



SKF 8th Annual Wind Farm Management Conference

Realizing cost savings in operations & maintenance in a maturing wind industry





Welcome!

Dear Friends of Wind Energy,

Welcome to Warsaw and to the eighth annual SKF wind farm management conference.

This year's conference is focusing on the realization of cost savings through a well planned and executed maintenance strategy, the optimization of wind farm assets, risk management and how operations and maintenance can place a major role in the reduction of the levelized cost of energy (LCOE) in this industry.

The wind business, still a young industry, has one major key target to reach: grid parity with traditional sources of energy. When reaching this point, wind energy will not only be the cleanest and most environmentally friendly source of energy, but also the most profitable investment in energy, and by then we can foresee a major development.

To reach optimal LCOE, smart solutions and smart technology have to be applied in all aspects and stages of the turbine life cycle. SKF is investing in developing new technology for the wind industry industry, such as SKF Insight™, to provide early information on equipment malfunctioning to ensure the most cost-efficient operation and maintenance procedures. In addition, this information provides feedback when designing the next generations of turbines.

This year's program committee, which includes Dong Energy, E.ON C&R, Vattenfall, ZF-Services as well as SKF, has developed a conference program filled with expert knowledge and hands-on experiences to support you in further improving the management of your wind farm. I hope you will find this conference stimulating and also make best possible use of networking when meeting industry colleagues and sharing your experiences.

Kind regards,



Kent Viitanen

President

SKF Renewable Energy Business Unit

Conference programme

Wednesday 12, June 2013

- 8.00–9.00 Registration at hospitality desk & coffee
- 9.00–9.05 Conference introduction
Mr. Stefan Karlsson
Head of Marketing & Strategic Development
SKF Renewable Energy Business Unit
- 9.05–9.15 Welcome note
Mr. Marek Pracki
Director RSS CEE-MEA area
SKF Polska A.S.
- 9.15–9.25 SKF and wind service market
Mr. Rakesh Makhija
President Industrial Market, Strategic Industries and
Member of SKF Group Management
- 9.25–10.05 O&M playing a major role in reducing LCOE
Key note speaker: Mr. Morten B. Keller
CEO and Managing Partner
MAKE Consulting A/S
- 10.05–10.35 Coffee break and networking
- Optimizing wind farm assets (intro 10.35)**
- 10.40–11.00 O&M cost drivers for onshore & offshore wind farms
Mr. Pär Attermo
O&M Development Windpower
Vattenfall
- 11.00–11.20 Maximizing energy yield from operating assets
Mr. Roland Flaig
Fleet Manager Nordic
E.ON Climate & Renewables
- 11.20–11.40 Incentives for suppliers to increase wind park performance
Mr. Thilo Langfeldt
Partner
Strategy Engineers GmbH & Co. KG
- 11.40–12.00 **Panel debate among speakers**
Moderator: Mr. Hannes Leopoldseder
Manager Wind Aftermarket
SKF Renewable Energy Business Unit
- 12.00–13.00 Lunch buffet
- Maintenance strategy (intro 13.00)**
- 13.05–13.25 How to implement reliability in the wind industry – steps and
procedures
Mr. Javier Saldise Ruiz de Erenchun
CBM Specialist
VESTAS
- 13.25–13.45 The ISP perspective
Mr. Carsten Brinck
Executive Vice President, Commercial Relations
DMP Service
- 13.45–14.05 RES – The Reliability Engineering Story
Dr. Simon Powles
Group Asset Manager
RES Ltd.
- 14.05–14.25 Maintenance strategies for a multi-technology wind farm owner
Mr. Ceferino Viescas Fernández
O&M Director for EDPR-Europe
EDP Renewables
- 14.25–14.45 **Panel debate among speakers**
Moderator: Mr. Carsten Andersen
CEO
Danish Wind Power Academy
- 14.45–15.15 Coffee break and networking
- Knowledge transfer (intro 15.15)**
- 15.20–15.40 Cost efficient logistic for offshore wind farms
Dr. François Besnard
O&M Engineer
Vattenfall
- 15.40–16.00 How can an ISP improve ROI for the owner?
Mr. Peter Wells
CEO
UpWind Solutions Inc

- 16.00–16.20 Upgrading versus replacement
Mr. Paul Meaney
Manager Renewable Energy Application Development Centre
SKF Renewable Energy Business Unit
- 16.20–16.40 Load monitoring to optimize the O&M strategy for offshore wind farms
Mr. Luc Rademakers
Senior Researcher Wind Energy Systems
ECN
- 16.40–16.55 **Panel debate among speakers**
Moderator: Mr. Nicolaj Mensberg
Head of Technical Asset Management
DONG Energy Wind
- 16.55–17.00 Closing of the day
Mr. Stefan Karlsson
Head of Marketing & Strategic Development
SKF Renewable Energy Business Unit
- 19.15– Departure for conference dinner
Hosts: Mr. Inge Aasheim and Dr. Philipp Schmid

