



# CORROSION Protection

FOR OFFSHORE WIND

*The essential platform  
for corrosion experts  
within the wind industry  
to discuss future corrosion prevention  
strategies for offshore wind farms.*

12 – 14 March 2019  
Swissotel Bremen, Germany

## 2019 Early Speaker Commitments:

- **Marc Seidel**, Senior Key Expert Support Structures, **Siemens Gamesa Renewable Energy**, Germany
- **Lars Lichtenstein**, Principal Specialist - Steel Structures, **DNV GL - Renewables Certification**, Germany
- **Diego Cocco**, Senior Structural Design Engineer, **LICenergy**, United Kingdom
- **Peter Møller**, Corrosion Specialist, **Ramboll**, Denmark
- **Ralph Rösler**, Project Manager Civil Works, **Vattenfall**, Germany
- **Henry Begg**, Section Manager - Surface Engineering, **TWI Ltd**, United Kingdom
- **Elson Martins**, Analyst, **The Carbon Trust**, United Kingdom
- **Zeng Wei**, Senior Corrosion Protection Engineer of Offshore Wind Design & Research Institute, Offshore Wind Power SUB, **XINJIANG GOLDWIND SCIENCE & TECHNOLOGY CO., LTD.**, China
- **Dr. Nanni Noël-Hermes**, Research Scientist, **Endures**, The Netherlands
- **Wouter Op den Velde**, Manager Structural & Electrical Engineering, **Van Oord**, The Netherlands
- **Feargal Brennan**, Director - Offshore Engineering Institute, **University of Strathclyde**, United Kingdom
- **Philippe Legros**, Technology Manager Surface Engineering, **OCAS**, Belgium
- **Mr. Richard Pijpers**, Senior Business Developer, **TNO**, The Netherlands
- **Gregory Simmons**, R&D, **Vattenfall**, Germany
- **Birit Buhr Jensen**, Senior lead specialist , **Ørsted**, Denmark

# CORROSION PROTECTION FOR OFFSHORE WIND 2019

A high quality program tailored to the needs of wind park owners and operators, foundation designers, manufacturers , suppliers and other industry experts.

This conference will include experience with new monitoring solutions as well as lessons learned, awareness of environmental issues of corrosion protection and what that might mean long term. Additionally unique corrosion challenge approaches will be explored.

## Why should you attend?

- Get the latest updates on **cost efficient systems** to minimise risk and maximise life time – balancing **CAPEX** and **OPEX**
- Discuss **maintenance optimization** and how to **minimize spend** by **proactive condition monitoring**
- Discover the latest solutions your peers finding for **minimizing operations and maintenance costs**
- Join in on the discussion surrounding **strategies for improved design** to mitigate potential for corrosion
- Gain a competitive edge with lessons learned, **strategic corrosion protection approaches**, and **case studies** updates from the biggest OEMs and Tier 1 suppliers
- Build a solid understanding of the **newest AI technologies** – the latest in **corrosion monitoring** and understand how the data is being utilized

## Additional interactive elements of the conference

**WHO IS WHO:** Discover who else is participating in the conference. The matchmaking picture wall will help you identify who you want to meet at the conference.

**SPEED NETWORKING:** Maximize your time at this event by participating in these fast-paced 1-to-1 meetings. The matchmaking will help you to identify the delegates you want to meet at the conference.

**INTERACTIVE DISCUSSION GROUPS:** Discuss the latest trends and challenges with key OEMs and Tier 1s, and hear about their struggles and solutions they've used to overcome these.

**EVENING GET-TOGETHER:** IQPC invites you to a relaxing evening get-together. Take this opportunity to network and make new business contacts, or just relax and round off your first conference day.

# Conference Day One | Tuesday, 12 March 2019

08:00 Registration

**Who is Who** | Discover who else is participating in the conference. The matchmaking picture wall will help you identify who you want to meet at the conference. In cooperation with **FUJIFILM**

08:45 Opening remarks by Chairperson **Marc Seidel**, Senior Key Expert Support Structures, **Siemens Gamesa Renewable Energy**

09:00 **Wind farm maintenance progression and the impact on asset lifecycle**

- Data analysis and prediction
- Optimization of processes
- Challenges still under contemplation

**Peter Møller**, Corrosion Specialist, **Ramboll**, Denmark

09:40 **Match and Win** | Identify your group while at the same time getting to know many of your peers in a short amount of time. Make sure you bring your business cards.

10:10 Networking coffee

10:50 **Impact of the revision of ISO 12944, Rev. 3 of the VGB/BAW standard, and ongoing developments within ISO on the corrosions protection for offshore wind structures**

- Impact of the revision of ISO 12944
- Possible other revisions of relevant guidelines and standards
- Evolution of the VGB/BAW standard

**Lars Lichtenstein**, Senior Engineer, **DNV GL**, Germany

11:30 **Technical challenges faced at Arkona: case study update on TSA**

- Updates on the ongoing project
- Repair considerations
- Environmental impact and insight into what is known

**Mr. Richard Pijpers**, **TNO**, The Netherlands



12:10 **Life cycle corrosion protection**

- Corrosion remote monitoring
- Corrosion protection for tower and foundation, including coating and cathodic protection
- Effect on maintenance cost

**Zeng Wei**, **XINJIANG GOLDWIND SCIENCE & TECHNOLOGY CO., LTD**

12:50 Networking lunch

14:10 **Utgrunden windfarm**

- Findings to reflect on after 15 years in service
- Decommissioned project results
- Reduce exposure to the sea climate, lengthen maintenance intervals, provide better access and simplify installation and other measures to consider

**Ralph Rosler**, Project Manager Civil Works, **Vattenfall**

14:40 Open mic/leading expert panel

15:20 Networking coffee

16:00 **Material Durability Offshore**

- Material durability testing
- Interaction corrosion, fatigue and abrasion
- Hydrogen embrittlement, welding issues
- Full damage model: accelerated lifetime evaluation through combined mechanisms

**Philippe Legros**, Technology Manager Surface Engineering, **OCAS**

16:40 **Extending the lifespan of coatings**

- New corrosion categories
- De-risking circumstances for positive outcomes
- Challenges

**Speaker TBA**

17:20 Closing remarks by **Marc Seidel** day 1

18:20 Dinner outing

# Conference Day Two | Wednesday, 12 March 2019

09:00 Registration

09:15 Opening remarks by Chairperson

**Birit Buhr Jensen**, Senior lead specialist , Ørsted

10:00 **Artificial Intelligence & Offshore Corrosion Monitoring**

- Autonomous UAV-based data acquisition
- Automatic corrosion detection and monitoring algorithms
- Cloud based corrosion data management system

**Ralph Rösler**, Project Manager Civil Works, **Vattenfall**, Germany

10:40 **Exploring the use of TSA for offshore wind: The CROWN projects**

- Summary of initial CROWN project – a UK government funded programme looking into the use of TSA for offshore wind
- Electrochemical results from interaction between TSA and galvanic anodes
- The CROWN2 project – introduction, aims and objectives

**Henry Begg**, Section Manager - Surface Engineering, **TWI Ltd**

11:20 Coffee and networking break

11:50 **Longer service life of coatings and what that means to existing parks and lifespan**

- Coating breakdown factor
- Cathodic protection and coatings
- Paining of welding zones

**Gary Simmons**, R&D, **Vattenfall**

12:30 Networking Lunch

**1330 Round Table Discussion**

Table A – Asset monitoring: parameters that yield the best results

Table B – Wind sector can gain insight from oil and gas operations through proven technologies, application and services

Table C – A Comparison Of Impressed Current And Galvanic Anode Cathodic Protection Design

Table D – Technology advancements for corrosion monitoring, what is employed now and what is expected on the horizon?

14:10 **What do we do when we find ourselves outside the design specification?**

- We design to protect against corrosion but operationally we can find that corrosion protection may not always have been adequately in-place
- Repair or wait and see?
- Maximum tolerable damage is not just tolerable loss of wall thickness;
- Damage tolerance versus safety

**Feargal Brennan**, Director - Offshore Engineering Institute, **University of Strathclyde**, United Kingdom

14:50 **Operational results of internal ICCP**

- Retrofitting current assets
- Performance risk consideration
- ICCP inside monopiles
- Corrosion measurements inside foundations

**Birit Buhr Jensen**, Senior lead specialist , Ørsted

15:30 Coffee and networking break

16:00 **Addressing MIC**

- Contributing factors
- MIC testing and monitoring
- What did we learn during the last years
- Is MIC the ghost of offshore wind?

**Dr. Nanni Noël-Hermes**, Research Scientist, **Endures**, The Netherlands and guest

16:40 **Lessons learned from ICCP systems**

- Passive/active ways to address acidification
- What happens during down time
- ICCP vs. Galvanic cost comparison
- Advantages to sharing data
- Optimization of anodes

Speaker announced soon

17:20 Closing remarks by Chairperson **Birit Buhr Jensen** event day 2



**1715-1915 Workshop A: MIC**

Understand how MIC testing still has accuracy limitations and how challenges are being addressed. Can microbes be connected to coatings and what we already know. Can environmental changes be taken into account and what does this mean?

- Understand how MIC testing still has accuracy limitations and how challenges are being addressed.
- Can microbes be connected to coatings and what we already know.
- MIC testing and monitoring systems. Importance of sample storage and transport conditions.

**Dr. Nanni Noel**, Research Scientist, **Endures**, The Netherlands

# Interactive Workshop Day | Wednesday, 27 February 2018

9:30 Registration and welcome coffee

**10:00 – 13:30 | Workshop B: Realise your asset's full potential: how regular proactive corrosion inspection can extend lifespan and permit cost control. Dive deep into a conversation revolving around how prevention must be part of any good anti-corrosion policy. Ongoing discussion on how reducing, mitigating, or eliminating corrosion is to consistently monitor and maintain equipment to scan for potential failure.**

The importance of application

Testing against corrosion

Considerations for Corrosion Management System placement

**Speaker to be announced**

13:30 Networking break here

**10:00 – 13:30 | Workshop C: Improve the understanding of corrosion effects on structural integrity**

Explore driving mechanisms and assessment methods

**led by Elson Martins, Analyst, Carbon Trust**

13:30 Networking break here

**10:00 – 13:30 | Workshop D: Explore how the widespread use of tons of aluminum and steel costing several tens of thousands of pounds per offshore turbine foundation can be replaced by the large-scale use of self-healing TSA metallic coatings.**

Cost savings discovered in large wind farms both in CAPEX and OPEX

Approaches to lower the Levelised Cost of Energy (LCoE) significantly

Discussion surrounding sacrificial anodes that need bulky steel support structures, are they a thing of the past?

**led by Diego Cocco, Senior Structural Design Engineer, LICenergy**

13:30 End of workshop day

# Conference Packages & Registration

All Prices + VAT	Book & pay till: 02/11/2018	Book & pay till: 14/12/2018	Book & pay till: 25/01/2019	Standard Pricing
<input type="checkbox"/> <b>Bronze Package</b> 2 Day Conference	<b>2.699 EUR</b> Save 100 EUR	<b>2.699 EUR</b> Save 100 EUR	<b>2.699 EUR</b> Save 100 EUR	<b>2.799 EUR</b>
<input type="checkbox"/> <b>Silver Package</b> 2 Day Conference + 1 Workshop	<b>2.949 EUR</b> Save 400 EUR	<b>3.049 EUR</b> Save 300 EUR	<b>3.149 EUR</b> Save 200 EUR	<b>3.349 EUR</b>
<input type="checkbox"/> <b>Gold Package</b> 2 Day Conference + 2 Workshops	<b>3.149 EUR</b> Save 500 EUR	<b>3.249 EUR</b> Save 400 EUR	<b>3.349 EUR</b> Save 300 EUR	<b>3.649 EUR</b>
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Die Teilnahmegebühr schließt folgende Leistungen ein: Zutritt zu den gebuchten Konferenzpaketen, Verpflegung während der gesamten Konferenz, Abendveranstaltung, Konferenzdokumentation

- Can't make it to the conference? Purchase the 2-Day Documentation for **€ 990,- + VAT**. (Documentation will be sent 6 weeks after the event)
- Yes, I would like to receive information about products and services via email.
- I agree to IQPC Gesellschaft für Management Konferenzen mbH payment terms.

## Please choose your Workshops:

- Workshop A:
- Workshop B:
- Workshop C:
- Workshop D:

# Conference Packages & Registration

<b>Delegate</b>	<input type="checkbox"/> Mr. <input type="checkbox"/> Mrs. <input type="checkbox"/> Ms. <input type="checkbox"/> Prof. <input type="checkbox"/> Dr.		
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