

WIND TURBINE BLADE MANUFACTURE 2012

*International conference and exhibition on wind blade composites design,
manufacturing and markets*

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HEMPEL

27-29 November 2012
Maritim Hotel, Düsseldorf, Germany

Image courtesy of: **Siemens**

* + 19% German VAT

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WIND TURBINE BLADE MANUFACTURE 2012

27-29 November 2012,
Maritim Hotel, Düsseldorf, Germany

AMI is pleased to invite you to attend the 3rd international conference on **Wind Turbine Blade Manufacture 2012**, which takes place from 27-29 November 2012 at the Maritim Hotel at Düsseldorf International Airport, for the convenience of our global delegates. The event starts with an evening welcome reception and exhibition with drinks and a light buffet. This is followed by a 2 day programme of technical and market presentations.

The offshore wind market requires the largest blades ever seen and this conference will kick off with papers from designers on all aspects of this mammoth upscaling challenge. Alongside these developments comes a need to adapt manufacturing processes and techniques under consideration including automating, moving to modular blade production, and using new materials to meet the lightweight, strength and pot-life requirements. Cost reduction is another big consideration as renewable energy technologies move towards grid parity.

There are many other aspects for global turbine manufacturers to consider such as worldwide sourcing and material supply, variations in climate and blade technology, and end of life disposal of blades as the first generation of wind turbines is upgraded.

Wind Turbine Blade Manufacture 2012 provides a unique opportunity for professionals in the global wind industry to get together and discuss the latest developments in blade technology for wind energy generation.

EARLY BIRD REGISTRATION OFFER

Register before 12th October 2012 and pay €900* saving €200* on the full price of €1100*. There are additional discounts for group bookings. The registration fee includes attendance at all conference sessions, the welcome cocktail reception, lunch and refreshment breaks on both days, and a set of conference proceedings.

SPONSOR THIS EVENT

A variety of sponsorship opportunities are available at this conference to help to promote and enhance your company's products and services to this highly targeted international audience. Contact the conference hotline for further information.

CONFERENCE VENUE

Düsseldorf is a good place for dining out, culture and shopping. The conference will take place at the Maritim Hotel, which is conveniently located across a pedestrian footbridge at the international airport and a short train journey from the city centre.

*+19% German VAT

CONFERENCE HOTLINE

Contact: Rocio Martinez, Conference Organiser
Tel: +44 (0) 117 924 9442
Fax: +44 (0) 117 311 1534
Email: rmm@amiplastics.com

See the latest programme and confirmed speakers at:
www.amiconferences.com

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C O N F E R E N C E

Tuesday 27th November 2012

17.00 Registration
18.00-19.30 Welcome Cocktail Reception
There are no conference sessions on this day

Wednesday 28th November 2012

08.00 Registration and welcome coffee
09.00 Opening announcements

MARKET OVERVIEW

09.10 **Spatial-economic implications of the global wind turbine industry**
Dr. Jan Kranich, Global Commodity Manager Composites, REPOWER SYSTEMS SE, Germany

SESSION 1 - BLADE DESIGN & PERFORMANCE

09.40 **Flexible products and cost efficient global footprint by product platforms**
Dr. Lars Fuglsang, Director, System Engineering, LM WIND POWER, Denmark

10.10 **Overview of blade design aerodynamic considerations**
Mr. Peter Fuglsang, Team Leader Rotor Design, SIEMENS WIND POWER, Denmark

10.40-11.10 Morning coffee sponsored by:



11.10 **Large rotor development: 100-meter blade research**
Dr. D. Todd Griffith, Offshore Wind Technical Lead, Wind and Water Power Technologies Department, SANDIA NATIONAL LABORATORIES, United States

11.40 **Modular manufacturing process for modular blades**
Mr. Eneko Sanz Pascual, G128 Modular Blade Project Manager, GAMESA INNOVATION & TECHNOLOGY, Spain

12.10 **Enhanced test-based engineering & design of blades as manufactured**
Mr. Ken T. Lee, Configuration Engineer/
Wind Turbine Blade Design Technical Lead,
WETZEL ENGINEERING INC., United States

12.40-14.10 Lunch

SESSION 2 - WEATHERING

14.10 **Anti-icing on Nordex wind turbines in Northern Sweden – an insight with special focus on performance**
Dr. Astrid Löwe, Deputy Head of System Department Blade, Central Engineering, NORDEX ENERGY GmbH, Germany

14.40 **Update of IEC 61400-24 and its impact on new blade technologies**
Prof. Ian Cotton, Professor and co-author
Dr. Vidyadhar Peesapati, Knowledge Transfer Fellow,
UNIVERSITY OF MANCHESTER, United Kingdom

15.10 **Effects of leading edge erosion on wind turbine efficiency and innovative erosion protection solutions**
Mr. Christian Claus, Business Manager Wind Energy,
3M, Germany