Thursday 13, June 2013

- 8.30–9.00 Coffee and networking
- 9.00–9.05 Intro & Recap Day 1
Mr. Stefan Karlsson
Head of Marketing & Strategic Development
SKF Renewable Energy Business Unit
- Risk management (intro 9.05)**
- 9.10–9.30 COE reductions in the wind energy industry – from radial to
incremental improvements – it is all needed
Mrs. Christina Aabo
Head of Concepts & Solutions
Engineering, Wind Power, Dong Energy
- 9.30–9.50 Deployment of CBM for risk reduction
Mr. Erwin Weis
Global Manager – SKF Asset Management Services
SKF Maintenance Services GmbH
- 9.50–10.10 Risk mitigation in wind energy
Mr. Stefan Sebald
Senior Underwriter
Gothaer Allgemeine Versicherung AG
- 10.10–10.30 **Panel debate among speakers**
Moderator: Mr. Roland Flaig
Fleet Manager Nordic
E.ON Climate & Renewables
- 10.30–11.10 Coffee break and networking
- Is the wind industry maturing?**
- 11.10–11.20 **Intro:** Mrs. Lyn Harrison
Owner of InsightWind
- 11.20–11.40 Optimized maintenance and reliability management in the
O&M phase - Lessons learned from oil and gas industry
Mr. Jim Marnoch
Ocean Energy Manager
SKF Renewable Energy Business Unit
- 11.40–12.00 Driving wind turbines with data
Dr. Sven Jesper Knudsen
Senior Analyst
Dong Energy
- 12.00–12.20 Spare parts management; best practices from aerospace concepts
Dr. Marc Huijzer
Managing Partner
Spares in Motion
- 12.20–12.50 **Panel debate among speakers**
Moderator: Mrs. Lyn Harrison
Owner InsightWind
- 12.50–13.00 Closing of Conference/Introduction to 2014 conference
Mr. Stefan Karlsson
- 13.00–14.00 Lunch buffet and departure

Members of the programme committee:



Conference presentations

Wednesday 12, June 2013

Topic: [Conference introduction](#)
Time: [9:00–9:05](#)
Presenter: [Mr. Stefan Karlsson](#)
[Head of Marketing & Strategic Development](#)
[SKF Renewable Energy Business Unit](#)

Topic: [Welcome note](#)
Time: [9:05–9:15](#)
Presenter: [Mr. Marek Pracki](#)
[Director RSS CEE-MEA area](#)
[SKF Polska S.A.](#)

Topic: [SKF and wind service market](#)
Time: [9:15–9:25](#)
Presenter: [Mr. Rakesh Makhija](#)
[President Industrial Market,](#)
[Strategic Industries and Member of](#)
[SKF Group Management](#)

Topic: [O&M playing a major role in reducing LCOE](#)
Time: [9:25–10:05](#)
Key note speaker: [Mr. Morten B. Keller](#)
[CEO and Managing Partner](#)
[MAKE Consulting A/S](#)

Onshore growth may have peaked, however the market continues to run at a significant installation level of ~50 GW annually, and the accumulated onshore installation amounts to 266 GW as of today. OPEX is a significant contributor to LCOE, however, so far LCOE reductions have been enabled by OEMs making technology gains and squeezing supply chain margins. The presentation examines the development of the O&M market, the evolving business models and the challenging but also required actions to bring down LCOE further.

Optimizing wind farm assets

Topic: [O&M cost drivers for onshore & offshore wind farms](#)
Time: [10:40–11:00](#)
Presenter: [Mr. Pär Attermo](#)
[O&M Development Windpower](#)
[Vattenfall](#)

Why is the cost for O&M so high for Windpower compared to other power production and what could be done to reduce the cost for O&M and lost production? These are the questions Vattenfall would like to get answered, when they initiated the cost driver analysis for offshore and onshore wind-power. The studies implied a deep dive into the maintenance systems and SCADA alarms complemented with interviews of site managers, service leaders, OEM and ISP. The presentation shows the results of the studies and interviews together with proposed actions. The studies were done in cooperation with Ulla Pettersson at e-for-energy.

Topic: [Maximizing energy yield from operating assets](#)
Time: [11:00–11:20](#)
Presenter: [Mr. Roland Flaig](#)
[Fleet Manager Nordic](#)
[E.ON Climate & Renewables](#)

This presentation emphasizes the role in of energy yield in the work to drive down life cycle cost of energy (as cost/MWh) by increasing the power output from turbines in operation. It will describe the journey from Energy Yield project to Energy Yield Optimization Process as part of the day-to-day operation management of an on- and offshore wind farm portfolio in a european context. Real cases will be used to illustrate the potential of energy yield activities on operating wind farms.

