



WindEnergy

NETWORK

COMMUNICATION HUB FOR THE WIND ENERGY INDUSTRY

INDUSTRY SKILLS GAP

HYDRAULICS

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WIND ENERGY NETWORK SKILLS GAP INITIATIVE

We continue in this edition with 3 different angles on our skills gap initiative.

- 1 Leading lights in the industry giving their opinions on the subject area generally
- 2 The scheduled first target area within our long term strategy – schools up to GCSE level. We feature various projects around the UK
- 3 An Oslo based initiative which attracts young people into the maritime industry and is setting up in Liverpool to do the same in the UK

New readers can learn more about this initiative within the pages of the last 2 editions.

WIND INDUSTRY CAREERS

WIC is a website which will be run for the industry by the industry in order to attract talented individuals to a career in wind.

Information will be included as follows...

- All the types of opportunities and career/career paths available in the industry with typical qualification requirements
- List of relevant training providers
- List of employers who offer employment for skilled technicians as well as offering apprenticeships

Currently no website exists which pulls all this information into one place to make it simple to discover how to begin a career in wind.

The new website is scheduled to go live in October 2012 and we will keep you all informed as we progress.

We have now given several presentations throughout the UK regarding our initiative and have received very positive comments.

The first stage is to form a steering group to drive this forward which will be in place as this edition goes to press with the first meeting due to take place in early September 2012 – this meeting will discuss/set policy and timescales.

BUSINESS DEVELOPMENT FEATURE

We have extended this feature substantially to include new regular contributors.

INNOVATION AND NEW TECHNOLOGY FEATURE

In a fast moving and exciting industry the need for innovative thinking is paramount – we feature a varied mix of subject areas.

MARKETING AND REBRANDING FEATURE

We have found many companies merging and reinventing themselves over the last few years to satisfy the industry's needs. We therefore feature their experiences and how they have fared, which we strongly believe will help others who are considering similar moves.

CABLE PROTECTION AND HYDRAULICS FEATURES

We continue to focus on all the interesting and component parts in the makeup of the industry in these informative features. We pass on information from the experts. and from that information you can then make informed decisions based on fact.

INTERACTIVE MAGAZINE AND WEBSITE

Just another reminder regarding the interactive magazine and website for those who are not aware of the possibilities.

Please go online and follow the various links in the online magazine pages. Particularly interesting are the links to the micropages and videos within our website which are bespoke and specific to companies/organisations serving the needs of the wind energy industry.

Just click on these coloured flashes shown below whenever you see them in the online magazine.

e = See enhanced entry online

▶ = See video library online



Duncan McGilvray

Duncan McGilvray
Editor | **Wind Energy Network**

EVEN IF WE ARE THE LEADERS WE CAN STILL LEARN FROM OTHERS

The front cover denotes the world and as we learn more we see how inextricably linked we are – it is very much, as the saying goes, a small world.

The wind energy industry is now recognised throughout the world as an enormous opportunity to not only decrease our dependence on other less environmentally attractive energy sources but can also expand global economies at the same time – very much a win win situation.

The UK is also recognised as the leader in the field however others can overtake us if we do not grasp the nettle and get on with it.

Rob Bell from Archomai explains in our lead industry article, commencing on page 4, a very important area in which we can learn from global experiences how to move forward quickly – that of training and management within a sector which is moving at an astonishing rate.

WIND INDUSTRY CAREERS WEBSITE – AN UPDATE (more info in Editor's welcome on page 1)

Our steering group will have been formed by the time we publish with their first meeting planned to take place in early September 2012 with the website due to go live in October 2012.

We are indeed honoured to boast some very influential people guiding us to our aim of bridging the wind energy industry skills gap and we will keep you all informed of progress.

WIND INDUSTRY CAREERS PRESENTATIONS – UK WIDE

Our aim is to complement and not to be in competition with others who have been/ are doing great things within this subject area throughout the UK.

Through our recent series of presentations in the south, north, east and west of the UK this has been recognised.

The first meeting of the steering group will discuss the setting of policy and timescales so that we may move forward quickly but effectively.

Duncan McGilvray
Editor | **Wind Energy Network**



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WHEN VISITING A RECENT OFFSHORE WIND EXHIBITION AND CONFERENCE NEAR HULL, WE WERE INTRODUCED TO ROB BELL FROM THE CONSULTANCY COMPANY ARCHOMAI, WHO WRITES OUR LEAD INDUSTRY ARTICLE IN THIS EDITION.

GLOBAL SKILLS THINKING

The company trades globally and Rob, Archomai's CEO, is very seldom based in the UK. It was enlightening to listen to his presentation at the conference on how the skills agenda works around the world and that we can learn much from others.

Archomai specialises in logistics and supply chain thinking and practice in emerging and frontier markets – for instance they have been developing skills capacity, building programmes for the energy industry in places like India and Kurdistan.

Educated at St Andrews and Oxford Universities, Rob has worked in management consultancy at board level in diverse industry sectors such as steel, dairy, mining and utilities, to healthcare and retail in over 55 countries.

Returning to the UK in 2005 after 25 years overseas, he played a key role in the launch and funding of the £20 million logistics institute at the University of Hull; is a Director of Hull Truck Theatre and is most proud of his involvement in the Emmaus Social Enterprise in support of the homeless.



SKILLS MAKE A WORLD OF DIFFERENCE

Archomai is a consultancy specialising in logistics and supply chain thinking and practice in emerging and frontier markets. We have worked on several trade corridors in Africa; mapping the supply chains from agricultural or mining projects to the ports and implementing improvements.

SIMULATION AND SIMULATOR TECHNOLOGY

We are working on energy projects in Kurdistan and India where we map the supply chain to identify training needs and deliver a Skills Capacity Building Programme to tackle the issues. We set up a skills training centre and use leading edge simulation and simulator technology to assess and improve performance on drilling, heavy lifting and all forms of materials handling equipment.

MAXIMISING OUTPUT

Right now the renewables industry relies on subsidy but innovation will drive better, cheaper and more commercially viable technologies to maximise output from all renewables – including wind power. The key is that this power will be the motor for transformations in the shape of our cities, homes and the industries in which we work.

CONT...

GLOBAL INVESTMENT

For example, the global mining industry is set to invest over \$20 billion in renewables by 2020 to cut costs and clean up its act to operate sustainably. We face skills shortages not just in the renewables industry but lack the functional skills and flexibility to staff the industries of the future. After all, they say that 50 per cent of the jobs of the future have yet to be invented.

FRONTIER MARKETS

Archomai works in emerging and frontier markets - places lacking world class training resources and where literacy levels may lag way behind the technologies that will be deployed by emerging industries like offshore oil, gas and wind, or the ports and logistics sectors that support them.

Where skills training provision in the UK tends to be supply side focussed - here's the course we have and this is the qualifications ladder - frontier markets have different demands.

For example, long courses are rarely fit-for-purpose where the economy is informal. Firms are small and people can't afford to take time off work.

DEMAND LED SKILLS TRAINING

Skills training has to be demand led and this means that it has to deliver an impact on operating performance and individual's pockets. I am on the Advisory Board of AMET Maritime University in Chennai, India and nearly all graduates receive a job contract with their degree certificates.

We need to design courses that can be short and delivered in different ways. I was speaking to a cab driver in Mumbai recently. As he waited for passengers at the airport he was listening to an English course on his mobile. Each module lasts three minutes.

We need innovation in learning to parallel innovation in the world of work. Here's how Archomai works and how we fit with the wind energy sector.

SKILLS GAP ANALYSIS

Archomai have worked in ports and trade corridors worldwide to model skills needs along the sector specific supply chain.

For example, working with DPW (a top 5 port operating company) we mapped port operations from the quayside to the port gates highlighting equipment such as quayside cranes, container reach stackers and trucks.

For oil and gas we added process, bulk and project cargo handling skills to the mix. Looking at offshore wind, the gap analysis highlights heavy lifting from manufacturing and assembly to installation offshore whilst a study of crane operators highlights an average operator age over 50 that has to be tackled.

SKILLS PROFILING

Mapping the supply chain provides insight into the engineering skills required to assemble, operate and maintain wind turbines out at sea. Tough conditions and health and safety regulations make the Offshore Passport supplied by the likes of HOTA as key.

Operational and maintenance skills need the same focus and HETA apprenticeships are setting a standard. Going forward, the industry must anticipate increased use of digital technologies such as remote monitoring systems for all equipment out at sea.

The days of a maintenance fitter making periodic checks are gone. Condition monitoring and response using sophisticated digital technology will require a new breed of individual.

SKILLS CAPACITY BUILDING

We are working in Kurdistan – location of a major oil and gas field with aspirations in renewable energy alternatives – to create a training facility that will be available to people of all ages to experience the careers of the future.

Inside, breakthrough simulation and simulator technology will be deployed to model future supply chains and use simulators for individuals and teams to experience equipment – the tools of their future careers.

At Vestfold University College in Norway, I spoke with Lars Iversen who commented: *“Simulator technologies have been used to train individuals. We need to develop routines that build team capacities. How else can we respond to emergencies and manage operations run by a multi-cultural workforce with some on site and others far away.”*

Archomai work with companies like Axon of Norway to develop and deliver the simulation and simulator equipment required. For Statoil, Axon offer drilling simulation and we are extending this to a suite of heavy lifting simulators vital to offshore wind operations. In parallel, we are working on an overview of university courses that will help to move the industry forward.

RECRUITMENT

Huw Morris Jones of Humber based Quality Personnel makes it plain: *“There is a difference between jobs and careers and this will be significant in the offshore wind industry.”*

If we offer jobs we will ignore the fact that someone who has the Offshore Passport and experience on wind farms will look to develop their earning potential in the more lucrative offshore oil and gas industry.

Right now, we face a UK shortage of skills relevant to offshore wind; soon we will face the retention challenge as global options open up. Maybe this means that we have to look at this from a *‘total energy’* perspective.

CONTINUOUS LEARNING

Health, safety and productivity issues are driving the need for more than induction training. Supply chains track and trace products and now we need to do the same with individual careers.

For example, an in-depth assessment of aptitudes and preferences at high schools can help to open up more career choices and as qualifications and work experience is added training needs can be assessed and anticipated.

New courses are opening up all the time and people need to be kept informed. Companies and organisations will need to promote continuous learning to keep their skills gene pool at an optimum level and individuals can keep themselves job fresh through distance learning.

RESEARCH

Wind turbines have doubled in size and could double again to 15 MW; less expensive materials are being tested along with manufacturing processes and maintenance can be improved.

The digital revolution offers unprecedented access to real time information and this can generate fresh perspectives on the human and working environment interface.

As Professor Komandur, head of Cognitive Research at Aalesund University in Norway makes plain: *“we need to use data on where humans meet machines to address issues of design, layout and performance.”*

UK PLC

We have highlighted work in frontier markets but this is not just about developing economies. Wind power is a fresh frontier for UK PLC and old wine in new bottles is not the answer; we have to innovate on training and research on technologies across the supply chain.

