

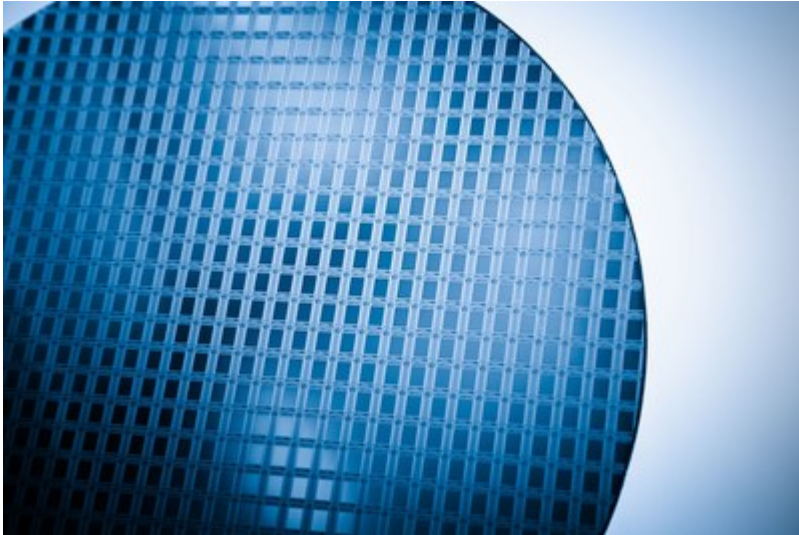


Ansys Collaborates with GlobalFoundries to Deliver Next-Gen Silicon Photonics Solutions to Advance New Era of Datacenters

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Ansys and GlobalFoundries (GF) collaborate to offer first-of-its-kind silicon photonics solution to address the explosive growth of data volumes while significantly reducing power consumption

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/ Key Highlights

- The GF Fotonix™ platform is the first in the industry to combine its differentiated 300mm photonics and RF-CMOS features on a silicon wafer, delivering best-in-class performance at scale.
- Ansys and GF collaborate to deliver solutions that expand photonic design capabilities in data centers, optical networking, supercomputing, fiber optics, 5G connectivity, and aerospace and defense applications
- Ansys and GF enable innovative silicon photonic (SiPh) chip design workflows for custom component design using Ansys' industry-leading photonics simulation tools
- Ansys supports the GF Fotonix platform by providing the ability to simulate photonic integrated circuits modeled in Verilog-A, including designs that combine custom and foundry library components

[Ansys](#) (NASDAQ: ANSS) announced it is collaborating with GF to deliver innovative, unique, and feature-rich solutions to solve some of the biggest challenges facing data centers today.

With data being generated at a record pace, causing a surge of power consumption in data centers globally, there is an ever-increasing need for innovative solutions to accelerate data transmission while optimizing energy efficiency. To meet such rising demands, GF is focused on developing groundbreaking semiconductor solutions that leverage the potential of photons — instead of electrons — to transfer and move data, maintaining GF's position as a leader in the rapidly growing optical networking space.

GF Fotonix is GF's next generation, widely disruptive, monolithic platform. GF Fotonix is the first in the industry to combine its differentiated 300mm photonics and RF-CMOS features on a silicon wafer, delivering best-in-class performance at scale.

"Our engagement with Ansys is another example of how GF is partnering with the ecosystem leaders to deliver innovative, time to market solutions for our customers," said Mike Cadigan, senior vice president for Customer Design Enablement, GF. "By coupling GF Fotonix with Ansys' industry-leading simulation solutions, we are reaching new levels in photonic chip design. With support for Verilog-A simulation and process-enabled custom design, designers have greater modeling capabilities to meet their performance, power, and density requirements."

Recognizing the importance of custom component design to meet the strict requirements of today's advanced applications, GF and Ansys together developed the first process file to support the growing demand for the GF Fotonix platform. With the process file, customers can create custom components to consolidate complex processing onto a single chip for high-speed, low power consumption data transmission, improving product and energy efficiency.

The process file works in tandem with Ansys' photonics simulation software, enabling designers to simulate 3D geometries with predictive accuracy,

including correct layer thicknesses, material data and more, in accordance with GF's design flow and process design kit specifications.

GF will also leverage the [Ansys Lumerical Photonic Verilog-A Platform](#), which enables photonics modeling using Verilog-A, an industry-standard modeling language for electrical analog circuits. This provides the ability to combine custom components and foundry process design kit (PDK) components in the same circuit, both modelled using Verilog-A, and to run sophisticated bidirectional photonic circuit simulation, which advances design capabilities for optical networking, communication, and connectivity such as chip-to-chip, fiber optics, and 5G.

"Integrating Ansys' simulation solutions into GF's design flow for custom SiPh chips opens new doors for innovation within the photonics industry," said John Lee, vice president and general manager of the electronics, semiconductor and optics business unit at Ansys. "This collaboration supplies designers with enhanced tools to leverage photonics simulation for high-performance solutions in optical applications across industries from next-generation connectivity to supercomputing and more."

GF Fotonix will be made at the company's advanced manufacturing facility in Malta, N.Y., with PDK 1.0 available in April 2022.

/ About Ansys

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