



Soitec and NTU Singapore Announce 6G Milestones, Accelerating the Global GaN Ecosystem

Bernin (Grenoble), France, March 2, 2026 - Soitec (Euronext Paris), a world leader in innovative semiconductor materials, and Nanyang Technological University, Singapore (NTU Singapore) will announce the successful results of their joint four-year research program into next-generation 6G connectivity during Mobile World Congress (MWC) 2026. As 5G adoption becomes widespread and consumers are becoming accustomed to the speed and bandwidth it offers, Soitec and its research partners are laying the groundwork for the next revolution in wireless communication.

Soitec and NTU Singapore's collaboration has produced three seminal technical papers demonstrating the high performance of Gallium Nitride (GaN) devices on Soitec's advanced epitaxial (EPI) wafers. This marks a major step for 6G connectivity in the FR3 and millimeter-wave (mmWave) frequency bands.

The shift to 6G technology increases power density, bandwidth and energy-efficiency requirements for devices and components, posing particular challenges for compact form factors, such as smartphones and connected wearables. In this context, the research published by Soitec and NTU Singapore highlights the growing potential for GaN-on-Silicon to complement Gallium Arsenide (GaAs) technologies in next-generation RF front-end modules for smartphones and other mobile devices.

By leveraging Soitec's specialized GaN-on-Silicon epitaxial substrates developed at Soitec Belgium, the joint NTU-Soitec research team demonstrated record-level Power Added Efficiency (PAE) at low voltage required for handset battery and frequency performance at FR3 and mmWave frequencies. Notably, NTU researchers achieved PAE levels exceeding 50% at FR3 frequencies, confirming the suitability of these substrates for highly integrated, energy-efficient RF solutions.

These results underline the ability of GaN-on-Silicon to combine high RF performance with the cost, scalability and integration advantages of silicon platforms, a combination that is increasingly attractive for the smartphone industry as it prepares for 6G. Compared with traditional GaAs-based solutions, GaN-on-Si can support higher output power, improved thermal management and reduced system complexity, while enabling smaller and more efficient RF front-end designs.

Together, these breakthroughs pave the way for more compact and energy-efficient 6G base stations, as well as next-generation mobile handsets, while accelerating the maturation of the global GaN ecosystem across both infrastructure and consumer markets.

Christophe Maleville, Senior Executive Vice-President, Innovation, Chief Technology Officer at Soitec, commented:

"This research clearly demonstrates the cornerstone role advanced engineered substrates will play in enabling 6G technologies. Our collaboration with NTU Singapore confirms that GaN-on-Silicon can deliver outstanding RF performance while meeting the cost, scalability and integration requirements of future mobile devices. By pushing the limits of efficiency and frequency operation, we are not only preparing the RF front-end of tomorrow's smartphones, but also accelerating the global GaN ecosystem across both infrastructure and consumer applications."

Visit Soitec at MWC 2026

Soitec will be showcasing these 6G breakthroughs and its full suite of innovative semiconductor materials at **Mobile World Congress 2026**. We invite industry partners, media, and technology enthusiasts to visit us at **Hall 2 Stand 2A21MR** to discuss how our advanced epitaxial wafers are shaping the future of the global GaN ecosystem. Our team of experts will be on hand to provide deeper insights into the performance of **GaN-on-Silicon** and its role in accelerating the transition to next-generation RF front-end modules.

About Soitec

Soitec (Euronext - Tech Leaders), a world leader in innovative semiconductor materials, has been developing cutting-edge products delivering both technological performance and energy efficiency for over 30 years. From its global headquarters in France, Soitec is expanding internationally with its unique solutions, and generated sales of 0.9 billion Euros in fiscal year 2024-2025. Soitec occupies a key

position in the semiconductor value chain, serving three main strategic markets: Mobile Communications, Automotive and Industrial, and Edge and Cloud AI. The company relies on the talent and diversity of more than 2,200 employees, representing 50 different nationalities, working at its sites in Europe, the United States and Asia. Nearly 4,300 patents have been registered by Soitec.

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