

Invitation to a Danish-German PE:Region seminar:

BATTERY TECHNOLOGIES FOR ELECTRO MOBILITY AND SMART GRID PURPOSES – REGIONAL RESEARCH ACTIVITIES AND BUSINESS DEVELOPMENT OPTIONS

Batteries are important in developing the energy systems of the future. They offer storage possibilities for renewable energy sources within electro mobility and Smart Grids. Energy density as well as charging and durability characteristics of the batteries are important. However, large-scale application of batteries depends on improvements in technical as well as cost/production related issues:

- **Battery cells:** selection and development of materials and methods for production of stable battery cells with high energy density
- **Battery packages:** development of efficient, reliable and cost competitive battery packages
- **Battery application:** integration of battery packages especially within electro mobility and Smart Grid applications

This seminar provides a status on regional German-Danish research and development activities related to battery technology. Furthermore, it gives an overview of business development options and examples of on-going initiatives.

PROGRAM

Welcome and overview

- 09:30 Welcome
[Prof. Dr.-Ing. Wolfgang Benecke, ISIT, Fraunhofer Institute]
- 09:40 Introduction to seminar - batteries in the future energy systems
[Jan Cornils / Gustav Nebel, WTSH / Sønderborg Vækstråd]
- ### **Battery technology research and business in the German-Danish region**
- 09:50 Basics of battery technology and materials/methods for battery cell production – current research status and prospects for the future
[Dr. Andreas Würsig / Jannes Ophey, ISIT, Fraunhofer Institute]
- 10:35 Coffee break
- 10:50 Present status in development of advanced materials for battery cells
[?, Haldor Topsøe A/S ? not confirmed]
- 11:15 Production of lithium ion battery cells and packages
[?, Liacon GmbH or Custom Cells Itzehoe ? not confirmed]
- 11:40 New developments in battery management systems
[?, Lithium Balance A/S ? not confirmed]
- 12:05 Experiences with battery packages for accessory drives in heavy duty refuse collection vehicles and mobile cranes
[?, Banke ApS ? not confirmed]
- 12:30 Lunch and Fraunhofer Institute - laboratory visit

TIME AND PLACE

21st September 2017
09:30 – 16:00
ISIT, Fraunhofer
Fraunhoferstraße 1
D-25524 Itzehoe

REGISTRATION

Participation is free of charge but registration before 18 September:

- German participants:
info and registration to
Joachim Bergmann,
+49 431 66 66 6-8 32,
jbergmann@wtsh.de
- Danish participants:
info and registration to
Gustav Nebel,
+45 3055 3165,
gune@sonderborg.dk
- The workshop is organized in cooperation between ISIT Fraunhofer and the PE:Region project partners:



- 13:30 Experiences with Smart Grid application of large battery systems
[?, Schleswig-Holstein Netz AG, SmartRegion Pellworm ? not confirmed]
- 13:55 Mobile and off-grid battery systems and chargers
[?, Clayton Power ApS ? not confirmed]
- 14:20 Application of battery systems in cleaning and municipal applications
[?, Hako Holding GmbH & Co KG ? not confirmed]
- 14:45 E-ferries – maritime application of large-scale battery packages
[?, E-Ferry Project Ærø ? not confirmed]
- 15:10 Coffee break

Which technological challenges and regional business perspectives?

- 15:25 Panel discussion and summing up on presentations
[Moderation: Jan Cornils / Gustav Nebel, WTSH / Sønderborg Vækstråd]

Panel members are speakers.

Examples of topics for debate:

- Which challenges in relation to battery technologies are most important and of highest regional German-Danish interest?
- How can research and development institutions contribute to and improve cooperation in relation to battery development?
- Which business development options exist and exploited in the German-Danish region in connection to the battery value chain?

- 16:00 Conclusions

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