This could give UK PLC the competitive edge to set the international standards that will build a viable industry across the globe.

Rob Bell
Archomai
www.archomai.co.uk
Blog: www.transformationallogistics.com

IT'S ALL ABOUT YOU!

KURT CHRISTENSEN FROM WINDPOWER SUPPORT RECEIVES KNIGHTHOOD

A Pioneer in Grimsby's offshore wind energy industry has received one of the highest honours from his home nation.

Kurt Christensen has been given a first class knighthood, recognising his continued work as a consul for the Grimsby area, and also highlighting the efforts in an industry that Denmark is at the forefront of.

It follows an earlier honour eight years ago for the former fish auctioneer, who is currently having a third crew transfer vessel built for his town-based Windpower Support business.

A WEEK TO REMEMBER

The Cleethorpes resident, who came to England as a three-year-old son of a trawler skipper, received the honour from the Danish Ambassador to Britain, Anne Hedensted Steffensen, who presented it on behalf of Queen Margrethe II, at the Danish Embassy in Sloane Street, central London.

It followed his 60th birthday celebrations, attendance at the RenewableUK Global Offshore Wind 2012 exhibition in the capital, with the proud family man arriving back in town for Father's Day. "It was quite a week," he said. "I was really surprised to receive it, and then surprised what a big thing was made of the presentation when I went to the embassy. It was really nice."

"I had a really successful show, that finished on the Thursday night, then on the Friday morning I was there getting that."

CHAMPAGNE RECEPTION

A dozen representatives from various departments, including trade and consular dignitaries were present, with a champagne reception laid on.

"I didn't expect anything like that, and I was so pleased to have Carol, my wife, there and my cousin also. They thought it was great. We had a super day out."

It was rounded off with lunch at Carlton Towers, the iconic hotel across from the embassy.

"This was one of the best weeks of my life," he said. "The show was a great success for us, I finally got to know what some of the big companies think of us and what we are achieving, which was very flattering. I might seem quite brash, but I am quite shy when people start talking about me and what I have done. I said the honour was uncalled for, but they begged to differ!"

CHAMPIONING GREATER GRIMSBY

Mr Christensen, who is a proud advocate of Greater Grimsby as well as his homeland, is now working with the embassy to facilitate a visit to the town he has called home since the age of seven, when his family crossed the Humber.

"The Ambassador was aware of the history, of the story of Grim the Viking – or Grim the Dane should I say!"

WINDPOWER SUPPORT

As previously reported, Mr Christensen launched Windpower Support in 2008, based on a concept of taking the strain of small but often complex issues out of the supply chain for the major operators. From acting as ship's agent to the growing fleet of crew transfer and standby/patrol vessels, he has worked with the philosophy of 'yes is the answer, now what is the question' – building up to employing more than a dozen staff from the Lockhill base.

He believes in the 'can do attitude' and the importance of responding quickly, a legacy of the fishing industry, which impresses his clients.

SERVICES TO DENMARK

Presenting the award, Danish Ambassador to Britain, Anne Hedensted Steffensen, who took up the position in September, having previously served as State Secretary for Trade and Corporate Affairs at the Danish Ministry of Foreign Affairs, told Mr Christensen: "You have for 18 years, since 1994, given service to Denmark as consul in Grimsby. During these years you have promoted British/Danish relations in business and culture, as well as provided consular assistance to Danish citizens when needed."

"You have in particular been active in helping Danish companies in the British



Picture courtesy of Grimsby & Scunthorpe Media Group

market in the renewable energy sector, primarily wind power, which is a Danish core competence. We are delighted that you are accepting the Decoration of Knight, first degree of the Order of Dannabrog."

Kurt then concluded "I was really surprised to receive it, and then surprised what a big thing was made of the presentation when I went to the embassy".

Wind Power Support
www.windpowersupport.com

PEEL PORTS PLEDGES MAJOR DRIVE TO SECURE VESTAS REPLACEMENT AT SHEERNESS

Peel Ports Group, owner of the Port of Sheerness in Kent, has moved quickly to pledge a major effort in securing a replacement for Vestas, following a decision not to take up the option to locate a major wind turbine manufacturing facility at the port.

“Our confidence is based on a number of factors – ideal geographical location, superb marine facilities, availability of major parcels of land and, crucially, the recent approval by Swale Borough Council’s planning committee. Indeed, the site ticks all the boxes from a planning, technical, commercial and legal standpoint, making it a very compelling proposition to other manufacturers.”

“To a large degree, the detailed preparation has already been done on this site and we’re committed to identifying a replacement operator who can take advantage of the fact that the Port of Sheerness is now tailor-made to play a leading role in this vital industry.”

Last year’s announcement of the original 12-month option agreement outlined plans for the new manufacturing facility in Kent on the Isle of Sheppey. The proposed factory on the 170-acre site in the Port of Sheerness was projected to employ 2,000 people.

COLLABORATION AND SUPPORT

Whitworth said a great deal of the credit for achieving the progress to date had to go to the local authorities and enterprise agencies.

He said: *“Developments of this scale are invariably extremely complex, however the efforts of Kent County Council, Swale Borough Council, Locate in Kent and Thames Gateway Kent Partnership have been superb.”*



“They have demonstrated a really positive-can-do approach throughout the entire planning process and their attitude to securing a world-class manufacturing facility at Sheerness has been magnificent. This spirit of co-operation bodes well in our efforts to identify and secure a replacement.”

“We are now engaged in a worldwide exercise with our public and private sector partners to approach the key renewable manufacturers, highlighting the many benefits of Sheerness.”

Peel Ports and Vestas jointly announced last week that the Danish firm’s planned creation of a major European-scale manufacturing plant would not now proceed.

COMMITMENT

However Mark Whitworth, Chief Executive of the UK’s second-largest ports group, said his company was “100% committed” to finding a replacement, describing the Sheerness facility as “absolutely tailor-made” for major renewables manufacturing.

UNIQUE OFFERING

Whitworth said: *“Everyone involved is bitterly disappointed, but our aim of delivering a world-class renewables manufacturing operation at Sheerness is very much alive.”*

“There are very few locations which can compete with the offering at Sheerness for such significant manufacturing operations.”

DETAILED SHEERNESS ADVANTAGES

- Water depth 12m with no beam, height or lock restrictions
- Close proximity to key Round 3 offshore wind zones and Continental projects
- Planning permission for upgrading marine infrastructure
- Outline planning permission for 175,450 m sq of buildings with eaves height to 35m
- Excellent access to offshore wind projects taking place off the UK east and south coasts as well as Dutch, Belgian and French projects
- Excellent access to London and local skills base with established skills and supply chain support programmes
- Area: Up to 70ha available in 2013 with additional land available in the port and a range of sites within close proximity
- Quay: 800m continuous with strength tested to 40 t/sq m
- Awarded Government CORE status (Centre for Offshore Renewable Engineering) offering comprehensive support

DETAILED SWALE BOROUGH COUNCIL PLANNING COMMITTEE APPROVAL

- Consent: Obtained for the manufacturing, assembly and storage of blades, nacelles and towers and subsequent construction activities. Consent includes:
 - Outline consent for 175,450 m sq of buildings with eaves height to 35m
 - Outline consent for 391, 435 m sq of storage area
 - Full consent for strengthening/infilling/dredging existing quay structures, new marine structure berth with travelling crane
 - Full consent to relocate existing car terminal

Peel Ports
www.peelports.co.uk

e = See enhanced entry online

HIGH QUALITY PRE-CUT TRENCHING SOLUTION FOR SKAGERRAK 4

DeepOcean recently announced the multi-million pound pre-cut trenching contract award with Statnett & Energinet.dk on the Skagerrak 4 HVDC Submarine Interconnector Project.



They will provide the engineering and project management for the pre-cut trenching workscope in Denmark, which is expected to commence in July 2012.

The scope of work will include mobilisation out of DeepOcean's offshore base in Middlesbrough, pre-trench survey and pre-cut trenching of 23 kilometres of the Skagerrak 4 route.

Handled out of the UK office, they will provide its heavy duty APP pre-cut trenching plough for the project, which provides high control and instrumentation during operation. This will be operated off the high bollard pull TSV Maersk Assister, which has arrived at their offshore base to commence mobilisation activities.

MARKET LEADER

DeepOcean leads the market in the use of pre-cut trenching for the protection of submarine power cables. As the only independent contractor with sophisticated pre-cut ploughing capability, they offer a number of ploughs for this solution and have a proven track record in their operation.

Its specialist ploughs offer a high level of control and precision, capable of navigating along pre-determined cable routes and transitioning in and out of the seabed as

required. These solutions eliminate any risk of product damage and provide a high quality trench for the protection of HVAC and HVDC export cables.

Managing Director, Tony Inglis, says of the pre-cut trenching contract, *"We are delighted to be awarded this pre-cut trenching workscope, as DeepOcean is highly skilled in this area and believe this is the ideal solution for achieving the best burial depth in hard ground regions, whilst removing any risk of cable damage."*

"We have been using pre-cut trenching as the technique of choice in the Oil & Gas market for many years and are pleased to now be applying this to the Power & Transmission market with Statnett and Energinet.dk. We are also looking to expand this technique into the Offshore Wind market over the coming months."

DeepOcean
www.deepocean.no

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P&O FERRIES TO SHOWCASE ITS RENEWABLE ENERGY SERVICES

P&O Ferries is to highlight its future in the renewable energy sector in an industry showcase in Hull.

The company has moved into the sector with the conversion of the cross-Channel freight ship, the European Seaway, into an offshore wind farm accommodation vessel and has further signalled its intentions with membership of Team Humber Marine Alliance.

The company provided an update and overview of its plans for the renewable energy sector when they hosted a Team Humber Marine Alliance event aboard the Pride of Rotterdam, at King George Dock recently.

IDEAL SUPPORT VESSEL

"The investment we have made in the European Seaway makes her the ideal ship for all offshore support work of this

ALLIANCES

"It is all about forging alliances and one of the main reasons for becoming a Team Humber member is because of the readily available supply chain the Alliance has among its 160 member companies. We're pleased to add the voice of P&O Ferries to the cause.

"The time is ripe to highlight the region's strengths and a business community projecting its merits carries a lot more punch than the constituent companies can accomplish alone."

Mark O'Reilly, Director, Team Humber Marine Alliance, said: *"One of our members,*

manufacturing plants on the Humber new business is already here."

JOINT VENTURE

The European Seaway has been supplied to GLID, a joint venture between Centrica Renewable Energy Limited and EIG, on a three-month time charter for use by technicians working on the North Sea Lynn and Inner Dowsing wind farm array four miles off Skegness.



type. As the renewable sector grows, we are perfectly placed to grow alongside it and we have every intention of securing further charter work for this ship and potentially other similar ships in our fleet," said Stephen Weaver, P&O Ferries' Business Development Manager.