15.40-16.10 Afternoon tea sponsored by:



SESSION 3 - ADVANCED MANUFACTURING

16.10 **US department of energy advanced manufacturing innovation initiative for wind turbine blades**
Mr. Stephen Nolet, Principal Engineer,
Senior Director of Innovation & Technology,
TPI COMPOSITES INC., United States

- 16.40 **Automated processes and cost reductions in rotor blade manufacturing**
Mr. Florian Sayer, Group Manager, FRAUNHOFER IWES, Germany and co-author
Mr. Niels Ludwig, Technical Director, SINOI GmbH, Germany
- 17.10 **Semi and full automatic lay-up-endeffecter for rotor blade manufacturing**
Dr. Hilmar Apmann, Head of Technology / Manufacturing Engineering for Production Systems, PREMIUM AEROTEC GmbH, Germany
- 20.00 Conference Dinner

Thursday 29th November 2012

- 08.30 Registration and welcome coffee
09.00 Opening announcements

SESSION 4 - TESTING & ENGINEERING

- 09.10 **Paper title to be confirmed**
Mr. Zhuang Yuexing, Engineer, BEIJING GOLDWIND SCIENCE & CREATION WINDPOWER EQUIPMENT CO. Ltd., China
- 09.40 **Effect of resin on the failure mechanisms of infused sandwich panels**
Mr. Richard Evans, Design Engineer, GURIT (UK) Ltd., United Kingdom

10.10-10.55 Morning coffee sponsored by:



SESSION 5 - MATERIALS

- 10.55 **New developments in composite materials used in wind turbine blades**
Mr. Povl Brøndsted, Professor and co-author
Mr. Jakob Ilsted Bech, Senior Development Engineer, Department of Wind Energy, TECHNICAL UNIVERSITY OF DENMARK, RISØ CAMPUS, Denmark
- 11.25 **Material compatibility in rotor blades**
Dr. Gregor Daun, Global Business Manager Epoxy Systems, BASF SE, Germany
- 11.55 **Toughening up – bringing tough solutions from automotive to wind**
Dr. Jan Olaf Schulenburg, Department Leader Development 2 Part Epoxy PU Adhesives, SIKA TECHNOLOGY AG, Switzerland
- 12.25-14.10 Lunch sponsored by:



- 14.10 **Improvements in root joint design and material selection**
Mr. Georg Adolphs, Global Wind Energy Technical Marketing Leader, OWENS CORNING, Belgium
- 14.40 **Overview and new developments in core materials; higher performance at lower costs**
Mr. Philipp Angst, Director Product Management Core Materials, 3A COMPOSITES, Switzerland
- 15.10 **Recycling of wind turbine rotor blades – which process options are available?**
Prof. Dr.-Ing. Henning Albers, Director of Institute, HOCHSCHULE BREMEN – UNIVERSITY OF APPLIED SCIENCE, Germany

15.40 Afternoon tea sponsored by:



16.10 Conference ends (approximately)

Conference bag sponsored by:



Hempel is now providing a full assortment of innovative solutions for wind turbine blades with an excellent performance in all weather conditions.

Hempel is the world's #1 supplier of coatings for wind turbines with experience dating back to the infancy of the wind power industry. Hempel has with their many years of experience excelled in coatings for both onshore and offshore wind turbines.

Hempel has 23 factories, 48 sales offices, 4 main and 6 regional Research and Development centres, and more than 150 stock points strategically located around the world. Hempel has provided innovative coating solutions since 1915.

WIND TURBINE BLADE MANUFACTURE 2012: EXHIBITION SPACE

Make it easy for the delegates to find you at this busy event with your own table top exhibition space. Bring your own display stand, or just use the space to have literature and samples available and ensure that you make an impact. The table top exhibition will run throughout the conference in the spacious lobby next to the main meeting room.

Registration includes 1 free delegate place!

Space is limited so to avoid disappointment please register for this service as soon as possible.

HOTEL ACCOMMODATION

Delegates are responsible for booking their own accommodation. AMI has negotiated a room rate of €169* for a single room or €192* for a double room (breakfast included) at the Maritim Hotel in Düsseldorf. To reserve a room please contact the hotel direct and state that you are attending "AMI's Wind Turbine Blade Manufacture 2012 conference".
Tel: +49 (0) 211 5209 1456 Fax: +49 (0) 211 5209 1000
E-mail: info.dus@maritim.de * + 19% German VAT

Save €200*
Register before 12th October 2012
and save €200*

* + 19% German VAT

FIVE GOOD REASONS WHY YOU SHOULD ATTEND:

1. Learn about new production processes

2. Hear about design innovations

3. Look at problems and remediation

4. Keep up with industry trends

5. Network with world experts

AMI reserves the right to alter the programme without notice. The latest programme including any new speakers or changes to schedules can be viewed on our website www.amiconferences.com