Topic: [Incentives for suppliers to increase wind park performance](#)
Time: [11:20–11:40](#)
Presenter: [Mr. Thilo Langfeldt](#)
[Partner](#)
[Strategy Engineers GmbH & Co. KG](#)

The procurement process for wind turbines is the only phase where an investor can significantly influence the life time profitability of a wind park. Long term fulfilment of the owner's objectives can be supported if the right incentive model is being infused into turbine supply- and service agreement. The presentation outlines opportunities how toothless stand-ard clauses in the contract package can be turned into powerful incentives for turbine- and service suppliers.

Topic: [Panel debate among speakers](#)
Time: [11:40–12:00](#)
Moderator: [Mr. Hannes Leopoldseder](#)
[Manager Wind Aftermarket](#)
[SKF Renewable Energy Business Unit](#)

Maintenance strategy

Topic: [How to implement reliability in the wind industry – steps and procedures](#)
Time: [13:05–13:25](#)
Presenter: [Mr. Javier Saldise Ruiz de Erenchun](#)
[CBM Specialist](#)
[VESTAS](#)

In order to implement a reliability project for OPEX reduction, you need to define the process, the procedures and analyze the data, to be able to take the right decisions and to reduce OPEX near to 40 %. Each task have to be done in the right moment and in the right way. The presentation will explain a procedure about how to implement a reliability strategy in wind turbines with clear steps on how, where and who need to perform relevant tasks, to permit other companies to implement and optimize OPEX. I will try to transmit my experience and explain normal mistakes done in the wind industry when implementing reliability, and help to be able to obtain PASS-55 certification (future ISO 55.000) which divides companies inter-ested in "asset" from "standard" companies.

Topic: [The ISP perspective](#)
Time: [13:25–13:45](#)
Presenter: [Mr. Carsten Brinck](#)
[Executive Vice President, Commercial Relations](#)
[DMP Service](#)

During the lifetime of a wind farm there are different requirements, and it varies between the wind turbine types and models and from owner to owner. How is the flexibility and individual needs obtained as part of the life cycle strategy? What is the optimum split of O&M responsibilities during the lifetime of a wind farm? In the value chain the operation & maintenance section experience high growth and the forecast says that it will continue in the coming years. As a natural part of this growth the ISPs are becoming more and more advanced. What can and should the ISPs offer and what are the strengths?

Topic: [RES - The Reliability Engineering Story](#)
Time: [13:45–14:05](#)
Presenter: [Dr. Simon Powles](#)
[Group Asset Manager](#)
[RES Ltd.](#)

Improving availability and reducing running costs whilst maintaining safety is the essential function of any prudent operator. RES owns a large world-wide fleet of wind farms and also manages and operates many more for independent owners. Over the years a suite of tools has been built up to improve diagnostics of the assets using a combination of scada data and external sensors. This enables the spotting of incipient failures, performance trending and ensuring continuing compliance. All this leads to less downtime and reduced repair costs, boosting income and profit from the operating assets. We call this Reliability Engineering.

Topic: [Maintenance strategies for a multi-technology wind farm owner](#)
Time: [14:05–14:25](#)
Presenter: [Mr. Ceferino Viescas Fernández](#)
[O&M Director for EDPR–Europe](#)
[EDP Renewables](#)

For a producer with a quick power growing up based in project performance rather than fleet optimization, it is critical how it is faced the organization, use, and exploitation of all assets along their useful life. As a consequence of fast growing, the result in EDPR-EU has finished in an inhomogeneous fleet in technology and size with lot of different models spread out all around different geographies. Optimize the exploitation of this multitechnology asset has got an added difficulty, is a challenge for the owner and requires a deep revision and planning in all perspectives involved in the operation and maintenance of wind farms. The presentation introduces the handicaps which multi technology supposes for EDPR running afterwards through all techniques and O&M management applications EDPR has implemented to mitigate the handicaps and maintain high performance along remaining useful assets life.

Topic: [Panel debate among speakers](#)
Time: [14:25–14:45](#)
Moderator: [Mr. Carsten Andersen](#)
[CEO](#)
[Danish Wind Power Academy](#)

Knowledge transfer

Topic: [Cost efficient logistic for offshore wind farms](#)
Time: [15:20–15:40](#)
Presenter: [Dr. François Besnard](#)
[O&M Engineer](#)
[Vattenfall](#)

The logistic concept for transportation and transfer of personnel and spare parts to the wind turbines is one of the key drivers for the operation and maintenance costs. The optimal concept should balance the direct costs of the logistic and personnel with the indirect costs of the production losses resulting from the efficiency of access solution and effective working time. This presentation shows results from a tool that has been developed to evaluate and compare alternative logistic solutions. A case study based on real data is presented including different concepts with improved crew transfer vessels, access system, helicopter, and onshore versus offshore base.