Hull-based Best Service (Europe), has played a prominent role in the refit of the European Seaway and there is genuine potential for us to be involved in further P&O Ferries projects.

"P&O's intentions are a real boost for firms in the region and show that even before any construction work on

The 23,000-tonne ro-ro vessel was refitted with new equipment and facilities, including hull access doors, cranes, and boarding ladders. Some of the ship's cabins were also upgraded and further offices were installed.

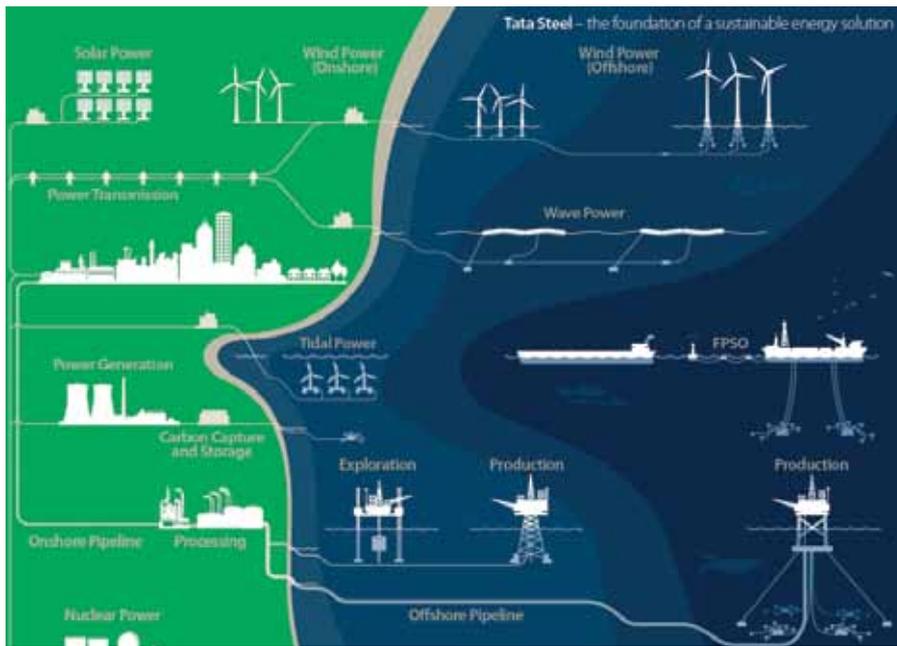
Best Service designed and installed the cabling and signalling to provide Sky TV in general areas and cabins for 100 offshore wind technicians and 50 crew.

The European Seaway is based at Immingham and returns to port once a fortnight to pick up supplies.

P&O Ferries
www.poferries.com

Team Humber Marine Alliance
www.thma.co.uk

TATA STEEL'S NEW ONLINE SALES TOOL



Tata Steel has launched a new online sales tool, designed to help showcase the organisation's extensive offering within the energy and power sector with increased ease.

INTERACTIVE VISUAL DISPLAY

The new interactive visual display highlights the cross-section of products and services that they supply to a wide range of applications across the energy and power industries. In the wind power

sector, this includes products and services from nacelle to foundations, as well as including the additional processing services available for plate and tubular sections at the company's processing centres in Scunthorpe and Hartlepool.

RENEWABLES SECTOR

Tata Steel supplies steel products and services both within the oil and gas and power industries and more recently the renewables sector, including onshore and offshore wind, wave and tidal power. The new tool's offering to each sector includes product details/manufacturing routes and animations designed to better explain products and services available. Each sub-section also includes links to data sheets for a more detailed breakdown of information.

EASE OF USE

Clear, quick and simple to use, the new tool allows organisations within each sector to access Tata Steel's targeted offering more efficiently

TATA Steel

www.poweredbytatasteel.com

e = See enhanced entry online

ENERGI COAST STEERING GROUP ADDS ANOTHER 5 INFLUENTIAL MEMBERS

Energi Coast, North East England's Renewables Group, has welcomed five new industry specialists onto its steering group.



EXPERIENCE AND EXPERTISE

The individuals bring a wealth of experience and expertise from the global energy industry supply chain to the group. They will support Energi Coast's activities to raise awareness of the region's innovative and integrated offshore renewables supply chain.

THE LATEST COMPANIES TO JOIN THE STEERING GROUP

- **Gareth Ellery, Cathie Associates Ltd**, based in Newcastle. Cathie Associates provides geotechnical engineering consultancy services to the energy industries and uses appropriate offshore oil and gas engineering practice within the renewable energy sector

- **Chris Jones, IHC Engineering Business** based in Stocksfield Hall, Northumberland with facilities in Middlesbrough and South Shields. IHC Engineering Business delivers bespoke engineering solutions for complex offshore applications, working with clients across the offshore oil and gas, submarine telecoms and renewable offshore power industries

- **Dr Tony Trapp, OSBIT Power Limited**, based in Northumberland. OSBIT Power provides innovative engineering solutions in many offshore markets with particular emphasis on offshore wind

- **Jim Pyrah, Senergy Survey and GeoEngineering Ltd**, based

in Newcastle. Senergy Survey and GeoEngineering Ltd is an international solutions provider with experience in all aspects of renewable power, including on and offshore wind

- **Dominic Abraham, Sure Wind Marine**, based in Corbridge, Northumberland. Sure Wind Marine owns and operates safe, reliable vessels for the offshore wind industry

EXPANDING RENEWABLE SUPPLY CHAIN

These companies are part of North East England's expanding offshore renewable supply chain, which offer a growing portfolio of specialist products and services to the global renewables industry.

Energi Coast's Steering Group alone has invested around £400m in their offshore renewables activities and have a combined turnover of £200m in offshore wind. The group forecasts the turnover of their operations in this sector will double as the offshore renewables market expands further.

North East England is an excellent position to support upcoming projects, particularly those in the vicinity of the region, Humber Gateway, Westernmost Rough and Race

FENDERCARE MARINE OLYMPIC TORCH BEARER

On Wednesday 4 July 2012, Paul Rowlands, Marketing Executive for Fendercare Marine was given the honour of being an official Olympic Torchbearer and carrying the flame through Fakenham, Norfolk.

FUNDRAISING EFFORTS

Paul was nominated to carry the torch in recognition of his fundraising efforts, following the death of his daughter, Alice at just 15 days old in 2007. Alice was born six weeks early and with a rare liver condition, neonatal hemochromatosis, at the Norfolk and Norwich University Hospital in September 2007.

ALICE ROWLANDS MEMORIAL SOCIETY (ARMS)

After just five days she was moved to King's College Hospital in London where she died. After her death, Paul, his wife Miranda and son Sam set up the Alice Rowlands Memorial Society to raise money for the Ronald McDonald House Charities (RMHC), which provides accommodation for families whose loved ones are in hospital miles from home.

Bank.

GLOBAL ENERGY SECTORS

In addition, the region's supply chain, through its experience and reputation in other areas of the global energy sectors, such as oil & gas, is perfectly placed to serve European markets as well as those further afield.

Alex Dawson, Chairman of Energi Coast, said: *"The strength of North East England's offshore wind supply chain is growing rapidly and the experience the new members of the steering group bring to Energi Coast will further enhance our reputation in the UK and internationally."*

"As well as possessing valuable individual experience in the offshore industry, each company on the steering group represents North East England's overall innovative offering to the offshore wind sector, demonstrating the region's increasing presence in the market."

Energi Coast
www.energicoast.co.uk



To date the family has raised almost £50,000 for RMHC through their website www.justgiving.com/teamrowlands.

Paul said *"It was an amazing honour to carry the torch and a day that I will never forget. As soon as I got off the bus, I was mobbed by people wanting photos with it and just wanting to touch the torch. The crowds in Fakenham were amazing – the torch relay seems to have captured the nations imagination and I still can't believe that I was part of it."*

"I have only been with Fendercare Marine a short while but was really touched by the support of all my colleagues. I brought the torch into work recently and nearly everyone wanted photos with it and very kindly arranged a

collection for the charity I support which was a lovely gesture.

"Since the day I ran with the torch, I seem to have been inundated with requests for appearances at fetes, scouts groups, schools...the list goes on. I think my wife feels more like my agent at times! I have been really amazed by the magical effect that the torch has on children (and adults) and really want to make sure that it is shared with as many people as possible."

Just Giving
www.justgiving.com/teamrowlands

Fendercare UK
www.fendercare.com

e = See enhanced entry online



EVENTS AND WHAT'S NEW

AS YOU SEE BELOW WE CONTINUE TO FEATURE SOME OF THE MOST IMPORTANT EVENTS IN THE CALENDAR, SO THAT YOU CAN, AT A GLANCE, CONSIDER WHICH EVENTS TO SUPPORT. A MORE DETAILED LISTING IS AVAILABLE ONLINE.

There continues to be issues with the amount, scale and cost of events laid on for this fast growing industry. We will only feature those events which we believe are organised in the best interests of the industry as a whole.

WIND TURBINE AND WIND FARM TRAINING COURSE

WHEN 11 – 13 September 2012
WHERE Glasgow
CONTACT www.acto-control.com/events/meetings/meet120911.asp

THE ENERGY AND LOW CARBON TECHNOLOGY CONFERENCE 2012

WHEN 18 – 19 Sep 2012
WHERE Bloomsbury Hotel, London
CONTACT www.tuvnel.com

CORE ENERGY CONFERENCE 2012

WHEN 3 – 4 Oct 2012
WHERE Cunard Centre, Halifax, Nova Scotia
CONTACT www.otans.com

RENEWABLEUK 2012

WHEN 30 Oct – 1 Nov 2012
WHERE Glasgow
CONTACT www.renewable-uk.com/events/annual-conference

WIND TURBINE NOISE: SOURCE TO RECEIVER

WHEN 11 – 12 December 2012
WHERE Oxford
CONTACT www.ewea.org

EVENT HIGHLIGHT

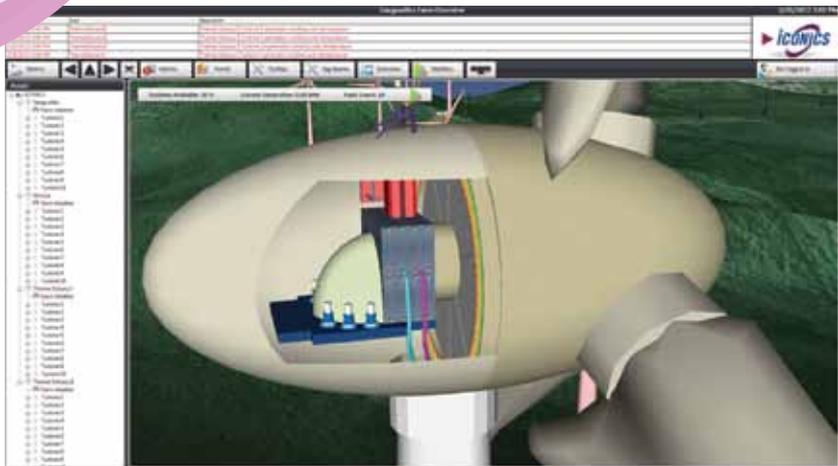
THIS IS A 'FREE TO ATTEND' SEMINAR

IMPROVE YOUR WIND FARM PERFORMANCE AND EFFICIENCY SEMINAR

WHEN 3rd October 2012
WHERE Edinburgh
CONTACT enquiries@its-ltd.co.uk

Organised by ITS and ICONICS

www.its-ltd.co.uk/events/improve-your-wind-farm-performance-and-efficiency-seminar.aspx



e = See enhanced entry online

FORTHCOMING FEATURES

- Maintenance Services
- Spotlight on Wales
- Crisis Management
- Coatings and Corrosion Control
- Navigation Aids
- Skills Gap: 6th form Schools & Colleges

PLEASE CONTACT US IF YOU WOULD LIKE TO BE INVOLVED IN ANY OF THESE FEATURES.

