

### WIDE BANDGAP SEMICONDUCTORS FOR LOW LOSS POWER CONVERSION: AN ENABLER FOR THE GREEN ENERGY TRANSITION?

Wide bandgap semiconductors, such as silicon carbide (SiC) and gallium nitride (GaN), are revolutionizing the field of power electronics by enabling highly efficient, low-loss power conversion systems. These advanced materials operate at higher voltages, frequencies, and temperatures, offering significant advantages over traditional silicon-based technologies. As the global push towards green energy intensifies, wide bandgap semiconductors are emerging as a critical enabler for renewable energy systems, electric vehicles, and smart grid infrastructure. This event, hosted by Semikron Danfoss in Flensburg and organized by the SmartPowerConversion Project, will explore the transformative potential of these cutting-edge materials in accelerating the green energy transition, addressing technical advancements, challenges, and future opportunities. Join us as we delve into how wide bandgap semiconductors can pave the way for a more sustainable and energy-efficient future.

### PROGRAMME

- 9:30 Arrival
- 10:00 Welcome  
[Dr. Christian Strahberger, Semikron Danfoss GmbH]
- 10:15 Keynote: Wide Bandgap Semiconductors - Challenges and Opportunities for the Green Energy Transition  
[Prof. Dr. Aylin Bicakci, Fachhochschule Kiel]
- 11:00 Potentials and challenges of wide-bandgap semiconductors  
[Prof. Dr. Holger Kapels, Fraunhofer ISIT]
- 11:25 Simulation of Wide Bandgap Semiconductor Power Modules  
[Henning Ströbel-Maier, Semikron Danfoss]
- 11:50 Lunch
- 12:45 Wide Bandgap Semiconductors in a volatile World: SiC and GaN Leading the Transition to Sustainable Systems  
[Mirco Drews, Nexperia Germany GmbH]
- 13:10 SiC Power Semiconductors: Driving Efficiency and Innovation in Power Electronics  
[Mikhail Chervinsky, Wolfspeed]
- 13:35 Coffee Break
- 14:00 Novel High Power WBG Semiconductors – An upcoming Challenge for Power Module Packaging  
[Dr. Stefan Behrendt, Semikron Danfoss GmbH]
- 14:25 Advanced double discontinuous PWM for high efficiency power converter  
[Ramkrishan Maheshwari, SDU]
- 14:50 Wrap up and Coffee Break
- 15:15 Window Tour of the Semikron Danfoss Production Facility

### TIME AND PLACE

Tuesday 25 February 2025

9:30 – 16:00

Semikron Danfoss GmbH

Husumer Str. 251

24941 Flensburg

### REGISTRATION

Please register via [this link](#) until 17 February 2025.

Further information:

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The seminar is organized by the SmartPowerConversion project partners:

