Wind farm operation and maintenance: Embrace the challenges

SKF Wind Farm Management Conference, 19–20 April 2016, Brussels, Belgium
Dear colleagues in the wind industry,

2016, what a dynamic year in the industry! We see consolidation of wind turbine OEMs and service providers, while large utilities are splitting their business and focusing on renewable energy. On the same time for many countries subsidies are reduced while wind energy becomes a vital part of energy supply.

The SKF Wind Farm Management Conference as an established and proven operation & maintenance forum has delivered timely and practical knowledge on how to do O&M for wind turbines. Now it is time to identify and embrace the new challenges in Wind O&M. The members of the program committee representing companies from DONG Energy, Gamesa, ABB, Availon and SKF have discussed and identified those topics and invited subject matter experts to present their views.

Similar as in the last conferences we have break-out sessions where sub-groups discuss specific subjects or aspects of the broad main theme. It is an opportunity for each participant to share experience, gain knowledge from others and drive the discussion actively.

Now let us take the time and listen to latest insights from leading industry players, make contacts and exchange knowledge to embrace the new challenges for 2016 and beyond.

On behalf of the program committee

Hannes Leopoldseder
Global Sales Manager Wind O&M

Welcome!

Thomas Bruun
DONG Energy

Chistian Jourdain
Gamesa

Michael Richter
Availon

Teijo Karna
ABB

Hannes Leopoldseder
SKF

Philipp Schmid
SKF

Raf Kerkhofs
SKF

Media partner:

Break-out sessions moderators:

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Tuesday, 19 April 2016

07:30–09:00 Registration at hospitality desk and coffee
09:00–09:05 Opening
Hannes Leopoldsdler
Global Sales Manager Wind O&M – SKF
09:05–09:20 Welcome note
Erik Neland
President – SKF Industrial Sales, Europe, Middle East & Africa.
09:20–09:50 Key note speech
Alfredo Parres
Group SVP at ABB, Head of Wind ISI – ABB/EWEA
The effects of future energy markets on wind O&M
Intro
Hannes Leopoldsdler
Global Sales Manager Wind O&M – SKF
09:50–09:55 O&M in the global wind market
David Hostert
Senior Wind Analyst – BNEF
10:15–10:35 How to evaluate the impact of power prices on O&M
Philipp Roell
Managing Director – Enervis energy advisors
10:35–10:55 Creating an internal wind farm’s service department, as response for changes within the energy market
Michal Sekal
Wind Farms and PV Maintenance Director – Energi
10:55–11:00 Practical info break-out sessions
11:00–11:30 Coffee break and networking
11:30–12:30 Break-out sessions*
12:30–13:45 Lunch
13:45–13:50 Our challenges, our response – case studies
Intro
Hannes Leopoldsdler
Global Sales Manager Wind O&M – SKF
13:50–14:05 Life prediction using physics based models
Dr. Adrian Ribaric
Head of our Industrial Internet Solutions – Sentient Science
14:05–14:20 Performance monitoring based on estimated power curve
Philipp Reif
Project Engineer – Maintenance Partners
14:20–14:35 Our challenges, our response, ISP in China
Da Ni
General Manager – CH New Energy
14:35–14:55 Panel debate – Our challenges, our response
Thomas Bruus
Head of Technical Integrity Management – DONG Energy
14:55–15:00 Practical info break-out sessions
15:00–15:30 Coffee break and networking
15:30–16:30 Break-out sessions*
16:30–16:45 Coffee break
16:45–16:50 The good, the bad and the ugly maintenance
Intro
Hannes Leopoldsdler
Global Sales Manager Wind O&M – SKF
16:50–17:05 Service readiness evolution over the last decade (gear unit level)
Wim Deckx
Head of Wind Service MA – ZF Services
17:05–17:20 Premature bearing failures in wind turbine gear units
David Van
Senior Application Engineer – SKF
17:20–17:35 Human factor in wind farm maintenance
Carsten L. Andersen
CEO – DWPA
17:35–17:45 Closing of the day
Hannes Leopoldsdler
Global Sales Manager Wind O&M – SKF
18:45–19:00 Meet at hotel lobby and walk to the conference dinner venue
19:00–23:00 Conference dinner at “La Tentation”
Host: Laurent Vanhoudenhove
Industrial Market General Manager Benelux