WIND ENERGY NETWORK TV CHANNEL

These invaluable industry resources continue to build and we are very pleased with the interest and support of our proposed sponsors. Please give the team a call and find out how to get involved in both.

ONLINE LIBRARY

The sections are listed below and will become live as each area is populated with the various articles and features supplied by our experts in the various fields...

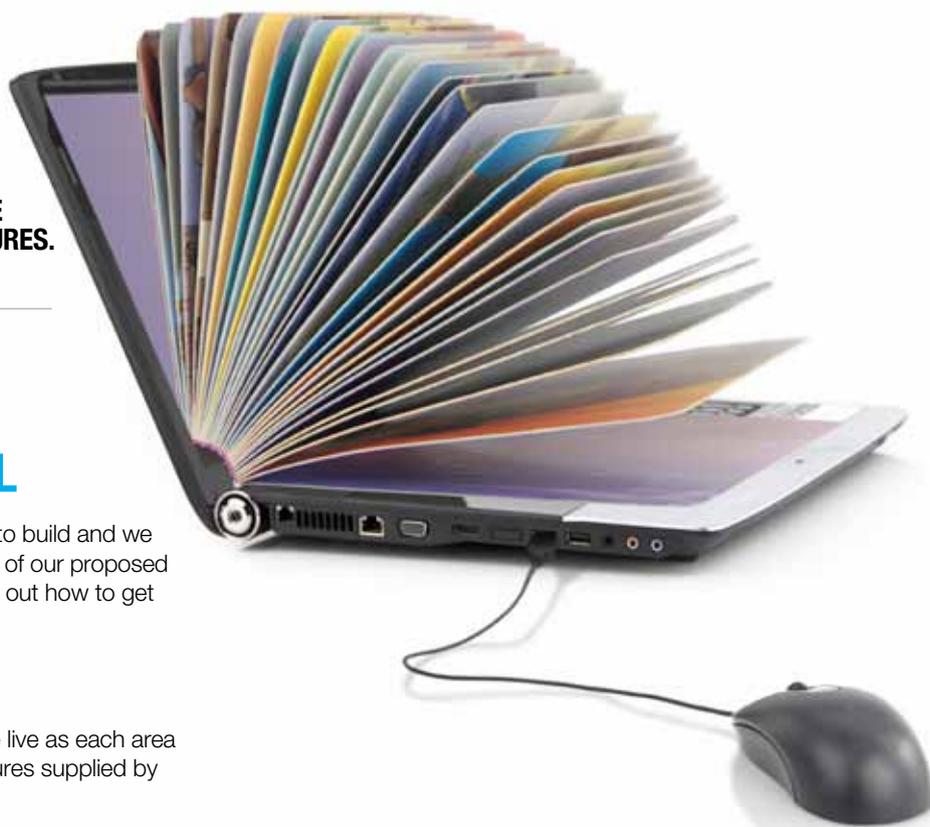
- Law & Insurance
- Health & Safety
- Ecology & Environmental Impact
- Events & Conferences
- Education & Training
- Business Development & Management
- Research & Development
- Careers & Recruitment
- Community Engagement/Planning
- Engineering
- Survey & Archaeology
- Innovation & New Technologies

REMEMBER THEY ARE FREE TO CONTRIBUTE AND FREE TO ACCESS

To place your videos or library items online please contact our team and they will do the rest – there is no charge for this service, however the decision on what will be accepted is at the discretion of our editor. As with all our contributions in the publication and on our website, material must help the industry communicate and/or help the industry as a whole.

EMAIL
duncan@greenenergypublishing.co.uk

PHONE
01765 644224



WIND INDUSTRY CAREERS WEBSITE

The new website is scheduled to be live in October 2012 and we will keep you all informed as we progress.

MAGAZINE AND WEBSITE INTERACTION

As we have progressed we have realised just how important our interactive website is to the industry. In short a magazine has a very limited scope in what it can do – it is out of date as soon as it is printed.

The website however is limitless in its scope and can house all sorts of information, animations, videos, presentations, brochures, technical papers etc etc – the list is endless.

JUST CLICK ON THESE FLASHES ONLINE....

 = See enhanced entry online

 = See video library online

Duncan McGilvray | Editor
Wind Energy Network

AN INSIGHT

EXISTING PROVISION

There is an Skills Sector Council (SSC) for Energy and Utilities, however they only cover Gas and Waste, the national Skills Academy for Environmental Technologies run courses in Heat Pumps and Solar energy only, nothing for wave, tidal or grid-based wind—they do “Micro-Wind”, ie tiny domestic but that is all.

THE PROBLEM

To remain insulated against imported energy and fuel costs we need to provide electricity within our own shores, this reinforces the need for renewable energy and ergo personnel trained to provide such schemes — we have experienced extreme difficulty in recruiting suitable personnel and am sure that we are not alone in this. The combined situation of being fully exposed to foreign pricing and time delays in building new plant is not a good situation, if we then factor in the lack of home-grown knowledge to be able to develop a more rapid, renewable energy response then we have a recipe for disaster.

An article in the May 2012 edition of Quest magazine (Magazine aimed at the re-learning of personnel leaving the armed forces) confirms that the CIPD have acknowledged an “employment gap” and states that by 2020, 36% of the working population will be over 50. Whilst we must welcome experience it reinforces the need for training courses to be designed for Pre GCSE students.

GROWING SKILLS GAP

There is a well documented skills gap in the wind energy sector. Last year, a £1.2 million training initiative was launched between Government and the renewables industry to tackle the shortage of skills in our sector.

FACTS AND FIGURES

The number of people working in the UK’s offshore sector alone has grown from 700 people in 2007 to circa 3,200 in 2011 and across Europe, more than half a million people will be working for the wind power industry in Europe by 2020.

RES GROUP INVESTMENT

The wind energy industry has a major role to play in the economic recovery of the

SUGGESTED SOLUTION

To avoid this we have been actively working on the development of a multi-agency approach to address the issue, negotiations are under way with the Sector Skills Council (SSC) with the ultimate goal to develop a SSC Skills Academy, based in our offices in Spalding, Lincolnshire specifically addressing potential knowledge shortages for the renewables industry.

We are currently in discussions with John Hayes MP (Minister for lifelong learning) who has been extremely supportive, in addition we are developing accredited qualifications with a nationally known university (training will be split between our offices, field work and on their campus).

SCHOOLS ACT

Under the Schools Act a single company cannot run such courses, as such it needs a combined approach from developers, CPRE, RSPB and so on to create a sensible course structure and train teachers accordingly. From this we would need to develop 6th form and SSC based braining for students who wish to specialise in specific fields.

JOINT APPROACH

Fellow developers must understand that such an approach has a significant lead-in time, there is no quick-fix solution. What is required is a joint approach and we would be delighted to champion such an incentive to ensure we all have access to suitably trained individuals coming from a robust infrastructure of specialist courses.

Only then will we be able to confidently recruit personnel with the required knowledge.

THE COSTS

To develop a SSC takes not just time but personnel and office resources, we have the facilities and office capacity within our Spalding base to be able to accommodate all staff required to develop the SSC, there will be costs involved in such administration and we must all acknowledge that the resultant knowledge pool will only be beneficial post training.

I acknowledge this delay and that resources may have been allocated elsewhere.

INVESTMENT OPPORTUNITY

The fact is that your future business needs will be the driver for all course development and as such it is hoped that you will see this as a potential secondment opportunity. Whatever your level of input I urge fellow developers to acknowledge this as an investment opportunity, not just to providing training for a new generation of personnel who will greatly enhance future business but also an opportunity to demonstrate our industry’s commitment for social development.

AN INVITATION

Dear Developer / Interested party – You are cordially invited to work with us to develop a sensible approach to the issue of training for Pre – GCSE students, and to assist in developing a sensible structure of courses so that the potential of a skills gap can be addressed.

Keith Brooks
Prowind (UK) Ltd
www.prowind.co.uk

FINDING INDUSTRY SPECIFIC INFORMATION

What both graduates and experienced candidates say is that it is difficult to find one place to look for information regarding career opportunities within the renewables industry. While there are a number of initiatives in place where companies are coming together to highlight available roles, there is still a need in the industry and specific to the wind energy sector for one source of information to be available as careers guide for multi-experienced job seekers.

RES Group
www.resgroup.co.uk

e = See enhanced entry online

YES WE HAVE A SKILLS GAP

The National Fluid Power Centre provides an extensive range of vital training for 18 sectors of industry including the sector covering wind and renewable energy.

All of these sectors are greatly in need of skilled craftsmen and technicians at a time when advances in technology demand a greater range of skills and knowledge to maintain and manage our integrated systems.

SYNERGISTIC TEAM

Today's power and motion control systems require today's maintenance staff to be part of a synergistic team able to deal with...

- Hydraulics
- Electrics/electronics
- Pneumatics
- Mechanical transmissions
- Lubrication
- Contamination management

Plus various control and onboard management systems and more.

DEMANDING ROLE

This is a demanding role and in many instances technology has overtaken the capability of our workforce in both skills and actual numbers of trained staff to fulfill such roles .

APPRENTICES

Such places as the NFPC are working hard to introduce these higher levels of systems engineering into their training courses but the ultimate goal of re-establishing growth within all sectors is to take on apprentices.

The Apprentice is one of the major building blocks for the future and absolutely vital.

At present we are running Apprentice Summer Schools and Taster Days to introduce young apprentices to the world of fluid power but this is the tip of the iceberg.

STRUCTURED EDUCATION AND TRAINING PROGRAMME

Every company must align its future by taking on apprentices and formulating a proper 4 year structured education and training programme.

Right from the start such an apprenticeship should include education and training to develop the systems based engineers

I myself started my engineering career as a National Coal Board Craft Apprentice and was very fortunate to receive an outstanding 5 year education and training programme leading to a formally recognised and valid qualification.

It is now time to bring back the real apprenticeship programmes and this must start with the employer.

