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Bosch heads silicon carbide chip consortium - November 22, 2021

Project brings together SiC companies in Austria, Czech Republic, France, Germany, Italy, Spain and Sweden.

Bosch is leading a consortium of 34 companies, universities, and research institutes from seven European countries in the Europe-funded Transform project to establish a resilient silicon carbide (SiC) semiconductor supply chain.

“The aim of the Transform project is to secure a leading role for Europe in new technologies based on silicon carbide,” said Bosch Automotive Electronics division VP, Jens Fabrowsky.

Scheduled to run until 2024, the publicly-funded project is focusing on five use cases in the automotive, industry, renewable energy and agriculture sectors.

Bosch notes silicon carbide semiconductors display better electrical conductivity and enable higher switching frequencies, while also ensuring much less energy is dissipated in the form of heat.

In addition, power electronic applications with SiC chips can be operated at much higher temperatures, with the result a simpler cooling system is required, which also saves energy. Silicon carbide also has a higher electric field strength, meaning components made of the material can be smaller in design, while delivering a higher power conversion efficiency.

Compared with conventional silicon chips, the German supplier says experts believe this will result in an energy saving of as much as 30%, depending on where the components are used.

The objective of the Transform project is to establish a resilient European supply chain for the production of power electronic applications based on SiC power semiconductor devices. Demand for such technology is set to grow rapidly, especially with respect to energy-intensive applications such as electrical vehicle powertrains, EV charge spots and power supply infrastructure.

This project has a budget of more than EUR89m (US\$100m) and is funded by the European Union as well as national bodies. It brings together players along the SiC value chain in Austria, the Czech Republic, France, Germany, Italy, Spain and Sweden.

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