

SEMICON® EUROPA

NOV 14-17, 2023 | MUNICH, GERMANY



Entegris

SiC: Paving the way for Sustainable Mobility

Porsche Consulting

Strategic Vision. Smart Implementation.



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Abstract

Power transistors based on silicon carbide (SiC) technology will play an important role in a wide range of industries in the context of electrification and decarbonization. For the automotive industry, with the shift to battery-electric vehicles in many regions, SiC will be an important technical lever to improve charging performance and efficiency, and thus range. There are also weight and packaging benefits to consider. However, as the maturity of SiC technology is still relatively low compared to mature silicon-based products, the semiconductor industry, as well as Tier-1s and OEMs, need to address three main challenges. First, unit costs must be reduced to penetrate volume segments and make the technical benefits widely available. Second, automotive quality requirements are high, especially when considering the higher mileage mission profiles of future vehicles. Third, global capacity must keep pace with rapidly growing global demand. By addressing these three levers, OEMs, Tier-1s and the semiconductor industry can make the most of SiC technology and pave the way for a sustainable automotive future.

Biography

Since 2019: Porsche Consulting Germany and France
Manager with competence focus semiconductor technology, product strategy and development, product cost optimization, design to cost, cost reduction and profitability programs