Topic: [How can an ISP improve ROI for the owner?](#)
Time: [15:40–16:00](#)
Presenter: [Mr. Peter Wells](#)
[CEO](#)
[UpWind Solutions Inc](#)

Wind farm owners are faced with many challenges to increase production and reduce costs, all while performing safer than last year and with higher levels of quality. Owners rely on a supply chain every day to get spare parts, solve engineering problems, complete daily operations, execute planned maintenance and manage unplanned events. The right service provider needs proven experience, engineering support, parts supply capability and 24/7 performance monitoring and diagnostics to minimize unplanned events and maximize asset performance. This presentation focuses on how the modern ISP can meet this challenge, delivering improved asset performance and ROI for the owner.

Topic: [Upgrading versus replacement](#)
Time: [16:00–16:20](#)
Presenter: [Mr. Paul Meaney](#)
[Manager Renewable Energy Application](#)
[Development Centre](#)
[SKF Renewable Energy Business Unit](#)

As wind turbines age and require maintenance, operators face a difficult decision to replace worn or damaged parts with the direct replacement part or take the opportunity to upgrade to an improved or premium part. What are the benefits of upgrading? How to balance the extra cost of an upgrade against the expected improved performance? What should be considered and what are the pitfalls? Some examples will be shown.

Topic: [Load monitoring to optimize the O&M strategy for offshore wind farms](#)
Time: [16:20–16:40](#)
Presenter: [Mr. Luc Rademakers](#)
[Senior Researcher Wind Energy Systems](#)
[ECN](#)

Operation and maintenance of offshore wind turbines is a major cost driver for offshore wind energy. To lower the O&M Costs, ECN is executing an R&D program on low cost load monitoring (LoadWizard) to allow for condition based maintenance. The LoadWizard concept will be discussed and consists of 3 parts: Low cost and reliable load sensors based on optical fibres; Software to process the data and inform operators about the loads on all wind turbines in the farm; OPEX cost modelling tools to analyse the economic impact of the measured loads in terms of costs and downtime.

Topic: [Panel debate among speakers](#)
Time: [16:40–16.55](#)
Moderator: [Mr. Nicolaj Mensberg](#)
[Head of Technical Asset Management](#)
[DONG Energy Wind](#)

Topic: [Closing of the day](#)
Time: [16:55–17:00](#)
Presenter: [Mr. Stefan Karlsson](#)
[Head of Marketing & Strategic Development](#)
[SKF Renewable Energy Business Unit](#)

Thursday 13, June 2013

Risk management

Topic: COE reductions in the wind energy industry – from radial to incremental improvements – it is all needed
Time: 9:10–9:30
Presenter: Mrs. Christina Aabo
Head of Concepts & Solutions
Engineering, Wind Power, Dong Energy

Reduction of cost of energy highly depends on the innovation of tomorrow's wind power plants and that can't be done by one party alone. That requires increased cooperation across the value chain of the industry. Some innovation projects are carried out internally in DONG Energy whereas others are in close cooperation with external partners. The presentation will focus at showing examples of the external cooperation in some of the industry groups as Carbon Trust, with selected universities and other private companies. The presentation gives an overview how the innovation work is done in the idea generation and analysis phase but zoom in on the efforts on improvements in the operation phase where the revenue stream is at stake. The cooperation with suppliers and other asset owners is essential and an examples on how DONG Energy is handling this is presented.

Topic: Deployment of CBM for risk reduction
Time: 9:30–9:50
Presenter: Mr. Erwin Weis
Global Manager – SKF Asset Management Services
SKF Maintenance Services GmbH

The ISO 31000 (2009) / ISO Guide 73:2002 definition of risk is the "effect of uncertainty on objectives". How can SKF reduce the effect and uncertainty and help maintenance organizations to prevent machine downtime and keep uptime high? New technology sensing directly on the bearing, enables to monitor damages from the first microscopic effect as it is happening. With this information, customers can take remedial action to reduce the reason for damage in the bearing – adding lubricant, mitigating transient overloads, etc. Combining this new SKF technology with SKF's expert knowledge, will provide deep insight into the machine health and support the decision making of maintenance organizations, on how to prioritize and optimize their resources.

Topic: Risk mitigation in wind energy
Time: 9:50–10:10
Presenter: Mr. Stefan Sebald
Senior Underwriter
Gothaer Allgemeine Versicherung AG

Most brand new installed onshore wind turbines nowadays are sold with full service and maintenance contracts, either of the manufacturer or independent service providers. Additionally, more and more power plants – being operational already for a couple of years – have a demand for full service and maintenance and are supplied by the various market actors. Just as developers, investors and operators carefully proof these sometimes individual contracts, Gothaer goes into detail as well and provides customers with tailor made solutions.

Topic: Panel debate among speakers
Time: 10:10–10:30
Moderator: Mr. Roland Flaig
Fleet Manager Nordic
E.ON Climate & Renewables

Is the wind industry maturing?