Wednesday, 20 April 2016

08:30–09:00 Coffee and networking
09:00–09:05 Intro & Recap day 1
Hannes Leopoldsdler
Global Sales Manager Wind O&M – SKF
How to extend life time of turbines and components
09:05–09:20 Life extension - from theory to reality for a spanish wind farm
Christian Jourdain
Head of Marketing & Communication, Services – Gamesa
09:20–09:35 Retrofit and improvement of aging wind turbines to increase production and extent lifetime
Jeff Peterson
Global Product Line Manager Wind Service – ABB
09:35–09:50 After the design life time, in a market with low sales prices
Strange Skriver
Chief Technical Consultant – Danish Wind Turbine Owners Association
09:50–09:55 Practical info break-out sessions
09:55–10:25 Coffee break and networking
10:25–11:25 Break-out sessions*
11:25–11:40 Coffee break
11:40–11:45 Intro
Hannes Leopoldsdler
Global Sales Manager Wind O&M – SKF
Invest now or for sure pay later
11:45–12:00 Three points to bring down your long-term O&M costs
Ulrich Schomakers
Operations Manager North Europe – GE
12:00 – 12:15 Using big data to drive performance
Mario Bachmann
Operations Manager North Europe – GE
12:15–12:30 Driving down cost of offshore operation
Nicolaj Mensberg
Director – DONG Energy
12:30–12:50 Panel debate – Invest now or for sure pay later
Christian Jourdain
Head of Marketing & Communication, Services – Gamesa
12:50–13:00 Closing WFMC 2016 / Information 2017
Hannes Leopoldsdler
Global Sales Manager Wind O&M – SKF
13:00–14:00 Lunch
14:00 Transfer to SKF European Distribution Center Tongeren Belgium
(optional and only for those who registered)

* Break-out sessions

- O&M on electrical components
  - The challenges of managing a fleet of different turbines
  - New supply chain challenges
  - Do’s and don’ts in O&M contract management
  - Maintenance strategy and execution
  - Drive train challenges related to bearing technology
  - Lubrication management
  - Big data management in O&M
  - Blade inspection
Tuesday, 19 April 2016

**Keynote speech**
Presenter: Erik Nelander
Time: 09:00–09:05
Moderator: Hannes Leopoldsdeder
Global Sales Manager Wind O&M – SKF

**Welcome note**
Presenter: Philippe Mol
Time: 09:05–09:20

**O&M in the global wind market**
Presenter: David Hostert
Senior Wind Analyst – BNEF
Time: 09:50–10:15

**The effects of future energy markets on wind operation and maintenance**
Presenter: Alfredo Parres
Group SVP at ABB,
Head of Wind ISI – ABB/EWEA
Time: 09:20–09:50

After a strong 2015, European wind industry is facing important decisions that will be taken by the European Union in the few years to come: a new renewable energy directive, new energy market regulations and new frameworks to finance new generation capacity and infrastructure investments. All these will have an impact on the way new projects are developed and existing plants are operated. EWEA is paying a very high attention to all these topics, following their development and ensuring the wind industry voice is well heard and taken into consideration by policy makers. The association is also very active in making sure European industry consolidates its leadership position in the world wind energy market, not only in terms of technologies to ensure a smooth integration of wind energy into the grids but also of technologies to reduce cost of energy where O&M optimization plays a key role.

The effects of future energy markets on wind operation and maintenance

**How to evaluate the impact of power prices on O&M**
Presenter: Eckhard Kuhnhenne
Managing Director – Enervis energy advisors
Time: 10:15–10:35

Already in present feed-in-tariff systems the income from direct selling of wind power to the power market has an impact on the financial performance of wind farms. However, once projects are no longer operating in a feed-in-tariff system, power prices determine their overall income. In Germany, after 2020 approx. 8 GW of wind will no longer profit from a support scheme and will have to rely on the power market as the only revenue source. Hence, the maximization of energy production will no longer be the aim – the new target will be to maximize the contribution margin from the power markets. The presentation discusses the consequences of this development for O&M strategies.