John R Savage
Director of the National Fluid Power Centre (UK)
www.nfpc.co.uk

e = See enhanced entry online





WIND ENERGY INDUSTRY SKILLS GAP TARGET AREA NUMBER 1

GETTING DOWN WITH THE KIDS!

Featuring organisations and companies who have already made significant progress in spreading the word about the industry to primary and secondary schools up to GCSE level, with a view to changing the perception of engineering generally and specifically to attract the desired wind industry workforce for the future

Our regular readers will have seen the introduction to our initiative in previous editions of the magazine.

We make no excuses for repeating that the main point to get over in this important industry feature is that there are a number of initiatives happening throughout the UK but we have found that there is very little 'joined up thinking'.

As planned we now feature the 1st of our target areas, which is the next step in our progress with the ultimate goal of satisfying the now recognised future skills gap within the industry.

WIND ENERGY NETWORK 'ROAD-SHOWS'

It is our intention as we progress to tour the UK and organise road-shows at appropriate venues suited to the 4 target areas i.e. selected schools, colleges, universities and company sites/forces bases – all decision makers from the relevant areas of the industry are enthusiastic about getting involved with this initiative.

WIND INDUSTRY CAREERS – INTERACTIVE WEBSITE

We are now well on our way in setting up a very interactive and informative website which will be useful in attracting people of all ages and abilities into the wind energy industry. Please also read our Wind Industry Careers initiative update in this edition to see how we have progressed.

We will keep you informed of developments – in the meantime enjoy reading about some of the initiatives presently happening within this interesting feature.

RES GROUP SHOWS SUPPORT FOR GLOBAL WIND DAY



SCHOOLS

The event was attended by Mike Penning, MP for Hemel Hempstead, and 120 local children from Redbourn Infant and Nursery School and John F Kennedy Catholic School.

RES GROUP COMMITMENT

Ian Mays, CEO of the RES Group commented: *“The RES Group firmly believes that wind power is essential to the UK’s energy mix. We face an energy gap when more than 20% of the UK’s electricity generating capacity – ageing coal and nuclear power stations – will be retired over the next eight years. We have to fill this gap in a secure, low-carbon and cost-effective way and there is no better alternative than wind.*

The RES Group, one of the world’s leading renewable energy developers, marked Global Wind Day with an event as its UK headquarters in Kings Langley recently to showcase its commitment to wind energy as a secure, clean and cost effective option for current and future generations.

The schedule for the event included...

- Sessions teaching the children about renewable energy technologies, including wind power
- A tour of the RES Group’s state-of-the-art headquarters
- Four Sixth form students from nearby JFK secondary school will be awarded with the RES Young Engineering Excellence Award

“Britain’s inexhaustible supplies of wind energy will keep bills down for homes and industry as foreign gas prices continue to increase. Wind power also creates jobs and investment, putting the UK at the forefront of the green economy, which is why time and time again opinion polls show that the public are in favour of British wind power. There are many myths about wind power, which need to be dispelled. The unparalleled benefits of wind energy, along with other sustainable sources, have the power to secure this country’s future energy needs.”

RES Group
www.res-group.com

e = See enhanced entry online



ALDERMAN PEEL HIGH SCHOOL AND SCIRA OFFSHORE ENERGY

WIND ENERGY SKILLS PARTNERSHIP SUPPORT FROM MP

North Norfolk MP and Business Minister Norman Lamb visited Alderman Peel High School in Wells-next-the-Sea recently to show support for a new partnership between the school and Scira Offshore Energy, operator of the Sheringham Shoal Offshore Wind Farm, which focuses on wind energy industry career opportunities.

SHERINGHAM SHOAL OPERATIONAL BASE

The wind farm operational base is in Wells-next-the-Sea and Mr Lamb, a long-term supporter of renewable energy, said it was exciting to see both Scira and Alderman Peel working together to encourage local young people to look at entering an industry likely to provide so many opportunities to the area in future.

NATURAL FIT

Scira General Manager, Einar Strømsvåg said the Alderman Peel partnership is a pilot of a schools engagement programme, which in turn is part of the organisation's broader long term education strategy aimed at supporting the development of skills locally, in partnership with other groups and education facilities in East Anglia.

"It is a natural fit for us to start with Alderman Peel as it is such a focal point in the town where we will have our long term home," he said.

FUTURE POTENTIAL EMPLOYMENT

Dr Marie Strong, County Councillor Wells Division, also lent her support to the partnership, saying, "The project has important potential for the students of Alderman Peel High School. There are likely to be a number of outcomes, one of which I believe will be young people able to visualise a whole range of careers. Hopefully, with further education, some of these young people will find employment here in Wells."

Sheringham Shoal Offshore Wind Farm is nearing its final stage of construction with completion scheduled for late summer 2012. The project is owned equally by Statoil and Statkraft through joint venture company Scira with Statoil the project manager during construction.

Sheringham Shoal Offshore Wind Farm

www.scira.co.uk



PRACTICAL INITIATIVES

Through a range of practical initiatives, the partnership will teach students about employment opportunities in the growing offshore wind sector, and help them find pathways to those opportunities. For example, it will include the introduction of lessons, particularly in Science, Technology, Engineering, Maths (STEM) that use real life examples from Sheringham Shoal and interactions with people who carry out the work there.

Norman Lamb commented, *"It is great to see Alderman Peel High School and Scira working together in this way. Renewable energy can bring jobs to North Norfolk and we need to ensure that our young people are equipped with the skills and awareness that will allow them to benefit in future."*

Alderman Peel headmaster, Alastair Ogle said the partnership would enhance learning opportunities for students by enabling them to develop projects with input from people working in a local, yet global, industry, and learn first hand about models of effective partnership. One such project will involve two Scira engineers working with year 7s on their annual STEM challenge and facilitating a wind energy practical exercise.

"It is fundamentally about ensuring our students develop the abilities and skills that wind industry employers like Scira actually want while providing them with the educational opportunities, advice, guidance and support to progress further into this expanding industry," he said.

CERYYS, 8, NAMES LATEST ALICAT VESSEL

For eight-year-old Cerys Jones it was the thrill of choosing the name for the newest Alicat Workboat built in Great Yarmouth – for the company it was the latest leg in a £10.5m contract to provide crew transfer vessels for the London Array windfarm.

ELLIDA ARRAY

Thanks to Cerys, the new boat will be called Ellida Array and the schoolgirl and her family were guests of honour for the name unveiling and blessing at Trinity Quay, Great Yarmouth recently.

GARDLINE CHARTER

The 18m catamaran will shortly start work off Kent, the third and final Alicat to be chartered by London Array, through Gardline, to work alongside sister vessels Marian Array and Smeaton Array on a round-the-clock 3-5 year contract.



The trio of boats, two equipped with Mann engines and Rolls Royce jet units, and one with Caterpillar engines and fixed propellers are the most advanced yet to be produced by Alicat.

The Ellida Array is the 11th Alicat to be built in Great Yarmouth over the past two years and another four are presently under construction.

ashore. It is also the name of a moth.

Michael Martins, Gardline Coastal Services business manager, said he was impressed by the research Cerys put into her choice: *“We had many great suggestions but Ellida Array stood out for its historical connection and the imagination of being named after a moth which also harnesses windpower.”*

GARDLINE TRAVELLING TEDDY BEAR PROJECT

Cerys and her family were joined by the Mayor of Great Yarmouth, Colleen Walker, and Shelby Allen, 8, representing Greenacre School, Great Yarmouth, one of 12 local primary schools in the Gardline Travelling Teddy Bear project which encourages youngsters’ interest in the wider world.

SCROBY SANDS TRIP

All the guests enjoyed a trip on the Ellida Array to one of the Scroby Sands turbines before the girls were treated to more traditional rides at Great Yarmouth’s Joyland, courtesy of owner David Cole. *“It was all great,”* said Cerys, afterwards.

A VIKING CONNECTION

Kent schoolgirl Cerys came up with the name in a competition for youngsters. She chose it because in folklore, when the Vikings landed in Kent, Ellida was the name given to the first Viking to step

“I never dreamed I would see the name on a real boat.” Now she will be pointing it out to all her friends and family whenever it sails in to Ramsgate.

Before the sea trip, the vessel was blessed by the Rev Peter Paine, chaplain to Gardline.

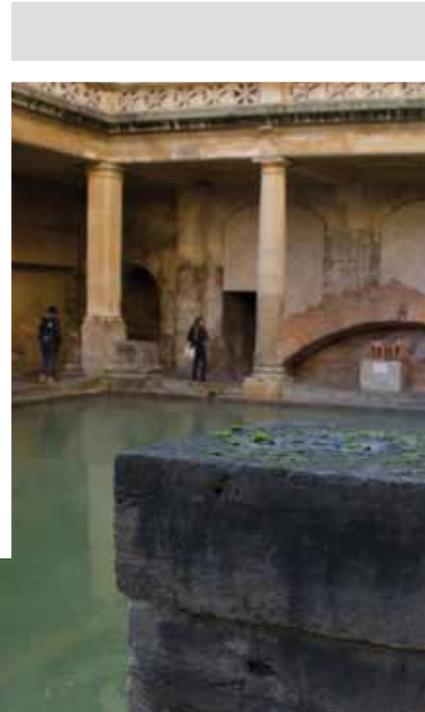
Gardline
www1.gardline.com

e = See enhanced entry online

▶ = See video library online

THE GARDLINE TEDDY

Late in 2011 Gardline, the world's largest independent marine survey company, started a local outreach project in its home town of Great Yarmouth.



PRIMARY SCHOOL ENGAGEMENT – LONG TERM RELATIONSHIP OPPORTUNITY

The project, called the Gardline Teddy Bear Adventure engaged 12 local primary schools and although Gardline has for many years engaged directly with local high school and college leavers, and has an active graduate recruitment program to help satisfy its continuing recruitment requirements, it was felt that there was a longer term relationship opportunity, where children in primary school are traditionally more hungry for knowledge, and often more easily engaged and optimistic than their elder siblings.

STATISTICS REVIEW

Based upon a review of published statistics, Gardline felt that the project was particularly important in a community such as Great Yarmouth. By way of examples, quotes from “Weathering The Storm” – The social impact of the recession in Great Yarmouth”, published in May 2011, on behalf of the, Great Yarmouth Community Trust, reveal:

- “The English Indices of Deprivation 2010 shows that Great Yarmouth faces considerable deprivation compared to other districts. In a national scale where 1 is the most deprived, and 326 is the least, Great Yarmouth ranks thirtieth”

TEDDY BEAR PROJECT

- “15.39% of Great Yarmouth Households has an annual income of less than £10,000 per annum. This compares with 12.97% for Norfolk, 9.32% for the East of England and 10.61% for the UK.
- “As of March 2011, 6.59% of the working age population of Great Yarmouth claim job-seekers allowance. This compares with 3.59% for Norfolk, 3.21% for East Anglia and 3.89% for the UK.



