for advanced integrated photonics, has released version 5.1.4 of their award winning OptoDesigner suite of tools. This new version of OptoDesigner focuses on adding more automation to the design layout process while providing the foundation for the eventual synthesis, placement and routing of full photonic circuits.
"We are very excited about the enhancements we've made to our latest release of OptoDesigner", said Remco Stoffer, Principal Product Specialist at PhoeniX Software. "These enhancements not only provide productivity improvements for our current users, but they also lay down infrastructure for more powerful automation in coming releases."

A key feature added in this release is the automatic generation of boundary port information for both generic and user defined photonic building blocks. Users can make use of these boundary ports in their placement and routing algorithms to automatically adjust component placements and waveguide routing as circuit parameters are tweaked by designers and/or synthesis algorithms.

In addition to referenceable boundary ports, the new software also adds a feature called waypoint-assisted Manhattan routing. As the name implies, Manhattan routing is metal or waveguide routing in which all straight connectors run either horizontally or vertically, connected by corners. Instead of manually defining a series of bends and straights, waypoint-assisted routing allows one to simply define a few waypoints through which the routing must run. The connections between the waypoints are then automatically routed. Waypoint-assisted routing can also be combined with boundary ports whereby the waypoints can be specified relative to boundary ports of components and other waveguides. As components move and adjust their size, routing automatically adjusts to accommodate new components sizes and positions.

A third enhancement enables what is known as phase-aware waveguide routing. This feature enables PDK storage of effective index and group index as a function of the wavelength and the width and radius of a waveguide. This information can be combined with optimization routines to automatically route waveguides that have specific phase relationships with other waveguides. Before this, calculating the optical length of a complex waveguide path was extremely difficult. The new feature enables designers to be able to do this through a simple command. The information is also a key building block for future photonic synthesis algorithms that will be able to use these phase relationships when synthesizing circuits.

"What you are seeing here is a progression of new capabilities that will enable us to further drive photonic circuit synthesis and layout automation", said Niek Nijenhuis, Global Sales & Marketing Manager at PhoeniX Software. "Automation is key to moving integrated photonics from component level designs to complex circuits, and we plan to aggressively push this automation as it will enable a revolution in the way photonic circuit design is done".

The 5.1.4 release is available now for download to all licensed users of OptoDesigner from the PhoeniX Software support site, www.phoenixbv.com. The advanced routing features are enabled as part of an optional Advanced Connectors and Routing add-on module to OptoDesigner.

About PhoeniX Software

Pioneering photonics design automation since 1991, PhoeniX Software has a global presence and is a trusted and well recognized photonics design automation partner. PhoeniX enables easy and cost-effective realization of integrated photonics chips and systems, by means of our internally developed superior products and services. Customers range from large OEM's to start-ups and include some of the world's top universities and research institutes. PhoeniX Software is serving customers in more than 30 countries around the globe, through direct sales as well as local distributors and sales representatives.

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