Time: 11:10–11:20
Moderator: Mrs. Lyn Harrison
Owner
InsightWind

The wind industry has grown from an annual 6.5 GW in 2002 to a 45 GW market in 2012, worth €55 billion. Size, however, is not always proof of maturity, and technology maturity and deployment maturity are at different stages of development. Wind farm management is arguably still in its infancy: serious discussion of the value of condition monitoring, predictive service and preventive maintenance is barely five years old; the supply chain for replacement parts has not caught up with the needs of a global fleet that has grown tenfold in a decade; and wind farm managers are often pushed to provide the highly accurate output forecasts needed to maximize daily profits on the new electricity markets. As this session will reveal, however, much can be learned from industries with proven expertise in meeting these challenges; and the drive to hasten deployment maturity is likely to come from some unexpected quarters.

Topic: Optimized maintenance and reliability management in the O&M phase – Lessons learned from oil and gas industry
Time: 11:20–11:40
Presenter: Mr. Jim Marnoch
Ocean Energy Manager
SKF Renewable Energy Business Unit

The wind industry is relatively new compared with other traditional energy sectors such as oil and gas. As wind farms reach the end of their manufacturer's warranty periods, and enter the O&M phase, best practice should be adopted and the mistakes made by other industries avoided. The O&M phase accounts for the majority of the life cycle cost, therefore maintenance must add value and make a positive contribution to reliability, availability and output. The presentation describes a Proactive Reliability Management delivery model that is widely adopted in the UK and Norwegian sectors of the offshore oil and gas industry. It can ensure that the right maintenance and condition monitoring effort is applied to the right machines at the right frequency. Information on recurring faults is collated on an ongoing basis allowing "bad actor" machines and components to be readily identified. This field information quantifies the extent of the problem and is used to help identify the Root Cause. Once identified, the operator works closely with the OEM/vendor to improve the machine design, eliminating the problem once and for all.

Topic: Driving wind turbines with data
Time: 11:40–12:00
Presenter: Dr. Sven Jesper Knudsen
Senior Analyst
Dong Energy

DONG Energy is committed to lower offshore wind cost of energy. A big part of this equation is a set of data-driven wind turbine maintenance models, successfully deployed in a modern visual reporting environment. The focus of the presentation is not that dashy, however, but on the lagging technology in pristine wind turbine data integrity, and if the questions we can ask the data does investigate enough to support the needs of a modern business.

Topic: Spare parts management; best practices from aerospace concepts
Time: 12:00–12:20
Presenter: Dr. Marc Huijzer
Managing Partner
Spares in Motion

How can the current wind turbine aftermarket learn from a mature industry like aerospace? This presentation will discuss several best practices from aerospace which could be useful for the development of the wind turbine aftermarket for the coming years in the field of spare parts management. Key to a successful supply chain strategy is ensuring availability. Should one buy a new component, used component or repair? What are options for increasing your stock turnover and what are possibilities to find and purchase that urgent component to be able to fulfil your performance contracts for your customer?

Topic: Panel debate among speakers
Time: 12:20–12:50
Moderator: Mrs. Lyn Harrison
Owner
InsightWind

Topic: Closing of Conference/Introduction to 2014 Conference
Time: 12:50–13:00
Moderator: Mr. Stefan Karlsson
Head of Marketing & Strategic Development
SKF Renewable Energy Business Unit



Conference presenters



Presenter: **Mrs. Christina Aabo**
Dong Energy

Christina Aabo has worked in the wind energy industry for 15 years. With a background as M.Sc. in civil engineering, she joined the R&D department in Danish turbine manufacturer NEG Micon 1998. From 2001 she was heading the product management function at NEG Micon through the merger with Vestas. In 2005 she left to lead internationalization and product launches at the Indian turbine manufacturer Suzlon until 2007. From 2007 to 2010 she was Vice President for Product Management in Vestas and by 2010 she joined DONG Energy and is presently heading the concept development programme after a period in asset management and operations.



Moderator: **Mr. Carsten Andersen**
Danish Wind Power Academy

Carsten Andersen founded Danish Wind Power Academy (DWPA) in 2004 on the basis of more than 17 years of experience within the wind industry. Today his DWPA instructors together provide over 60 years of practical 'hands-on' experience from a wide range of turbines. Since 2004 he has developed an innovative educational concept for technical personnel at all levels involved in O&M of wind turbines ranging from Risk and Asset management to technicians in the field. With strong links to both owners and sub suppliers, the DWPA develops targeted programs for all skill levels, from new employees to experienced technicians with the purpose to improve wind turbine performance. Typical clients are energy providers, turbine owners and 3rd party subcontractors within O&M.



