

Invitation to a Danish-German PE:Region seminar:

## APPLICATION OF NEW MATERIALS IN POWER ELECTRONICS, AND DEMONSTRATOR DEVELOPMENT FOR INTELLIGENT GRID INTEGRATION, HIGH SPEED DRIVES, AND BATTERY CHARGING

Power electronics is a cross-cutting technology applied for efficient control and conversion of electric power in a large number of applications. A growing demand for innovative power electronics products and solutions is expected due to electrification of the energy systems and higher demands for energy efficiency.

On this background an important objective of the Danish-German PE:Region project is to support power electronics innovation, including application of SiC and GaN materials. Furthermore, three technology demonstrators for selected value chains are developed in cooperation with industrial network partners:

<b>#1: Intelligent grid integration of wind and sun</b>	<b>#2: Energy efficient, reliable and compact high speed drive</b>	<b>#3: High-power onboard bidirectional battery charger</b>
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The present seminar provides an overview of some possibilities with application of new power electronics materials. Moreover, a status of the PE:Region demonstrator work is provided with the objective of receiving input that can guide the future activities.

### PROGRAM

1. Welcome, lunch, and brief overview of the PE:Region project work [Ronald Eisele, FH Kiel / Gustav Nebel, Sønderborg Vækstråd]
2. SiC Devices in Industrial Applications: Quality status, benefits and design issues [Vladimir Scarpa / Amir Alinejad, ROHM Semiconductor]
3. Packaging of Si and SiC Power Modules – Technology and applications [Ronald Eisele / Daniel Splett, FH Kiel]
4. PE:Region demonstrators # 1-3 – outline of ideas, status of work, prospects and challenges, plenum discussion of future activities [Presentations by responsible project partners: #1 Giampaolo Buticchi, CAU; #2 Marco Liserre, CAU; # 3 Morten Nymand, SDU]
5. Conclusions

#### TIME AND PLACE

28 June 2017  
12:00 – 15:30  
FH Kiel  
Grenzstraße 3  
DE-24143 Kiel

Auditorium C12-0.42

#### REGISTRATION

Participation is free of charge but registration before 22

June:

- **German participants:**  
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- **Danish participants:**  
Info and registration to Gustav Nebel  
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- The workshop is organized by the PE:Region project partners:

**SDU** 

**CAU**

Christian-Albrechts-Universität zu Kiel

**FACHHOCHSCHULE KIEL**  
University of Applied Sciences

**WT.SH**   
Wirtschaftsförderung  
und Technologietransfer  
Schleswig-Holstein GmbH

 **Sønderborg Vækstråd**