**Creating an internal Wind Farm's service department, as response for changes within the energy market**
Presenter: Michal Sękal
Wind Farms and PV Maintenance Director – Energa Wytwarzanie
Time: 10:35–10:55

Currently the wind energy market is becoming more and more mature. Together with a rapidly changing energy market, this creates an environment where a wind farm operator has the possibility of choosing a different solution in maintenance of wind turbines, and is actively searching for areas where costs can be optimized. As a result, the question about the way of maintenance has to be answered. In his presentation Michal Sękal will show which factors were considered as important during the process of choosing a maintenance strategy for Energa Wytwarzanie. What were the needs of the company, the expectations of management and what are the results after 1,5 years?

Our challenges our response – case studies
Presenter: Dr. Adrijan Ribaric
Head of our Industrial Internet Solutions – Sentient Science
Time: 13:45–14:05

Estimating the life of existing assets that are in operation can be performed using either data-driven models or physics-based models. Physics-based models require significant less sensor measurements compared to Data-driven models in order to provide reasonable life prediction. However, physics-based models require a detailed physical description of the asset that is being analyzed. This presentation shows how Sentient overcomes the hurdles of physics-based models and uses its domain expertise to support the wind industry.

**Performance monitoring based on estimated power curve**
Presenter: Philippe Mol
Project Engineer – Maintenance Partners
Time: 14:05–14:20

The implementation of condition-based maintenance requires advanced monitoring systems crossing data from different sources, which allow the detection of performance drifts at an early stage. Among all metrics in wind turbines, power curve, the relationship between the active output power and the wind speed, is one of the most sensitive to these changes. This presentation introduces the performance monitoring based on power curve which is estimated either from SCADA or modelled data. The monitoring method shows the effectiveness in the detection of faulty yaw misalignment and the verification of blade angle adjustment.

**Our Challenges, our response, ISP in China**
Presenter: Da Ni
General Manager – CH New Energy
Time: 14:20–14:35

China’s wind market has more than 100 companies (OEM, OES, & ISP). Main players of Chinese wind farm owners are 5 state-owned power giants. As an SKF certified ISP in China, Da shares their cases of response to challenges they face from the customers technically, geographically, and bureaucratically, as well as from their huge amount of competitors.

**Creating an internal Wind Farm's service department, as response for changes within the energy market**
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The current attitude in maintaining complex wind turbines is one of maintaining and troubleshooting our already very well engineered wind turbines. Several operating conditions can lead to WEC networks; driven by environmental weakening aspects (e.g. hydrogen driven by mixed friction and slip, corrosion, stray current). Finally, potential countermeasures. Based on test results, this presentation will show that CMS Condition Monitoring System, will this do it? Will it help? Yes, it does help, but it will not avoid unplanned shutdowns. We need O&M staff with open minds, understanding of the driving factors for these premature failures to identify countermeasures. Based on test results, this presentation will show that several operating conditions can lead to WEC networks; driven by stress related factors (e.g. short time high loads, structural stresses) as well as driven by environmental weakening aspects (e.g. hydrogen driven by mixed friction and slip, corrosion, stray current). Finally, potential countermeasures in the application and measures to increase the robustness of the bearings such as the SKF black oxide will be discussed.

Premature bearing failures are mainly seen at critical bearing positions in the gear units, in a wide range of wind turbines and bearing types. The failure mode is often described as white etching cracks (WEC) or white structure flaking (WSF) in the industry. This is however misleading because WEC/WSF focuses on symptoms rather than on root causes. It is crucial to understand the driving factors for these premature failures to identify countermeasures. Based on test results, this presentation will show that several operating conditions can lead to WEC networks; driven by stress related factors (e.g. short time high loads, structural stresses) as well as driven by environmental weakening aspects (e.g. hydrogen driven by mixed friction and slip, corrosion, stray current). Finally, potential countermeasures in the application and measures to increase the robustness of the bearings such as the SKF black oxide will be discussed.