- “In terms of the UK Child Well-being Index (CWI) out of 354 district authorities, where a rank of 1 shows the highest CWI, Great Yarmouth ranks 289th”.
- “In most types of study of academic attainment, Great Yarmouth scores approximately twice as worse as the UK national average. As an example, where as a UK average, 12.3% of the population has no qualifications at all, In Great Yarmouth, the figure is 22.4%”
- “a Quarter of all children in Great Yarmouth are in families who are in receipt of key out-of-work benefits”

GLOBAL AWARENESS

With this in mind, it became clear that the primary aim of the Teddy Bear Adventure would be to help the students become better aware of the wider world around them, and hopefully raise their employment aspirations into the future.

Each of the twelve participating schools adopted and named a Gardline Bear and, given that Gardline personnel work and travel worldwide, staff were to be encouraged to contribute to both the schools’ curricula and the student’s knowledge by taking their bears on assignments, and “reporting back” with photographs and stories.

PERSONAL ENGAGEMENT

It was anticipated that, by having personal engagement, through their bear, the students would have a far closer interest in the curriculum subject. Thus, and at the request of some of the schools, the bears have for example visited and learned about space travel at the Houston Space Centre, learnt about the Roman occupation of Britain, in Bath, travelled to learn more about other countries possibly out of reach to some of the pupils, such as Cuba, Brazil, Malaysia, Egypt & Australia and found out about marine science in their classrooms, by meeting marine biologists and other specializations.

GARDLINE HANDS-ON PARTICIPATION

As part of the programme, Gardline personnel have also participated in school activities including reading programmes, arranging visits from the local fire brigade and providing some real world advice and role play as to what a CV is, and how industry recruits its employees of tomorrow.

DEDICATED WEBSITE

Gardline developed a dedicated website - www.gardlinebear.co.uk which has also proved very popular both with the



students and their families and friends. Here the schoolchildren can upload their stories and photographs, play games and ask questions of Gardline’s own “house” bear, George.

POSITIVE RESPONSE

The project, now reaching its first anniversary has received a very positive response both from within the Great Yarmouth community, and elsewhere. Bill Holledge, headmaster of Greenacre, one of the participating schools is quoted as saying: *“The George the Bear scheme has had a significant, positive impact on our school by encouraging our pupils to think beyond their local area and to consider the wider world. By using a character that the pupils can relate to, the project has supported the children to ask questions about places, far and near, and to consider the implications of global issues. I am very grateful to Gardline for its commitment to the school, which has enabled our children to begin to get a flavour of the world of work and the opportunities that are available to them.....”*

Gardline
www1.gardline.com

= See enhanced entry online

= See video library online

MERSEY MARITIME YOUNGSHIP PRESENTATION



We were recently invited to a new initiative from YoungShip originally founded in Oslo, Norway, but with global intentions, to encourage young people to join the maritime industry.

Matt Treadwell who gave the presentation has worked for some years in Oslo and is now heading up what will effectively be the UK base in Liverpool.

Various interested parties came along to find out more and this is just another project which fits well with our Skills Gap initiative so is well worth highlighting for the benefit of the industry.

Companies and organisations in the wind energy industry based in Norway see the benefit of an organisation like this and it would seem very relevant to the UK because of the opportunities involved for young people.

We will be reporting on YoungShip as it progresses in the UK but also featuring some of their leading lights based in Norway in future editions.

In the meantime Matt Treadwell lets us know about the background to the project.....

YOUNGSHIP

YoungShip was formed to promote competence and network development, and promote young professionals in the global maritime industry. We also promote equality and social responsibility.

The Liverpool branch was initiated by myself, Matt Treadwell who was a former board member of YoungShip Oslo. YoungShip Oslo has been a great inspiration for the Maritime community in Norway and realised the great opportunity Liverpool also had to help promote the current maritime expertise as well as its maritime heritage (over 750 years!).

FANTASTIC RESPONSE

After carrying out meetings with various companies since September 2011, the response from the local Maritime community has been fantastic and we would like to thank everyone who has been involved in the development so far! We would also like to make a special thank you to the Mersey Maritime Group for their support and facilitating the YoungShip Liverpool launch.

GLOBAL CONTACTS

YoungShip currently has over 2500 members with branches in Norway, Singapore, Brazil, Cyprus and now the UK! The work carried out by all the local board members is voluntary and any sponsorship/membership fees goes directly into helping the young generation of tomorrow develop.

20 YEAR GLOBAL MARITIME INDUSTRY AGE GAP

At the moment there is a 20 year age gap within the Maritime Industry globally with experience retiring to the new younger talent/professionals coming in.

Therefore one key area for YoungShip is to initiate and promote mentoring programmes with the experience from the industry and the ambitious young generations who will follow in their footsteps. Another area is to promote the shipping industry to the educational institutions from a young perspective and make more people aware of the career opportunities which are out there.

OTHER INDUSTRY CHALLENGES

In addition to the age gap, the shipping industry at the moment faces a number of other challenges to reduce fuel consumption, air emissions, bio-fouling and general costs which is why innovation is an important area for investment.

WIND INDUSTRY

One area in which a lot of investment has been shown is within the wind sector which is why we will continue discussions with the Wind Energy Network. Although this is a

popular topic there is a limited source of information out there to provide a good understanding of the challenges as well as the benefits of choosing this source of energy to the shipping industry. With that said it also identifies a number of opportunities for young people to look into and take control of going forward.

THE FUTURE GENERATION

YoungShip shall encourage, motivate, innovate, inspire and aspire the future generation in the maritime industry and we thank the Wind Energy Network for allowing us an insight into this sector which we will continue to work together on and explore.

Matt Treadwell
YoungShip
www.youngshipmore.no



WELCOME TO OUR EXTENDED BUSINESS DEVELOPMENT SECTION

This area of interest continues to grow, probably because there are many SMEs who are either in the industry already or are looking to expand their horizons to take advantage of the opportunities available to them.

In many cases these SMEs have found the business management material very useful and we have also received very favourable comments from large multi-national companies and organisations – ‘short and to the point contributions which make us think about how we manage our company’ was just one comment made directly to us at a recent conference.

JOHN BRITTON – BCG BRIDGEPOINT LTD

We open our business development section in this edition by introducing you to John Britton, whom many will be aware of his contribution to business, predominantly in the Humber area but John has also worked internationally in a variety of business advisory positions.

His introductory article we are sure you will find thought provoking, so please feel free to contact us with your comments.

RENEWABLES NETWORK MANAGEMENT WORKSHOPS

John will be running a series of workshops for Renewables Network and you will find more detail of these at the end of his first article – we will be reporting on the workshops in future editions so that it will not only be those who attend who will benefit from his advice.

BCG BRIDGEPOINT LTD

John Britton established BCG Bridgepoint Ltd with colleagues in 2007 to support private sector SMEs in the promotion of their businesses to public sector buyers in the e-procurement environment.

QUALITY MANAGEMENT SYSTEMS PRINCIPALS

As the market has changed to become more private to private over the recent past the nature of BCG Bridgepoint’s support has developed as well, to become more concerned with the degree of team ownership of QMS principles, as the basis for sustainable profitable performance.

RENEWABLES NETWORK LTD

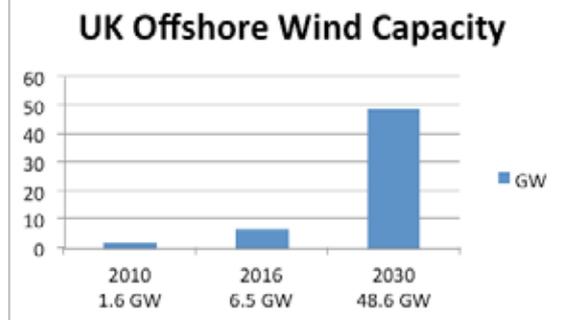
More recently John and the team at BCG Bridgepoint have worked closely with Renewables Network Ltd in the specific sector of renewable energy production. Their combination of supply chain management expertise and industry knowledge is increasingly in demand from companies who have ambitions to be significant suppliers in the market.

RENEWABLE ENERGY SECTOR EXPANSION

Much has been written to draw attention to the significant opportunities for the United Kingdom as a whole, and the Humber region in particular, that are presented by the growth of Renewable Energy production over the next two decades.

OFFSHORE WIND

These opportunities are no more dramatically quantified than in the particular sector of offshore wind. Figure 1 shows the changing status of UK offshore wind capacity between 2010 and 2030.



Source: EWEA Report 'Wind in Our Sails' July 2011

In truth, every source of renewable energy will experience a challenging degree of growth in the next decades as we realise that carbon, as a source of energy, is unaffordable for economic, environmental and political reasons.

However, the cleanly defined offshore wind sector contains all the lessons that we need to know and master if we are to reap the benefits of this transformation.

CAPACITY AND CULTURE

If a company, in any part of the supply chain, hopes to win its part of the economic explosion that UK offshore wind energy production will deliver it will need to ensure that two aspects of its performance are 'fit for purpose'. These are **capacity** and **culture**.

CAPACITY

Figure 1 shows that the installed capacity of UK offshore wind will be approximately 4 times bigger in 2016 than it was just two years ago in 2010; and 8 times bigger in 2030 than in 2016 (i.e. 32 times bigger overall). That doesn't necessarily mean 32 times more nuts and bolts, or steel ladders, or pieces of lifting equipment; but it does mean 'a hell of a lot' more of all these things.

If I was an SME making steel ladders I would be asking myself NOW...

- "How can I make my production capacity 10 times bigger than it is now?"
- "How much bigger will my factory need to be?"
- "Can it be that big in this location, or will I have to move?"
- "What technical investments are available to transform my productivity?"
- "How many people will I need to produce 10 times more?"
- "What competence will my team need that it doesn't have now?"
- "How much working capital will I need to maintain a positive cash flow in transition?"

10 TIMES MORE

I chose 10 times because, even allowing for the more fierce competition that a 32 times market growth will inevitably attract, any business worth its salt should be able to benefit by at least this much. Also 10 times allows you to picture the 'scale up' quite easily.

Even though you can now picture 10 times more machines on the factory floor, 10 times more people in the canteen, 10 times more cars in the car park, or 10 times more raw materials in the store, I bet you have never let yourself indulge such thoughts until now.

CONT...

REALITY NOT FANTASY

The point is that this is not fantasy. If you are to get what you deserve from this opportunity this is the minimum of planning that you must do.

And if you are the company that supplies the steel ladder maker with the rods for his treads, then the same applies to you. How will you supply him with 10 times more?

Capacity is quantitative, but Culture is qualitative. You may be reading this puzzling over the issues of quantitative change, even to the point of realisation that time is short to meet the challenge. And you would be right to draw such a conclusion, time is indeed short.

If you wish to improve your competitiveness then these changes need to be made in time. Otherwise it is your customer service that will suffer.

And when the end product of the supply chain is a perfect, on time installation of a turbine 100 kilometres out in the North Sea then poor customer service will be punished without mercy.

But the quantitative capacity change will be the easy bit.

