



PRESS RELEASE

X-FAB and Exagan Partner to Develop Robust Production Process for High-Volume GaN-on-Silicon Devices on 200mm Wafers

Leading Silicon Foundry and New GaN Start-Up Collaborate to Increase Manufacturability and Reduce Costs for Highly Efficient Power Switches

Erfurt, Germany and Grenoble, France – May 18, 2015 – [X-FAB Silicon Foundries](#) and [Exagan](#), a start-up innovator of Gallium Nitride (GaN) semiconductor technology that enables smaller and more efficient electrical converters, have entered into a joint development agreement to industrialize Exagan's GaN-on-silicon technology, begin producing high-speed power switching devices on 200mm wafers and establish a European production center where the two partner companies will manufacture GaN devices for the solar, industrial, automotive, IT electronics and other markets. The two companies already have begun to demonstrate their capabilities by processing the first GaN-on-silicon devices built on 200mm substrates at X-FAB's wafer fab in Dresden, Germany, and now are transforming that prototype into a process robust enough for the mass production environment.

The worldwide market for GaN-based semiconductors is forecast to grow to 25 times its current volume and reach US\$600 million by 2020, according to market research firm Yole Développement.

Working with CEA-Leti in Grenoble, where some process steps are performed, X-FAB and Exagan are manufacturing the first of Exagan's G-FET™ 650 Volt, fast-switching power devices on 200mm substrates using a standard silicon manufacturing line. To date, the global semiconductor industry's work with GaN has been limited to 100mm and 150mm wafers due to the challenges of creating the required GaN layers on silicon substrates. Without the ability to use larger wafers in mass production, GaN-based semiconductors have not been available at a competitive price-performance point compared to other power-switching alternatives. Exagan's breakthrough G-Stack™ technology enables GaN-on-silicon devices to be manufactured economically on 200mm substrates by depositing a unique stack of GaN and strain management layers that alleviates the stress between bonded GaN and silicon layers. The resulting G-FET devices meet customer requirements for high breakdown voltage, low vertical leakage and high-temperature operation. These advanced semiconductors also allow greater power integration, which improves the efficiency and reduces the cost of electrical converters.

"Our strategic partnership with X-FAB is the latest step in establishing a robust supply chain capable of providing customers with qualified GaN devices in large volumes for demanding applications," said Frédéric Dupont, president and CEO of Exagan. "The industry has long acknowledged the performance and efficiency advantages of GaN devices. We are now driving GaN market penetration to the next level by providing these devices at an attractive price-performance point."

"X-FAB's leadership position as a pure-play foundry for More-than-Moore technologies is reinforced by this new alliance and our commitment to innovative manufacturing," said Dr. Jens Kosch, X-FAB's chief technology officer. "We are proud to support the successful industrialization of Exagan's novel technology, which we believe will have a major impact on the future of automotive and industrial markets."

Exagan executives will be available to discuss the company's innovative G-FET products at Booth #9-133 at the [PCIM Europe 2015](#) trade show, May 19-21 in Nuremberg, Germany.

About X-FAB

X-FAB is the leading analog/mixed-signal and MEMS foundry group manufacturing silicon wafers for automotive, industrial, consumer, medical and other applications. Its customers worldwide benefit from the highest quality standards, manufacturing excellence and innovative solutions by using X-FAB's modular CMOS processes in geometries ranging from 1.0 to 0.18 μm , and its special BCD, SOI and MEMS long-lifetime processes. X-FAB's analog-digital integrated circuits (mixed-signal ICs), sensors and micro-electro-mechanical systems (MEMS) are manufactured at five production facilities in Germany, Malaysia and the U.S. X-FAB employs 2,500 people worldwide. For more information, please visit www.xfab.com.

About Exagan

Founded in 2014 with support from CEA-Leti and Soitec, Exagan's mission is to accelerate the power-electronics industry's transition from silicon-based technology to GaN-on-silicon technology, enabling smaller and more efficient electrical converters. Its GaN power switches are designed for manufacturing in standard 200-mm wafer fabs to provide high-performance, high-reliability products through a robust supply chain. The company's G-FET products offer very high power-switching performance with extremely low conduction losses, enabling unprecedented power integration and efficiency levels in electrical converters for applications including solar, industrial, automotive and IT electronics. Exagan is based in Grenoble and Toulouse, France. For more information, visit www.exagan.com.

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