Will a perfectly scheduled maintenance, conducted correctly and followed by all procedures keep unplanned shutdown away? I am sorry, but unfortunately not. And if we use a highly advanced "CMS Condition Monitoring System", will this do it? Will it help? Yes, it does help, but it will not avoid unplanned shutdowns. We need O&M staff with open minds, understanding of the technology and strong ownership for the job of operating, maintaining and troubleshooting our already very well engineered wind turbines. The current attitude in maintaining complex wind turbines is one of our most expensive mistakes today.

Wednesday, 20 April 2016

How to extend life time of turbines and components?

Topic: Life extension – from theory to reality for a spanish wind farm
Time: 09:05–09:20
Presenter: Christian Jourdain
Head of Marketing & Communication, Services – Gamesa

Life extension programs based on site conditions, historical operational data and inspections are relatively good to estimate turbine's fatigue accumulation, but are not precise enough to guarantee turbines' operations up to year 30 under a full O&M contract. Some customers might not need such comprehensive warranty but wind assets' owners in Spain do as revenues were cut by 40%. Through this tangible case, Gamesa will explain the different steps undertaken, the program of upgrades we will apply and finally its corresponding business case.

Closing of the day

Topic: After the design life time, in a market with low sales prices
Time: 09:35–09:50
Presenter: Strange Skriver
Chief Technical Consultant – Danish Wind Turbine Owners Association

In Denmark we have many old wind turbine generators (WTGs), and we have discussed extending life time for many years. The low sales prices of electricity today give very little room for upgrades of the WTGs. How do we manage to keep the WTGs in operation, when the economy strives to omit even the smallest cost? Legislation demands extra inspections after the design life time. How do the OEMs and ISPs cope with this? What will we see for larger WTGs in the future when they reach the design life time?
Invest now or for sure pay later

Topic: Three points to bring down your long-term O&M costs
Time: 11:40–12:00
Presenter: Ulrich Schomakers
CEO – Availon

Using the long-term full service fleet of Availon as an example, the presentation will focus on the following three main areas where you can optimize your long-term O&M costs: Best maintenance as a basis, installation of upgrades and understanding the structure integrity of your WTG.

Topic: Using big data to drive performance
Time: 12:00–12:15
Presenter: Mario Bachmann
Operations manager Central Europe – GE

Knowing a wind turbine’s actual condition is key to minimize downtime and maximize performance: The presentation focuses on how to turn real-time operational data into actionable maintenance tasks by forecasting possible events and detecting anomalies before the unit stops.

Topic: Driving down cost of offshore operation
Time: 12:15–12:30
Presenter: Nicolaj Mensberg
Director – DONG Energy

As the largest turbine owner and operator of offshore wind turbines, the need for a high ability to improve the operation of new turbine platform is critical throughout the wind farm lifetime. DONG will share their prospective on some of the most critical levers and how to enable them.

Topic: Panel debate – Invest now or for sure pay later
Time: 12:30–12:50
Moderator: Christian Jourdain
Head of Marketing & Communication, Services – Gamesa

Topic: Closing WFMC 2016 / Information 2017
Time: 12:50–13:00
Moderator: Hannes Leopoldseder
Global Sales Manager Wind O&M – SKF
After working for 15 years in the wind industry with installation and O&M, Carsten founded the Danish Wind Power Academy 11 years ago in 2004. With more than half of his life spent in this industry, he has developed a unique “condition-based training concept” that takes a data-driven approach and creates a customised training programme catered directly towards the operator’s needs. The training programmes target all employees in operation of wind turbines from Risk, Asset and Operation Management to Technicians in the field and is taking into account their skills and backgrounds.

Mario started his career with Tacke Windtechnik in 1993 that got later acquired by General Electric and has over 22 years of operational experience in the wind industry. He led various international projects in New Markets around the globe and joined the offshore business in 2005 as operational lead. From 2010 he held the position as Advanced Service Manager and was in charge to develop products to increase productivity and life time extension. Since 2013 he is back in operations and today leading the field operations organization for services in North Europe.

Thomas is Head of Technical Integrity Management within DONG Energy, Wind Power Operation. Technical Integrity Management is responsible for securing integrity across DONG Energy portfolio of wind assets in operation. Utilizing portfolio knowledge to optimize maintenance and fast tracking failure mode analyses. Thomas has 14 years of experience from the wind industry and holds a degree in Engineering as well Business Administration. Thomas has been in his current position since 2012.