Presenter: **Mr. Pär Attermo**
Vattenfall

Pär Attermo has since 1995 worked for Vattenfall as a technical and financial analyst. He has worked within most parts of Vattenfall while his focus has been on production assets. Work has mostly been related to Asset Management issues like investment valuation and asset improvements. He was during 2000-2004 also responsible for cash flow forecast of Vattenfall group and participated in the evaluation of company acquisitions in Poland and Germany. Since 2011 his analytical skill has been used within Vattenfall Windpower in order to find cost drivers and to develop an Asset Management KPI system.



Presenter: **Dr. François Besnard**
Vattenfall

Dr. François Besnard was born in Rennes, France, in 1983. He received the M.Sc. degree in electrical engineering from the Royal Institute of Technology, Stockholm, Sweden and from The Ecole Supérieure d'Electricité, Rennes, France both in 2007 and the PhD degree in electrical engineering from Chalmers University of Technology, Gothenburg, Sweden in 2013. Since 2011 he has worked at Vattenfall Wind Power as an operation and maintenance analyst for offshore wind farm projects.



Presenter: **Mr. Carsten Brinck**
DMP Service

Carsten Brinck, B. Sc. in Electrical Engineering, has worked in the wind industry since 2000. Working at DMP Service, a leading independent service provider in the Nordic countries, Carsten is responsible for the sales, marketing and service of the company's activities for the three business areas – operations and maintenance, wind turbine gear refurbishment, and sales of wind turbine spare parts. He has his past experience from NEG Micon, Vestas, Siemens and Suzlon. He has worked at different operational and strategic levels with sales and operations in the regions of Europe, USA, LATAM and APAC. Beside sales and execution of mid- and large scale wind farm projects with IPP's and Utilities' on a global scale, he has established and managed organizations in different countries around the world.



Presenter: **Mr. Roland Flaig**
E.ON Climate & Renewables

Roland Flaig joined E.ON Climate & Renewables Nordic in 2009 and took on the responsibility for Operation & Maintenance in 2011, overseeing 154 wind turbines across 12 sites on- and offshore. His responsibilities included managing both warranty and post warranty service agreements and overseeing the buildup of a Nordic maintenance organization, first offshore and since 2012 also for the onshore fleet. He is currently managing the Nordic onshore O&M organization, responsible for implementing the O&M strategy and improvement program projects to both reduce costs and improve performance in the Nordic onshore fleet.



Moderator: **Mrs. Lyn Harrison**
InsightWind

Lyn Harrison is a wind market strategist and communications adviser. She has played a thought-leadership role at the heart of the global wind power business for the best part of 30 years. A co-founder and past owner of Windpower Monthly, the wind sector's leading business title, she was its editor from 1986-2009. After sale of Windpower Monthly to Haymarket Media and three years with the new owner as Editorial Development Director, she founded InsightWind in 2012 as an independent and expert knowledge centre for information on wind power, the industry and its markets, with a focus on communications activity. She is a qualified journalist with 40 years experience in media and public relations and is an external consultant to Windpower Monthly.



Presenter: **Dr. Marc Huijzer**
Spares in Motion

Marc Huijzer has a background of 10 years in aerospace, where he worked in an international context in senior supply chain and program management functions. In his last function he was responsible for logistic services for military aircraft. Previously he graduated from the Rotterdam School of University (RSM) in the field of Business Administration and Entrepreneurship. Currently he is Managing Partner and co-owner of Spares in Motion; the e-business platform for the wind turbine aftermarket for spare parts, repairs and used wind turbines. Best practices from the aerospace were transferred and made specific for the wind turbine O&M sector via an online platform.



Moderator: **Mr. Stefan Karlsson**
SKF Renewable Energy
Business Unit

Stefan Karlsson, based at SKF Group Headquarters in Göteborg, Sweden, holds a Master of Science degree in Business Engineering and has 25 years experience with SKF group in marketing and sales management positions in different parts of the world. Since 2002 he has been driving and coordinating the business development of wind energy within SKF, and is since early 2012 Head of Marketing and Strategic Development within the newly established SKF Renewable Energy Business Unit. He is also active as Chairman of the Swedish Windenergy Association.



Presenter: **Mr. Morten B. Keller**
MAKE Consulting A/S

Morten B. Keller is Managing Partner and Co-founder of MAKE Consulting. He lends his vast knowledge of and experience in wind power market trends, global policy issues, strategy and business modeling to MAKE's industry leading wind advisory services. Prior to co-founding MAKE Consulting, he held several positions in wind related sectors, including managerial positions within marketing, business development and strategy in Vestas Wind Systems and as a Senior Renewable Energy Analyst in Nordea Bank.



