

EU project TRANSFORM: AIXTRON drives the green Economy

Establishment of a sustainable silicon carbide supply chain in Europe as part of the EU project TRANSFORM / Collaboration of 34 leading specialists in SiC technology / Energy savings of up to 30% expected

Herzogenrath/Germany, December 8, 2021 – AIXTRON SE (FSE: AIXA, ISIN DE000A0WMPJ6) is partner in the EU project "TRANSFORM – Trusted European SiC Value Chain for a greener Economy". Funded by the EU and national funding authorities, the research and development project is aiming to create a competitive European supply chain for power electronics based on silicon carbide (SiC) semiconductor technology within the next three years. To this end, the 34 most important European experts in the field of silicon carbide technology from seven EU countries are working together.

The supply chain should reliably provide Europe with silicon carbide components and -systems. The European value chain ranges from substrates to energy converters such as transistors or modules and, last but not least, the necessary industrial semiconductor production technology such as production-proven CVD systems (Chemical Vapor Deposition) with high yields.

Next-generation SiC technology

As one of the world's leading suppliers of CVD production technology for the deposition of SiC layers for power electronics, AIXTRON is taking on tasks such as the further improvement of CVD deposition technology for silicon carbide. This comprises the development of a technology for the simultaneous CVD coating of multiple 200 mm SiC substrates in a batch reactor as well as a CVD technology for smart cut SiC-substrates. The Smart Cut process enables the transfer of very fine and thin layers of crystalline silicon carbide material onto a carrier (substrate).

A high-performance industrial CVD deposition technology for silicon carbide is at the pivotal point of the next-generation silicon carbide technology to be jointly developed by the project partners. The number of potential applications and the demand for SiC technology are very large and range from industrial drives and energy conversion to renewable energies and electromobility.

Expected energy savings of up to 30 percent through silicon carbide technology

Silicon carbide-based power electronics enable very high energy savings, as they use electrical energy much more efficiently than the currently still predominantly used silicon-based

semiconductors. Depending on the application, energy savings of up to 30 percent are expected through the use of silicon carbide technology.

"With such a powerful and at the same time energy-saving silicon carbide supply chain, we can finally holistically optimize power electronics systems and thus achieve the energy efficiency we urgently need. TRANSFORM can make this important contribution not only to European competitiveness, but also to a more sustainable and greener economy in Europe by significantly increasing energy efficiency with SiC technology," says Prof. Dr. Michael Heuken, Vice President Advanced Technologies at AIXTRON.

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About AIXTRON

AIXTRON SE is a leading provider of deposition equipment to the semiconductor industry. The Company was founded in 1983 and is headquartered in Herzogenrath (near Aachen), Germany, with subsidiaries and sales offices in Asia, United States and in Europe. AIXTRON's technology solutions are used by a diverse range of customers worldwide to build advanced components for electronic and optoelectronic applications based on compound or organic semiconductor materials. Such components are used in a broad range of innovative applications, technologies and industries. These include Laser and LED applications, display technologies, data transmission, SiC and GaN power management and conversion, communication, signaling and lighting as well as a range of other leading-edge applications.

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