Wim Deckx holds a Mechanical Engineering Degree and Master of Business Administration from the University of Antwerp. In 2006, Wim has joined Hansen Transmissions (since 2011 part of the ZF Friedrichshafen AG) and has held several positions within ZF Wind Power and is since October 2015 Head of Wind Service(MA) at ZF Services.
Organizer break-out sessions: 
Fritz Ulrich Dettmer
SKF

Fritz Ulrich Dettmer, holding a Master of Business Engineering (MBE), joined SKF in 2010 and for the last 4 years he worked in business development for renewable energy and had various responsibilities including offer management, aftermarket and wind generators. He is based in Schweinfurt. Previously he has been working in the automotive industry at ZF and Daimler.

Moderator and member of program committee:
Teijo Karna
ABB

Teijo is an Industry Segment Manager for Wind in ABB and is responsible for generators, converters and motors. He has been working in the wind industry since 2001 in mainly sales and management roles. He started in the industry when the turbine size just had shifted from kW to MW class so he has had the opportunity to closely follow the industrialization and rapid grow. Teijo is also a member of the ABB Wind business core team which is coordinating all wind related business activities globally within the ABB Group.

Presenter:
David Hostert
BNEF

David leads the wind analysis at Bloomberg New Energy Finance (BNEF). He is a member of a global team of analysts responsible for producing and communicating research and analysis on the economics, policy, and strategic dynamics of the wind industry. Based in London, he specialises in European markets, and covers policy and auction analysis, forecast, asset valuation, project economics, and supply chain dynamics.

Moderator:
Sylvain Humbert
SKF

Sylvain Humbert, based in Nancy (France), reporting to SKF Maintenance Products in The Netherlands, is in charge of business development of “MaPro” Sales for OEM’s in different industries and especially in the Renewable Energy Segment. Through the different roles and positions he held since he joined SKF ERC as an intern, Sylvain went from fundamental manufacturing process research to product development and finally business development in the last years. His link to the wind industry started with the development and sales of large size induction heaters for main bearing assembly with Wind Turbine manufacturers. He since then got to work with more solutions and more components of Wind Turbines all over the world, including lubrication.

Moderator and member of program committee:
Raf Kerkhofs
SKF

Raf Kerkhofs, holding a master in Information Management, is working for 10 years at SKF having different international positions. Before joining the wind industry, he has been working in aftermarket business for various industries and Key Account Management. In the last 4 years he is in charge of Business Development for Wind O&M as well as responsible for SKF Wind O&M strategy. Raf is based in Brussels, Belgium.

Presenter:
Eckhard Kuhnhenne-Krausmann
Enervis energy advisers

Eckhard Kuhnhenne-Krausmann is Managing Director and partner of the consulting company Enervis energy advisers, where he is responsible in particular for the energy-economic evaluation of wind energy projects. In addition to the project evaluation and technical economic due diligence, the economic optimization of wind projects is the focus of its work. Enervis is analyzing the additional revenue opportunities and risks in the marketing of wind farms. Enervis developed the necessary evaluation tools such as the Market Value Atlas, revenue reports and the enervis auction model. Mr. Kuhnhenne-Krausmann is active in the energy economy in various functions since 1992.

Presenter, moderator and member of program committee:
Christian Jourdain
Gamesa

Christian Jourdain is a civil engineer with an MBA from HEC Paris and ESADE, with strong international experience. Christian already has 9 years of experience in the wind industry and carried out different managerial positions in purchasing, operation & maintenance and sales within Gamesa. He is currently the head of the marketing & communication department for Services for all regions. Prior to joining Gamesa, he worked for Kodak for 5 years, based in New York State and in France, developing B2B web portal solutions. Christian also patented a board game on wind industry in which players are assets managers.

