



## STMicroelectronics and Soitec cooperate on SiC substrate manufacturing technology

- Agreement to qualify Soitec technology for future 200mm SiC substrate production
- Key enabling semiconductor technology supports the transition to electric mobility and improved energy efficiency of industrial systems

Geneva (Switzerland) and Bernin (France), December 1, 2022 — STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, and Soitec (Euronext Paris), a leader in designing and manufacturing innovative semiconductor materials, announce the next stage of their cooperation on Silicon Carbide (SiC) substrates, with the qualification of Soitec's SiC substrate technology by ST planned over the next 18 months. The goal of this cooperation is the adoption by ST of Soitec's SmartSiC™ technology for its future 200mm substrate manufacturing, feeding its devices and modules manufacturing business, with volume production expected in the midterm.

"The transition to 200mm SiC wafers will bring substantial advantages to our automotive and industrial customers as they accelerate the transition toward electrification of their systems and products. It is important in driving economies of scale as product volumes ramp," said Marco Monti, President Automotive and Discrete Group, STMicroelectronics. "We have chosen a vertically integrated model to maximize our know-how across the full manufacturing chain, from high-quality substrates to large-scale front- and back-end production. The goal of the technology cooperation with Soitec is to continue to improve our manufacturing yields and quality."

"The automotive industry is facing major disruption with the advent of electric vehicles. Our cutting-edge SmartSiC™ technology, which adapts our unique SmartCut™ process to silicon carbide semiconductors, will play a key role in accelerating their adoption," said Bernard Aspar, Chief Operating Officer of Soitec. "The combination of Soitec's SmartSiC™ substrates with STMicroelectronics' industry-leading silicon carbide technology and expertise is a gamechanger for automotive chip manufacturing that will set new standards."

Silicon Carbide (SiC) is a disruptive compound semiconductor material with intrinsic properties providing superior performance and efficiency over silicon in key, high-growth power applications for electric mobility and industrial processes, among others. It allows for more efficient power conversion, lighter and more compact designs, and overall system-design cost savings – all key parameters and factors for success in automotive and industrial systems. Transitioning from 150mm to 200mm wafers will enable a substantial capacity increase, with almost twice the useful area for manufacturing integrated circuits, delivering 1.8 – 1.9 times as many working chips per wafer.

SmartSiC™ is a proprietary Soitec technology which uses Soitec proprietary SmartCut™ technology, to split a thin layer of a high quality SiC 'donor' wafer, and bond it on top of a low resistivity 'handle' polySiC wafer. The engineered substrate then improves device performance and manufacturing yields. The prime quality SiC 'donor' wafer can be reused multiple times, significantly reducing the overall energy consumption required to produce it.

## **About STMicroelectronics**

At ST, we are 48,000 creators and makers of semiconductor technologies mastering the semiconductor supply chain with state-of-the-art manufacturing facilities. An integrated device manufacturer, we work with more than 200,000 customers and thousands of partners to design and build products, solutions, and ecosystems that address their challenges and opportunities, and the need to support a more sustainable world. Our technologies enable smarter mobility, more efficient power and energy management, and the wide-scale deployment of the Internet of Things and connectivity. ST is committed to becoming carbon neutral by 2027. Further information can be found at <a href="https://www.st.com">www.st.com</a>.

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## **About Soitec**

Soitec (Euronext, Tech 40 Paris) is a world leader in designing and manufacturing innovative semiconductor materials. The company uses its unique technologies to serve the electronics markets. With more than 3,700 patents worldwide, Soitec's strategy is based on disruptive innovation to meet its customers' needs for high performance, energy efficiency and cost competitiveness. Soitec has manufacturing facilities, R&D centers and offices in Europe, the United States and Asia. Fully committed to sustainable development, Soitec adopted in 2021 its corporate purpose to reflect its engagements: "We are the innovative soil from which smart and energy efficient electronics grow into amazing and sustainable life experiences." For more information please visit: <a href="https://www.soitec.com">www.soitec.com</a>.

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