Presenter: **Dr. Sven Jesper Knudsen**
Dong Energy

Sven Jesper Knudsen has worked with high-tech data analytics, implementing statistical and machine learning techniques in fields as diverse as pharmaceutical, finance, and manufacturing. His focus at DONG Energy is on the use of wind turbine data from off-shore sites to predict failures, and to mature the approach to meet the integrity required. He holds a Ph.D. in Statistics from University of Southern Denmark



Presenter: **Mr. Thilo Langfeldt**
Strategy Engineers GmbH & Co.KG

Thilo Langfeldt has worked as a management consultant for more than 13 years mainly for clients from the energy, aerospace and automotive industry. He has helped his clients with i.e. strategy based transformation, performance improvement, procurement and sales/after sales strategy. He has led negotiations with all major turbine suppliers comprising over 700 MW onshore capacity including both turbine supply and service agreement. He co-founded Strategy Engineers in Germany 2010 and is Managing Director of the Swedish branch focussing on strategy development and implementation for industries with complex technical products.



Moderator: **Mr. Hannes Leopoldseder**
SKF Renewable Energy Business Unit

Hannes Leopoldseder, based at SKF in Steyr, Austria, is responsible for the global wind energy aftermarket sales within SKF Renewable Energy Business Unit. Along 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. Background in the wind industry is coming 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: **Rakesh Makhija**
President Industrial Market,
Strategic Industries and Member of
SKF Group Management

Rakesh Makhija was appointed as President of Industrial Market, Strategic Industries, with effect from 1 May 2013. Rakesh joined SKF in 2002 as Managing Director, SKF India Limited and successfully led SKF India to a path of high growth and market leadership. In January 2010 he was appointed as President of SKF Asia and a member of the SKF Group Management. Prior to joining SKF, Rakesh has had an extensive top management career with industrial and technology companies such as Honeywell International, Tata Honeywell and Kinetics Technology International where he held leading positions, both in India and the Netherlands. Rakesh is a Chemical Engineer from the Indian Institute of Technology, New Delhi, India.



Presenter: **Mr. Jim Marnoch**
SKF Renewable Energy Business Unit

Jim Marnoch graduated from Robert Gordon's University Aberdeen in 1985, with an honours degree in Engineering Technology. He has over 27 years experience in the field of Maintenance/Reliability Engineering Consultancy and Condition Monitoring Services, primarily delivered to the upstream offshore oil and gas sector. In 2012, he moved from the position of Business Director for SKF's North Sea Oil and Gas operation to a new role within SKF, as Ocean Energy Manager. His responsibilities now include the transfer of knowledge and experience from synergistic industries, oil & gas, wind, marine, and hydroelectric, to the emerging Tidal and Wave sector, and ultimately to grow a new business stream for SKF.



Presenter: **Mr. Paul Meaney**
SKF Renewable Energy Business Unit

Paul Meaney joined SKF in 1995 after graduating in Aeronautical Engineering from Imperial College London. He has held various positions within SKF in pure research and applied research in the automotive business before taking a management role in the Racing Unit. He returned to a research role in the wind team in 2011 and currently leads a group coordinating R&D activities for the SKF Renewable Energy Business Unit.



Moderator: **Mr. Nicolaj Mensberg**
DONG Energy Wind

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 he joined DONG Energy Wind where he now heads up the Technical Asset Management which is a multi-disciplined function in operations, with the main responsibility of ensuring the asset integrity of all DONG Energy offshore wind power plants under DONG operations.



Presenter: **Dr. Simon Powles**
RES Ltd

Simon Powles has worked in wind energy for over 30 years, first writing a physics PhD thesis on horizontal axis rotor dynamics, then working on large vertical axis prototype turbines. At RES he has worked in a variety of technical, development and engineering roles as the company grew from small beginnings to the Global player it is today. Now as Group Asset Manager he strives to ensure the best performance of RES' worldwide operational portfolio.



Presenter: **Mr. Marek Pracki**
SKF Polska S.A.

Marek Pracki was born in Poland in 1962. He has a degree of Master of Sciences in Mechanical Engineering from Technical University of Warsaw. Member of setting up team of SKF sales unit in Poland during 1991-1992. Over the years, he held a number of positions in sales and logistics within SKF Polish organization, finally becoming the Managing Director of SKF Poland. Later, promoted to the position of Regional Director Central Eastern Europe. In 2008 he has been appointed Director of Central Eastern Europe, Middle East and Africa Area, which covers more than 100 countries.



Presenter: **Mr. Luc Rademakers**
ECN

Luc Rademakers joined the Energy research Centre of the Netherlands (ECN) in 1989, after having finished his Masters study on Mechanical Engineering at the Eindhoven University of Technology. He started his ECN activities in the field of wind energy. Since then he has been involved in load calculations, measurements, certification, safety analyses, and the development of maintenance strategies for offshore wind farms. After having fulfilled several positions as a project leader of large international R&D projects, consultancy work for industrial parties, and manager of R&D departments, he is now responsible for ECN's R&D on Operation and Maintenance of offshore wind farms.