Conference moderator and member of program committee:
Hannes Leopoldseder
SKF

Hannes Leopoldseder, based at SKF in Steyr, Austria, is responsible for the global wind energy aftermarket sales within SKF. Throughout his career within SKF, which started in 2001, he has held a number of managerial positions in business development including two international assignments, Germany and Sweden. His background in the wind industry comes from his business development activities related to drive train solutions. He is in charge of developing the global SKF wind aftermarket sales as well as for the SKF wind aftermarket strategy implementation.
Presenter and moderator:
Nicolaj Mensberg
DONG Energy

Nicolaj Mensberg holds a B. Sc. in Electrical Engineering and a degree in Business Administration. He has worked in wind since 1999 for several leading wind turbine suppliers such as NEG Micon, Vestas, Suzlon and Clipper Windpower. During this time the work have involved many aspects of the of wind business including product development, product management, sales, project development and execution. In 2012 Nicolaj joined DONG Energy Wind where he now heads up Asset Integrity Management which is a multi-disciplined function in operations with the main responsibility of ensuring the asset integrity of all DONG Energy wind farms under DONG operations.

Presenter:
Philippe Mol
Maintenance Partners

Working for Maintenance Partners since 2011, Philippe is involved in the business development department inside where he is mainly focusing at the implementation of the Wintell system, a health and performance monitoring platform.

Welcome note:
Erik Nelander
SKF

Erik was born in 1963 and is married with three children. He has a Master of Business Administration from School of Business, Economics and Law at the University in Gothenburg, Sweden. Erik joined SKF in 1987 and started his career in the areas of controlling and accounting, working in Sweden and in Latin America. In 1999 he took his first management position as Managing Director of SKF Mekan AB. After this, he has held senior management positions as Managing Director of SKF Sverige AB (2002–2006), Director of SKF Aerospace and Super Precision Business Unit (2006–2010), President SKF China (2010–2013) and as Vice President of SKF Industrial Market (2015–2016). As from February 2016 he was appointed President SKF Industrial Sales – Europe and MEA.

Presenter:
Da Ni
CH New Energy

Da Ni established CH New Energy, which became a SKF Certified Service Provider (CSP) in 2015. The company is specialized in providing services and solutions to power train related issues in wind market. Throughout Da’s career he led in numerous positions in power generation and controls in terms of engineering, commissioning and service. He has a strong service background when working in GE Convertteam UK, Southeast Asia, and China for 6 years. Da graduated from Newcastle University, UK with an MSc degree in Electrical Power.

Moderator:
Steen B Nielsen
MAKE

Steen leads and manages MAKE’s global business development and sales efforts across both research and consulting businesses, while also lending his extensive experience in and knowledge of global wind power markets, policy developments, mergers and acquisitions, investor relations and supply chain to MAKE’s custom consulting projects. Steen has over 15 years of senior management experience in the wind power industry and prior to joining MAKE, Steen was a Director, responsible for strategy, communications and market intelligence for LM Wind Power. He also served on the Boards of the European Wind Energy Association and the Global Wind Energy Council for several years.

Key note speaker:
Alfredo Parres
ABB

Alfredo Parres is Group SVP at ABB, Head of Wind ISI. He is currently based in Madrid. In addition to his position, Alfredo is member of the EWEA Board and Chair of its Networks Working Group. He has been active in the wind industry since he joined ABB 15 years ago. In his current position with ABB he spent 5 years in China where he acquired a deep understanding of the Chinese Wind Industry and was Chair of the Renewable Energy Working Group at the EUCC. Alfredo is Spanish, born in Belgium and has engineering and business administration degree from the Université Catholique de Louvain (UCL – Belgium).

Presenter:
Jeff Peterson
ABB

Jeff is responsible for ABB’s Wind Converter Service global portfolio, making sure the needs of OEMs, ISPs and End Users are met during and after the warranty period. He has 15 years of experience in various roles and industries with the past two years in the wind industry. He holds a BS in Mechanical Engineering from Michigan State and a MBA from University of Chicago – Booth.