CULTURE

We all know that the culture of an organisation cannot be 'traded in' and a new culture installed over the weekend ready for start-up on Monday morning. But it can be developed from its current status, at a natural pace, so that every individual can take ownership of new principles.

INDIVIDUAL OWNERSHIP

Individual ownership is the key phrase, particularly in a quickly growing organisation – it is the decisions taken and executed by each individual in the team that delivers the performance that everyone else evaluates as the culture of the organisation.

No one individual can control that performance to the extent that the decisions of all other individuals are immaterial.

WHY AM I GETTING SO 'HEAVY'?

Because the qualitative evaluation of your team by the companies at the head of this supply chain is the toughest GO/NO GO decision to which you are ever likely to be subjected. In the business of installing and maintaining a hugely sophisticated production machine (wind turbine) in a hugely hostile production environment (North Sea) the principles of risk minimisation and performance maximisation take on a significance that, culturally, any business in the supply chain needs to embrace.

EXPERIENCE AND LESSONS LEARNED

Any company that has had experience as a third tier supplier in the automotive supply chain is well aware that the progress chaser in the car factory may not necessarily pay a call on him; but that the progress chaser is minutely aware of his production schedule and of any risks to continuous supply that is posed by his performance.

BADGES 'STUCK IN THE WINDOW'

Companies that culturally dwell in the belief that ISO9001 is merely a badge that has to be bought and '*stuck in the window*' in order to satisfy a buyer that the company is driven by, and benefits from a Quality Management System (QMS) are non-starters in a supply chain governed by risk minimisation.

Sadly, there have been and there still are far too many procurement officers who allow this charade of a badge '*stuck in the window*' to pass as a satisfactory evaluation; and far too many quality management consultants who ensure that the only thing that is sold is the badge to stick in the window. It is their fault that so many suppliers have lost sight of the cultural requirements of performing in professional supply chains.

MORE THAN JUST QMS

But these cultural requirements demand much more than just QMS. They also demand environmental responsibility, social responsibility, and robust operational continuity management.

Have I persuaded you that the time you require to develop your organisation's culture from the one it is now to the one that...

- Ensures clear objectives cascaded from sound strategic goals
- Demands individual understanding of and commitment to these objectives
- Invests in the expertise, equipment and work environment required to excel
- Provides the opportunity for individual ambitions to complement team goals
- Concentrates on building strengths instead of trying to convert weaknesses
- Invests in its community
- Is a transformation that you need to begin today?

‘short and to the point contributions which make us think about how we manage our company’

NO?

If that is because this is your culture already then congratulations, you are already attracting the attention of the best clients in many supply chains, but you know that already.

If that is because this is the first time you have realised that these will be the demands made of you then give me a ring today and we can start to address the issues together.

If that is because you don't believe it then I congratulate you for having read this far – I am surprised that you have the time.

John's workshop programme for Renewables Network is scheduled to be...

2012

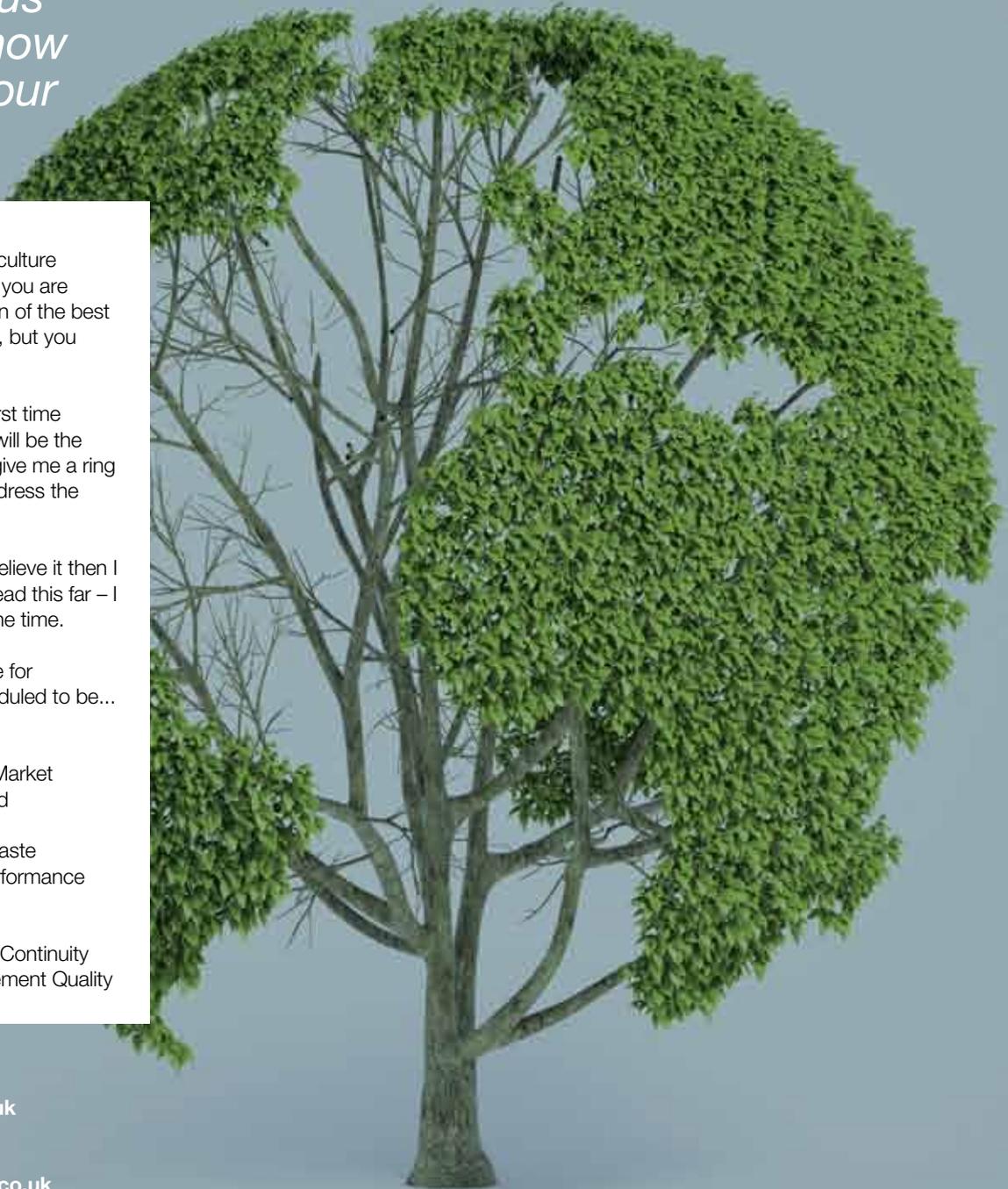
- Sep 12th - Knowing the Market
- Oct 10th - Your Goals and Competence
- Nov 14th - Decreasing Waste
- Dec 12th - Increasing Performance

2013

- 5. Jan 9th - Securing Continuity
- 6. Feb 13th - Management Quality

John Britton
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Renewables Network
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Why is it that in many organisations, both employee and manager generally dread “appraisals”, when they’re meant as such a positive tool and offer such great potential for developing people?



BUSINESS GURU PAUL LUEN CONTINUES HIS QUEST TO HELP BUSINESSES TO BE SUCCESSFUL IN THE WIND ENERGY INDUSTRY. FOR THOSE OF YOU WHO MAY HAVE MISSED HIS CONTRIBUTIONS IN OUR PREVIOUS ISSUES WE REPEAT THE REASONING BEHIND THIS INITIATIVE...

- 1** The industry is expanding quickly and has attracted many new businesses – companies both large and small will benefit from Paul’s valuable experience and advice
- 2** Paul is so enthusiastic about the industry he is more than willing to give advice to help as many companies as possible share in the opportunities already available

Paul has such a straightforward punchy style there is no need to pad things out with too many words – if you would like him to elaborate further in any area please just get in touch.

TURNING APPRAISALS INTO REVIEWS THAT WORK!

Why is it that in many organisations, both employee and manager generally dread “appraisals”, when they’re meant as such a positive tool and offer such great potential for developing people? Perhaps it’s because the whole concept of a manager sitting in judgement of an employee and telling them the good, the bad and the ugly, just doesn’t sit well in modern times.

PERFORMANCE DEVELOPMENT REVIEWS (PDRS)

Re-framing “appraisals” as Performance Development Reviews (PDRs) with an emphasis on coaching and re-enforcing positive behaviours, can have a material effect on driving performance and engagement from staff. To get the best out of PDRs, both sides need to invest time in preparation – we find a simple 2-page form acts as an effective tool to stimulate discussion.

EMPLOYEES SHOULD DO MOST OF THE TALKING

During the PDR, it’s important for the onus to be on the employee to do most of the talking, with the manager asking open (how, what, etc) coaching questions. Two-way feedback is of course critical, and the focus should be on highlighting positive achievements, attitudes and behaviours giving specific examples of each. Everyone (without exception!) will of course have 2-3 specific areas for improvement and highlighting these, again with specific examples, can really give the context to making this feedback less emotionally sensitive.

PERSONAL DEVELOPMENT PLANS

All PDRs should always ask the question, “How can you improve”, followed by “How else”, “How else” - it’s good to record any support and development actions that come out of these discussions in a form of “personal development plan”. PDRs are a great opportunity to set/re-set expectations and perfect for promoting alignment with company values and organisational goals.

FOCUS ON THE POSITIVE

However you go about the reviews, the one critical aspect of the experience for the employee is that they feel challenged in a positive way during my PDR meeting and at the end, feel motivated about working towards achieving their new objectives and embracing their personal development actions.

Why not try morphing your “appraisals” into PDRs and see what a difference it can make!

Paul Luen
www.martek-marine.com

Making the Most of Meetings at Work

PART ONE: **The Executive Secretary Role**

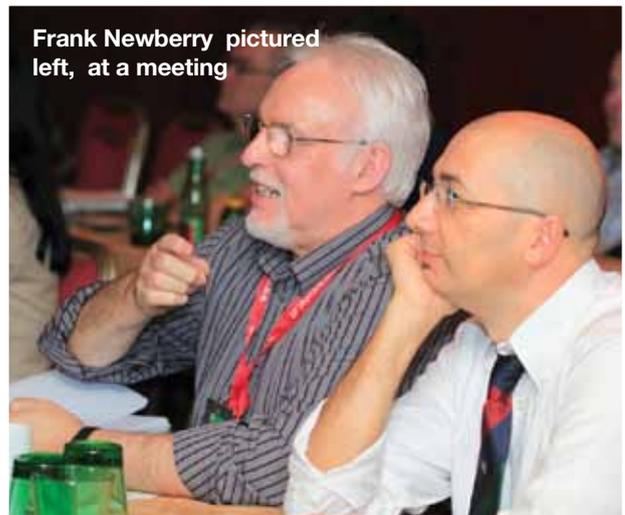
WE INTRODUCE FRANK NEWBERRY TO OUR EXTENDED BUSINESS DEVELOPMENT FEATURE

Frank is fairly well known in a number of diverse industries and just recently has built up a following in the Nuclear industry.