Presenter: **Mr. Javier Saldise Ruiz de Erenchun**
VESTAS

Javier Saldise Ruiz de Erenchun started with a Electrical Training and added afterwards Msc. in Project and Production Management, Msc in Maintenance Engineering & Asset Management, Bachelor in Technology Management and HND (high National Diploma) in Maintenance Engineering. That supports 5 years like Factory Director and 7 years in Condition Based Maintenance in different CMS Supplier (SKF, Emerson, Pruftechnik). In the last 2 years he was implementing Reliability and CBM Culture in Vestas, to evitate stopping turbines when it is not necessary, reducing troubleshooting task.



Presenter: **Mr. Stefan Sebald**
Gothaer Allgemeine Versicherung AG.

Stefan Sebald has in total more than 15 years experience in insurance of wind energy business. Since 5 years, he is part of Gothaers renewable energy team as a senior underwriter for non-german business. And amongst this he is principally responsible for the development and implementation of Gothaers renewable strategy beyond Germany. Besides the role of Gothaer as the leading wind energy insurer in Germany meanwhile, Gothaer is a major player in coverage of wind energy business in the European Union where he is personally highly involved in developing markets such as Romania and Italy as well as the Baltics. .



Presenter: **Mr. Ceferino Viescas Fernandez**
EDP Renewables

Ceferino Viescas Fernández graduated 1989 as Energy Engineer in Oviedo University. He has an Engineering and Environmental Management Degree EOI and a Business Administration Degree. He has also been an University Professor in Electric Engineering Department in Oviedo University during 2007 to 2012. Ceferino Viescas Fernandez worked as a project Engineer in PWH Wesserhüte in 1990. Afterwards he has been a Production Manager in Soto de Ribera coal Power Plant -671 MW-, (hc-energía) from 1991 to 2003. Since 2004 he works as Operation and Maintenance Director at EDPR-EU. Cogeneration Power Plant, Waste disposal Power Plant, Biomass power plant, and Mini-Hydraulic power plants are totalizing until 2007 more than 120 MW. From 2007 to present they are based in wind energy with 4.337 MW, operating in 166 wind farms in Spain, Portugal, France, Poland, and Romania. Recently also photovoltaic plants with currently 40 MW are in operation.



Presenter: **Mr. Erwin Weis**
SKF Maintenance Services GmbH

Erwin Weis is responsible for the global organization of Asset Management Services covering Asset Diagnostic Services and Asset Reliability Consulting. He has a mechanical engineering and business administration background. He joined SKF in 1986 and held a number of different positions in engineering, sales and services. With his organization he is driving the standardization of Asset Management Services by gathering, documenting, sharing, replicating and certifying the knowledge and experience of SKF.



Presenter: **Mr. Peter Wells**
UpWind Solutions Inc.

Peter Wells was named CEO of UpWind in September 2011, after serving as the company's COO from December 2010. Prior to joining UpWind, he worked for General Electric for 10 years in a number of roles, including Six Sigma, Marketing, Operations and Business Leadership. Before joining GE in the United States, he had over 10 years of commercial and project management experience working on the design and construction large infrastructure projects in Europe and Asia. He graduated from Nottingham Trent University with B.Sc (Hons) degree. He also received Six Sigma Black Belt certification and attended numerous leadership development courses at GE.

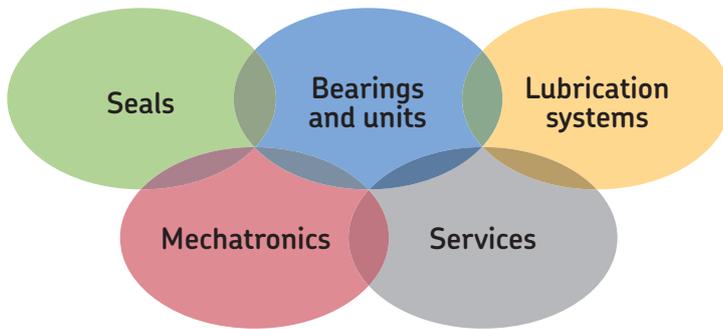


Reduce total cost of ownership at every stage of your turbine life cycle

SKF Life Cycle Management is a proven approach to maximizing machine productivity and minimizing total cost of ownership over every stage, from specification and design to operation and maintenance. Importantly, the knowledge gained from end user stages is fed back into this continuous improvement loop to benefit next generation assets.

Whether you're responsible for designing, operating or maintaining wind turbines, you can take advantage of SKF engineering and application knowledge to optimize designs and extend service life, maximize productivity, minimize maintenance, improve reliability and safety, and reduce total cost of energy production.

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Drawing on five areas of competence and application-specific expertise amassed over more than 100 years, SKF brings innovative solutions to OEMs and production facilities in every major industry worldwide. These five competence areas include bearings and units, seals, lubrication systems, mechatronics (combining mechanics and electronics into intelligent systems), and a wide range of services, from 3-D computer modelling to advanced condition monitoring and reliability and asset management services. A global presence provides SKF customers uniform quality standards and worldwide product availability.

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