



GF unveils roadmap to deliver the world's most advanced FD-SOI platform for Physical AI

October 9, 2026

New FDX Fusion platform extends GF's FD-SOI leadership as the first process technology in Europe to deliver single-digit nanometer digital performance optimized for the physical world

DRESDEN, Germany, Oct. 09, 2026 (GLOBE NEWSWIRE) -- GlobalFoundries (Nasdaq: GFS) (GF) today unveiled plans for its new FDX Fusion™ FD-SOI platform, purpose-built for the evolving requirements of Physical AI. Designed to be the world's most advanced FD-SOI technology, FDX Fusion will bring leading features and performance for the unique requirements of STAC (Sense, Think, Act, Communicate) workloads. The company plans to commence manufacturing FDX Fusion technology in 2028 at its advanced facility in Dresden, Germany, reinforcing the site's role as a strategic European hub for differentiated semiconductor technologies.

The first generation of FDX Fusion technology is expected to deliver seven nanometer class digital performance and is being developed from the ground up as the next major extension of GF's FDX™ FD-SOI roadmap. By combining advanced substrate engineering, front-end transistor innovation and back-end interconnect and integration capabilities with exceptional RF performance up to 0.5 THz ft/fmax, analog and mixed-signal features, low-leakage operation, in-memory computing capabilities, embedded non-volatile memory and dense logic, FDX Fusion is expected to deliver more than 2x density improvement over first-generation FDX technology. This approach aims to provide customers with a comprehensive, intelligent platform for edge and Physical AI applications while reducing system complexity, latency and power consumption.

"Physical AI is creating a new class of semiconductor requirements as intelligence moves beyond the cloud and into systems and devices that can process data in real time and interact seamlessly with the physical environment," said Ed Kaste, senior vice president of GF's CMOS business. "The FDX Fusion platform extends GF's FD-SOI roadmap with innovations across the substrate, transistor and interconnect stack, delivering a platform purpose-built for power-efficient Physical AI applications. Combined with our software-to-silicon capabilities and our expanding, resilient manufacturing footprint in Europe, FDX Fusion will position GF as the technology partner of choice to accelerate the scaling of Physical AI."

The new platform builds on the company's longstanding leadership in FD-SOI technology and power-efficient semiconductor design for secure, connected devices, with billions of chips in use today across a broad range of applications including automotive radars and sensors, wireless microcontrollers, display drivers and front-end modules for SATCOM and 5G devices.

FDX Fusion is expected to address a broad range of Physical AI systems and applications across the automotive, consumer and industrial markets, including edge inference, robotics, industrial automation, autonomous systems, sensor-fusion architectures and intelligent connected devices. GF is engaged with several customers on early development and evaluation for FDX Fusion, using real application requirements to inform product design and accelerate the technology's progress from platform definition to production readiness.

To accelerate time-to-market for FDX Fusion designs, customers can leverage GF's broad design enablement ecosystem, including its advanced MIPS and ARC portfolio with workload-driven processor IP, RISC-V instruction set architecture (ISA) and application-specific processor design capabilities optimized for Physical AI. These resources will complement the FDX Fusion platform with scalable, standards-based solutions across the full Physical AI signal chain and enable GF to support customers through every step of the design cycle, from compute architecture development to high-volume silicon production.

Initial manufacturing for FDX Fusion technology is planned for GF's Dresden facility, where ongoing expansion efforts supported under the framework of the European Chips Act are increasing capacity for differentiated semiconductor solutions critical to security and defense, industrial competitiveness, supply chain resilience and European technological sovereignty. Through its expansion and strategic technology roadmap, GF aims to accelerate Europe's leadership in developing and manufacturing the technologies underpinning AI-enabled industrial systems, secure connectivity and next-generation intelligent systems.

Demonstrator silicon for FDX Fusion technology is targeted for early customer evaluation in early 2027, with an initial process design kit (PDK) release planned for mid-2027. The platform will also include optimized process flow and cost structures for rapid prototyping and faster time-to-market.

BMW

Future automotive applications will require increasingly integrated and energy-efficient semiconductor solutions that combine AI processing, sensing, real-time control and secure connectivity. FDX Fusion has the potential to address these requirements across a range of edge-AI applications. Expanding advanced semiconductor manufacturing capabilities in Europe can also contribute to resilient and diversified supply chains for automotive customers such as the BMW Group.

Bosch

"GF's FDX roadmap is an important step towards delivering the semiconductor platforms needed to bring sensing, control, connectivity and efficient edge intelligence together for the next generation of robotics and automation," said **Dr. Axel Kaschner, Senior Vice President, Business Unit Integrated Circuits, Mobility Electronics**.

CEA Leti

"We are delighted that GlobalFoundries has announced its next-generation 'single-digit FD-SOI' node, building on technology that CEA-Leti has been advancing for decades. Through the FAMES pilot line, CEA-Leti continues to shape the future European roadmap for FD-SOI and works every day to promote its adoption in a wide range of applications," said **Sébastien Dauvé, CEO**.

Infineon

"Together, Infineon and GlobalFoundries are strengthening their collaboration to define and explore future 7nm class FDX Fusion technologies for next generation radar and wireless communication products," said **Patrick Press, Executive Vice President External Wafer Manufacturing**.

NXP

"Physical AI is redefining what machines can do in the real world, creating new requirements for secure, reliable and low-latency processing at the edge. In Physical AI, trust and low power are paramount. NXP is encouraged by GF's efforts to optimize its roadmap in service of making Trusted Physical AI a reality," said **Lars Reger, Executive Vice President and Chief Technology Officer**.

Siemens

"Europe's economy runs on silicon, one wafer at a time. Chips are critical for applications like robotics and connectivity, and for bringing AI into the physical world and industry. Achieving that vision requires close collaboration across the semiconductor, industrial automation, and software ecosystems. GF's FDX Fusion roadmap strengthens the technology foundation for Physical AI by advancing capabilities that will help enable more intelligent, efficient, and resilient industrial systems," said **Cedrik Neike, Member of the Managing Board of Siemens AG and President Digital Industries**.

Tesla

"The development and manufacturing of high-performance compute devices for edge processing is key to unlocking the next generation of advanced robotics and autonomous systems. GF's technology roadmap reflects the type of semiconductor investment needed to bring physical AI to the masses," said **Karn Budhiraj, Vice President Supply Chain**.

About GF

GlobalFoundries (GF) is a leading manufacturer of essential semiconductors, enabling AI at scale from the cloud to the physical world. Through deep partnerships with customers, GF delivers differentiated, power-efficient and high-performance solutions for automotive, aerospace and defense, data center, smart mobile devices, internet of things and other high-growth markets. With global manufacturing operations across the U.S., Europe and Asia, GF is a trusted and holistic technology partner for customers around the world. GF's talented, global team remains focused every day on security, longevity and sustainability. For more information, visit www.gf.com.

Forward-looking information

This news release may contain forward-looking statements, which involve risks and uncertainties. Readers are cautioned not to place undue reliance on any of these forward-looking statements. These forward-looking statements speak only as of the date hereof. GF undertakes no obligation to update any of these forward-looking statements to reflect events or circumstances after the date of this news release or to reflect actual outcomes, unless required by law.

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