



## **Luxtera Opens Industry Leading Silicon CMOS Photonic Process to OpSIS Community**

*Organizations team up to advance Silicon Photonics industry by leveraging Luxtera's proven CMOS Photonic design library and process*

**Carlsbad, Calif. – January 23, 2012:**

### **News Highlights:**

- Luxtera opens Silicon CMOS Photonics process and CMOS Photonics device library to Optoelectronic Systems Integration in Silicon (OpSIS), a foundry service that provides access to optoelectronic integrated circuits to the community at large, at a modest cost.
- Cooperation enables further industry research and development as interest and applicability in Silicon Photonics rapidly expands.
- Luxtera's Silicon CMOS Process is the only commercially deployed process to integrate photonics with transistor-based electronics, which makes this announcement significant as the company's process offers a unique level of capability and complexity as well as a direct path to commercial production.

Luxtera today announces that it is teaming up with the new foundry service for Optoelectronic Systems Integration in Silicon (OpSIS). Under the agreement, Luxtera's [Silicon CMOS Photonics](#) device library and process is now open to the OpSIS community, which shares the cost of fabricating complex chip-scale systems across many projects. Luxtera is the industry leader in Silicon Photonics and offers the world's only solution that is in significant volume production.

Silicon Photonics continues to be a driving force that supports growing bandwidth demands of equipment in high performance computing (HPC), next generation datacenters and cloud computing. Providing key benefits in reliability, power consumption and signal integrity, Silicon Photonics is critical to the next generation of system design. In working with OpSIS, various projects can now have direct access to Luxtera's complete technology platform and proven library of Optical Device Elements that work with a volume 200mm Silicon CMOS process.

In addition, Luxtera supports a standard tool flow based on industry leading EDA tools, supporting electronic-photonic co-design. The Luxtera PDK has been production proven in subsystem and system level opto-electronic transceiver architectures. The company's and design kit are the result of years of innovation, all covered by over 115 issued and pending patents.



Luxtera will be discussing “Scaling CMOS photonics transceivers beyond 100 Gb/s” at this year’s SPIE Photonics West Conference taking place in San Francisco during January 21-26. The panel discussion is scheduled to take place Tuesday, January 24 from 2:00 p.m. to 3:00 p.m. in conference room 130. Professor Michael Hochberg will be giving an invited talk about the status of the OpSIS processes on Wednesday, January 25 at 8:10 a.m. in room 123.

### **Quotes:**

“We are thrilled to be able to offer our community access to Luxtera’s unique process. It provides the opportunity to leverage the significant investment and maturation of the world’s first production proven CMOS Photonics design flow,” said Michael Hochberg, director of OpSIS and associate professor at the University of Delaware. “We believe that this will significantly accelerate the growth of the Silicon Photonics ecosystem. I’m particularly excited that this process will offer both academic and industrial users a chance to leverage a full electronics PDK as well as yield models for the key photonic components in order to accurately predict the performance and yield of complex systems-on-a-chip. I see this as a major step forward for the field as historically much of the innovation has been centered on process development. We’re now moving into an era where Silicon Photonics can enable a great deal of innovation at the system and architectural level.”

“Luxtera continues to focus its design resources on delivering products to high volume applications for Silicon Photonics. There is significantly more market opportunity than Luxtera can service directly. With OpSIS, smaller projects are now granted access to Luxtera’s Silicon Photonics library,” said Greg Young, CEO of Luxtera. “In working with OpSIS we are able to advance the wide scale impact of our Silicon Photonic offering as well as push the envelope for future commercialization.”

### **About Luxtera**

Luxtera, Inc. is the world leader in Silicon CMOS Photonics. It is the first company to overcome the complex technical obstacles involved with integrating high performance optics directly with silicon electronics on a mainstream CMOS chip, bringing direct “fiber to the chip” connectivity to market. Headquartered in Carlsbad, California, Luxtera is a fabless semiconductor company that was founded in 2001 by a team of industry-renowned researchers and technology managers drawn from the communications and semiconductor industries. Luxtera has received funding from leading venture capitalists including August Capital, New Enterprise Associates, Sevin Rosen Funds and Lux Capital. More information can be found on the company's web site: [www.luxtera.com](http://www.luxtera.com).

### **About OpSIS**

Our goal at OpSIS is to make the processes for making optoelectronic integrated circuits available to the community at large, at modest cost, by sharing the cost of processing



across many users of a single mask set. This model – called a "shuttle" – can reduce costs of building new silicon photonics devices by more than 100x. The OpSIS program will help advance the field by bringing prototyping capability within reach of startups and academic research groups.

OpSIS provides design rules, device design support, and assistance with design-flow development so that even non-specialists can design and build functioning chips that integrate photonics and electronics. OpSIS coordinates regular shuttle runs and manages the relationships with its foundry partners.

OpSIS is in the process of relocating from the University of Washington to the University of Delaware, and is loosely based on the model pioneered by MOSIS, the original and highly successful electronic integrated circuit multi-project wafer service, which was founded in 1981. <http://depts.washington.edu/uwopsis/>

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