Presenter:
Dr. Adrijan Ribaric
Sentient Science

Dr. Ribaric holds a Ph.D in Mechanical Engineering from the University of Arizona with an emphasis in deformable MultiBody dynamics and a M.S. in Naval Architecture from the University of Dussburg, Germany. During his studies, Mr. Ribaric has conducted extensive research in the area of Finite Element reduction techniques and rolling dynamics. Since 2012, Mr. Ribaric has been involved in several SBIRs for development of physics-based prognostics models for gears, bearings and complete rotary drivetrain systems to address key rotorcraft and wind turbine durability issues. Today he oversees the system modelling process at Sentient and integration with live operation data.
Moderator and member of program committee:

**Michael Richter**
Avalon

After Michael’s Business Administration studies in Germany and USA, his employment in Richter Company In- and Export, as well as his subsequently activities in Airbus, he changed in 2003 to the Jungheinrich company, where he worked in different positions until 2009. In February 2011 he finished his MBA studies, which he began in July 2011. At the same time, he was working for the Multi-Trade International company. From March 2011 until February 2013, he was responsible for service sales in Europe and North America in Nordex company. Since March 2013 he works as Global Sales Manager at Availon for Poland, Portugal, Spain, Italy and Germany.

Organizer and member of program committee:

**Philipp Schmid**
SKF

Philipp Schmid followed business studies focusing on marketing and industrial management and researched on strategic marketing in China during his PhD studies. Before joining SKF he worked as Client Service Executive and Junior Research Consultant for GfK in China and Germany. As from 2008 he joined SKF and worked as project manager, market analyst and marketing manager in the Renewable and Energy industries. Besides working for SKF he is also teaching industrial marketing at Baden-Wuerttemberg Cooperative State University.

Presenter:

**Ulrich Schomakers**
Avalon

Ulrich Schomakers has a degree in Electrical Engineering and studied at the University of Applied Science in Munster. He is CEO of Avalon Holding GmbH since 2009. Before joining Avalon he was CEO Director of SSB Group. He has over 20 years of experience in wind energy and was holding different positions in several companies. Ulrich has worked for Tacke Windtechnik GmbH & Co KG, Enron Wind Service and GE Wind Energy GmbH. After graduating he started his career as a Project Manager for ABB Robotics in Friedberg.

Presenter:

**Michael Sękal**
Energa

Michael was born in 1980 in Warsaw, Poland. After his studies on Warsaw University of Technology on Power and Aeronautical Engineering Faculty and on Academy of Finance in Warsaw, he started to work in 2005 for SIEMENS as an engineer in the Energy and Environmental Solutions Department. In 2008 he moved to Iberdrola in Poland and worked as O&M Manager, working in an international O&M department and was responsible for maintenance of Iberdrola’s wind farms located in Poland. Currently he is responsible for the maintenance of wind farms belonging to Energa Wytwarzanie S.A., where he is leading and developing the O&M department focused on In-House service since 2014.

Presenter:

**Strange Skriver**
Danish Wind Turbine Owners Association

Strange Skriver was employed at the Danish Wind Turbine Owners Association in 1990. The main tasks during these 25 years of work have been End of Warranty inspections. Besides EoW inspections, his tasks also include inspection of gearboxes, endoscope inspections, work shop inspections, gear oil filter inspections, type approval of small wind turbines, member meetings, consultancies, inspection training etc. Strange Skriver has carried out more than 3 500 inspections on wind turbines in the range from 3 kW to 3 600 kW of more than 50 different wind turbine manufacturers and in more than 20 countries worldwide.

Presenter and moderator:

**David Vaes**
SKF

David Vaes has joined SKF after his master and PhD in Mechanical Engineering. Meanwhile he is working for more than 10 years as (senior) application engineer in renewable energy, with a focus on wind turbine gear units. For several years, he has been responsible for the technical support to one of the major OEM customers of SKF. Since 2014, he is project leader in the SKF project investigating premature bearing failures and WEC, responsible for the application side of the problem. David Vaes is based in Brussels, Belgium.
Turbine monitoring just got smarter and simpler

New updated SKF @ptitude Observer software

At hundreds of windfarms worldwide, SKF WindCon is enabling operators to predict the need for turbine maintenance to reduce downtime and better manage their resources. With newly updated SKF @ptitude Observer software, they can also benefit from an expanded range of diagnostic and communication possibilities, making turbine service even more efficient.

Learn more SKF @ptitude Observer’s intelligent diagnostics and communication at skf.com/wind

New features include:

- Event Capture: raw signals acquisition based on alarms or events
- Trigger acquisition on up to 5 parameters
- Graphical display improvement based on wind turbine load classes
- Time synchronisation with any external server
- Interfacing with other systems based on IEC 61400-25