Silvaco and Fraunhofer ISIT Collaborate to Advance Next-Generation GaN Device Technology using Silvaco's DTCO Flow

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SANTA CLARA, Calif., June 24, 2025 (GLOBE NEWSWIRE) -- Silvaco Group, Inc. (Nasdaq: SVCO) ("Silvaco" or the "Company"), a provider of TCAD, EDA software, and SIP solutions that enable innovative semiconductor design and digital twin modeling through AI software and automation, today announced a strategic R&D collaboration with Fraunhofer Institute for Silicon Technology (ISIT). The partnership aims to accelerate development of next-generation Gallium Nitride (GaN) devices using Silvaco's industry-leading Power Devices Solution to perform Design Technology Co-Optimization (DTCO). This collaboration aligns with Fraunhofer ISIT's role in the EU Chips Act initiative through its participation in the APECS pilot line (www.apecs.eu).

Fraunhofer ISIT's Power Electronics division is at the forefront of developing and manufacturing cutting-edge device prototypes for high-performance power electronic and sensor systems. Fraunhofer ISIT will leverage Silvaco's industry-leading design tools—including the Victory TCAD™ platform, Utmost IV™, and SmartSpice™—to perform Design Technology Co-Optimization (DTCO) for power and sensor device development. Silvaco DTC platform will enable accelerated prototyping in Fraunhofer ISIT's post-CMOS process environment, which is set up to explore emerging processes for both GaN and MEMS technologies on 8-inch wafers. In addition, Silvaco's Victory Design of Experiments™ (DOE) solution will streamline development workflows and support rapid innovation during the evaluation of novel process modules and emerging device concepts.

"This collaboration marks a significant step forward in strengthening Europe's semiconductor capabilities and driving the global evolution of GaN devices," said Eric Guichard, Ph.D., Senior Vice President and General Manager of Silvaco's TCAD Division. "Institutes like Fraunhofer ISIT are instrumental in pushing the boundaries of innovation in device and process technology. By collaborating with Fraunhofer ISIT, we not only accelerate their development efforts but also enhance our own TCAD tools to meet the demands of future device design."

"We are excited to expand our GaN design capabilities with Silvaco's Victory products," said Michael Mensing, Ph.D., Head of the Advanced Devices Group at Fraunhofer ISIT. "By using Silvaco's advanced TCAD solutions, our teams can explore, understand, and optimize the performance of GaN devices with greater depth and efficiency. Especially during our current development of high voltage lateral and vertical GaN devices based on engineering substrates, like Qromis® Substrate Technology, we see many physical effects that require accurately calibrated process and device models."

In addition to the active utilization of Silvaco's tools in R&D and industry customer projects, Fraunhofer ISIT will train students at local universities in the utilization of Silvaco's Victory TCAD™ platform to prepare the next generation of semiconductor device engineers.

About Silvaco Group, Inc.
Silvaco is a provider of TCAD, EDA software, and SIP solutions that enable semiconductor design and digital twin modeling through AI software and innovation. Silvaco's solutions are used for semiconductor and photonics processes, devices, and systems development across display, power devices, automotive, memory, high performance compute, foundries, photonics, internet of things, and 5G/6G mobile markets for complex SoC design. Silvaco is headquartered in Santa Clara, California, and has a global presence with offices located in North America, Europe, Brazil, China, Japan, Korea, Singapore, and Taiwan. Learn more at silvaco.com.

About Fraunhofer ISIT
Fraunhofer ISIT develops and manufactures customer-specific components for power electronics and microsystems technology. Local and external industrial partners offer the potential for commercialization. Within the Research Fab Microelectronics Germany (FMD), Fraunhofer ISIT is the main location for 8-inch post-CMOS technologies, non-CMOS-compatible MEMS and GaN-on-X processing. The latter is specialized in the development of GaN sensor chiplets and advanced membrane transistors as well as the processing of emerging ceramic substrates.

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