Frank has been helping people to get better results in the workplace for over 30 years.

Please do not hesitate to get in touch through Frank's website ([link at the end of his article](#)).

Frank Newberry pictured left, at a meeting



TRAINER AND MOTIVATIONAL SPEAKER FRANK NEWBERRY IS CONVINCED THAT WE CAN ALL CONTRIBUTE TO MAKING MEETINGS AT WORK MORE PRODUCTIVE AND MORE ENJOYABLE.

VOLUNTARY SECTOR INVOLVEMENT

I was recently asked to stand for election to serve on a number of brand new committees and Boards in the voluntary sector. I could try for Chair or Vice Chair of a Congress size group of people (more than 20 members) or to serve on one of four smaller committees (less than 20 members each).

Once elected to one of the smaller committees I might then be asked to stand for election as that committee's chair or vice chair. The organisation running these elections was also looking informally for minute-takers.

GOVERNMENT INITIATIVE

These committees are one of the ways the current government is trying to engage people in decision making locally. You may already be serving on one of these committees yourself.

MOST OF US HARDLY KNEW EACH OTHER

I should point out that, at this early stage, we were effectively electing each other. Everyone was being asked to stand for everything so that people had some sort of a choice of candidate. Again, at this state most of us hardly knew each other or quite understood what the new committees' powers would be.

A CONSCIOUS DECISION

It was for this reason (the ignorance and the unfamiliarity) that I decided against standing for any of the jobs on offer preferring instead to suggest that there was another way that I might help the Congress level people at their monthly meetings.

Accordingly at the next meeting - under the heading of 'any other business' - I was elected unopposed and unanimously to be the Executive Secretary to Congress. I was also asked if I would be the Minute Taker but I declined. I figured will have my hands full enough because it is the job of the Executive Secretary to assist the Chair by working to make the meetings themselves more productive.

MY JOB WAS TO BE THE 'ENGINE OIL'

When I first worked as an Executive Secretary I was told that the committee I would serve was 'like an engine' which made all the decisions and carried out the action points. My job was to be the 'engine oil' that ensured the smooth running of the engine.

MY ROLE

My job, in a nutshell, will be to work with the Congress Chair - before, during and after meetings - by helping him or her to...

- Prepare and circulate meaningful agendas (before the meeting)
- Determine who does which action points (during the meeting), and then
- Chase up the action points (after the meeting) so that progress is made as intended



In my first stint in this role I served on three church charity committees whose members included foreign bankers from the City of London and top businessmen - all of whom were very busy in their 'day jobs'. I quickly realised why they were at the top of their profession.

They worked hard and appreciated others who worked hard.

Fortunately for me they all seemed to think that I was a hard worker so they were very responsive to me and my regular 'reminders' to them about their action points.

THE BEST JOB I EVER HAD

Nowadays if I am asked, I say it was the best job I ever had.

Why? Because I had all of the power (in these relationships with committee members) and none of the responsibility. It was also the best job I ever had because the committees got so much more work done and this benefited many, many people in need.

So if your meetings at work need a boost then consider giving someone the Executive Secretary role. In Part Two, I will look at decision making in meetings and some ground rules to keep them on track.

Frank Newberry
www.franknewberry.com

BUSINESS DEVELOPMENT

WELCOME AGAIN TO ANDY MCLAUGHLIN...



Prospecting with a plan

A GOOD POOL OF PROSPECTS IS ONE OF THE KEYS TO A SUCCESSFUL SELLING CAREER. KNOWING HOW TO PROSPECT EFFECTIVELY KEEPS A CAREER VITAL, AND IS TRULY THE LIFEBLOOD OF SALES. YET, SO MANY SALES PROFESSIONALS OVERLOOK THE CRUCIAL ELEMENT OF HAVING A PROSPECTING PLAN. WITH A PLAN TO FOLLOW, YOU CAN MEASURE YOUR EFFORTS AND RESULTS.

THE MIX

A good prospecting plan includes several types of activities. Some examples include: cold phone calls, referrals, talks, mailings and networking. While most salespeople have a variety of activities available to them, they tend to use only a few, either because they have a certain comfort level with some activities, or a discomfort with others. Mixing your activities takes the pressure off any one activity to provide your livelihood. If you're not comfortable with an approach, invest time to improve your skills, and ultimately your comfort level, to make other activities work for you.

"IF YOU DON'T KNOW WHERE YOU'RE GOING, HOW WILL YOU KNOW WHEN YOU GET THERE?"

THE ACTION

Prospecting activities are either active or passive. Active prospecting gives you complete control over how the activity is carried out. For example, making cold calls is active. You control who you call, how often you call, how many calls you make, and what you say. Advertising is passive as you can't control whether a piece gets to its intended destination, is read, or generates a response. Although you can increase your response rate by offering free samples, a bonus or other premium, you give up most control by advertising.

To achieve desired results, mix your active and passive prospecting. Passive activities may be more comfortable, but comfort may not be the answer to your prospecting challenge.

THE PLAN

When you've decided which activities to pursue, put them on your calendar. Schedule your activities according to time, budget, resources and target audience considerations. And be sure to put your preparation activities (preparing a seminar, writing your newsletter or composing your mailing) in no-pay time. A budget should accompany your prospecting calendar. Will there be labour, equipment, facility or print costs? These elements all factor into your choice of prospecting activities and their weight in your mix.

THE RESULTS

Once you've chosen your mix, planned your actions, scheduled your activities and carried out your plan, what were the results? Where did your leads come from, and which activities generated the leads that translated into appointments? Although different activities may produce varying results, you'll probably find that a plan that reflects a variety of methods will pay off. And you may even find success with an activity you thought wouldn't work for you, or that you were reluctant to try. Each prospecting plan is unique, but all have elements in common: they should include a mix of activities that are feasible for your situation and have action steps for those activities based on resources available and scheduling constraints. As the saying goes, "If you don't know where you're going, how will you know when you get there?"

Andy McLaughlin
Sanders Training
www.centralnorth-east.sandler.com

Using business As a force for GOOD!

RICHARD BRANSON MADE A GREAT STATEMENT THAT I HEARD WHEN TAKING PART IN SOME TRAINING RECENTLY, HE TALKS ABOUT 'USING BUSINESS AS A FORCE FOR GOOD' AS AN UNDERPINNING PHILOSOPHY IN VIRGIN.

I have borrowed that phrase because positively impacting upon the health and wellbeing of individuals by carrying out interventions in the workplace, and in creating both health and wealth in our communities, is surely about using business as a force for good.

MY PASSION FOR WELLBEING...

...becoming the focus of all my work started about 7 years ago when I came to my own conclusions that the corporate world was an excellent platform that could positively affect the health and wellbeing of individuals.

Back then my focus was fairly narrow with the emphasis on how leaders and managers could truly make a difference just by being good skilled leaders of people. That is of course still essential to any organisation's strategy for influencing the wellbeing of their workforce. Over the years the amount of support that can be provided for companies to give a much more extensive approach to the subject area has grown immensely. Organisations can access a great deal of support to help them influence this vital area, and depending upon the company size, for many organisations this can be gained for FREE.

WELLBEING CHAMPION COMPANIES...

...are popping up regularly now in my general day to day work and it is great to walk into a premises and see evidence of this and the impact that it does have on those people employed there. Whether this is the bowls of fruit available, pleasant thoughtful surroundings or easily accessible information on health from stopping smoking; to getting your five fruit and veg a day and having a healthy heart it is truly great to see.

WELLBEING FRAMEWORKS...

...are a great way to provide the strategic direction and the way in which to embed wellbeing in day to day business practices. In my last article I said I would focus on writing about using the frameworks and support that are available to organisations in their efforts, and these can be for the smaller company right through to the largest. I have provided some contact details for in particular the North East.

AS A WELLBEING CHAMPION...

...in one of the small marine / manufacturing North East businesses I support, employing 20 people, recently we undertook the process of a health

needs assessment with the workforce. The employees had the opportunity to complete questionnaires about health concerns in general and at work, leading to a feedback report and discussion on the results and how the company could be supported in delivering this.

TARGETTED ACTION...

...is now being taken relevant to employee needs, thereby removing the issue of 'why' there is often a poor take up in business of interventions that are simply thought to be needed or seemed like a good idea. There were some interesting and unexpected comments, from concerns on lone working and working at heights as well as back care and more general health issues. This has raised awareness of health related factors affecting people in the company that management were not aware.

THE PROCESS IN EASY STEPS

- The Company contacts a provider
- A confidential health needs assessment questionnaire is provided and completed by employees on their general and workplace health concerns
- These are submitted to a NHS Health Improvement Practitioner
- A report on staff responses is compiled with identified health and wellbeing concerns and a feedback meeting with the Organisation is carried out with plans for relevant action
- Support can be provided in the form of information and booklets as well as a FREE NHS Health Check that can take place in the workplace for persons aged between 40-74. This takes 20 minutes and could add years to the lives of individuals taking part as it checks a number of things and identifies a risk score

This particular company I referred to is not currently considering seeking a formal award. For those organisations that are ready, an awards framework can provide the building blocks for a great plan and structure, as well as valuable resources to assist in achieving successful outcomes.

NORTH EAST BETTER HEALTH AT WORK AWARD

This is unique in the North East giving the opportunity for organisations to work toward an award that has been developed to give recognition to workplaces which actively promote workplace health.

A partnership between workplaces, public health departments and other health improvement specialists, there are levels of bronze silver and gold leading to increased excellence in the organisation demonstrating evidence based practice achieving some of the well documented benefits for employers including:

- Improved workplace health
- Improved staff morale, loyalty and retention
- Improved corporate image
- Reduced absenteeism
- Increased productivity

The award is managed by an organisation called Amacus who will support organisations from diagnostic through to implementation; there is access to FREE resources to support organisations in their important efforts.

INVESTORS IN PEOPLE AWARD AND THE HEALTH & WELLBEING GOOD PRACTICE AWARD

Whether new to Investors in People, or a seasoned achiever, there is much to assist here. Again, there are a number of levels that organisations can achieve as they implement their wellbeing practices in incremental easy to manage stages.

There are workshops to inform and support through the process, case-studies of organisations that have achieved the standard and will share the benefits to their company and people of this. There are useful downloads, hints, tips, and thoughts easily accessible that show the well-known standard for IIP and the Health and Wellbeing Good Practice Award

And so to close, no matter what stage your organisation is in its journey regarding the health of your workforce, or the size of company from small to extremely large, there is an extensive amount of resource to support efforts. Collectively we can make a huge difference to creating both wealth and health in our communities.

Amacus
www.amacusltd.co.uk

Investors In People
www.investorsinpeople.co.uk/healthandwellbeing

Partnering4Performance
www.partnering4performance.com

e = See enhanced entry online



THE BOW-TIE METHOD

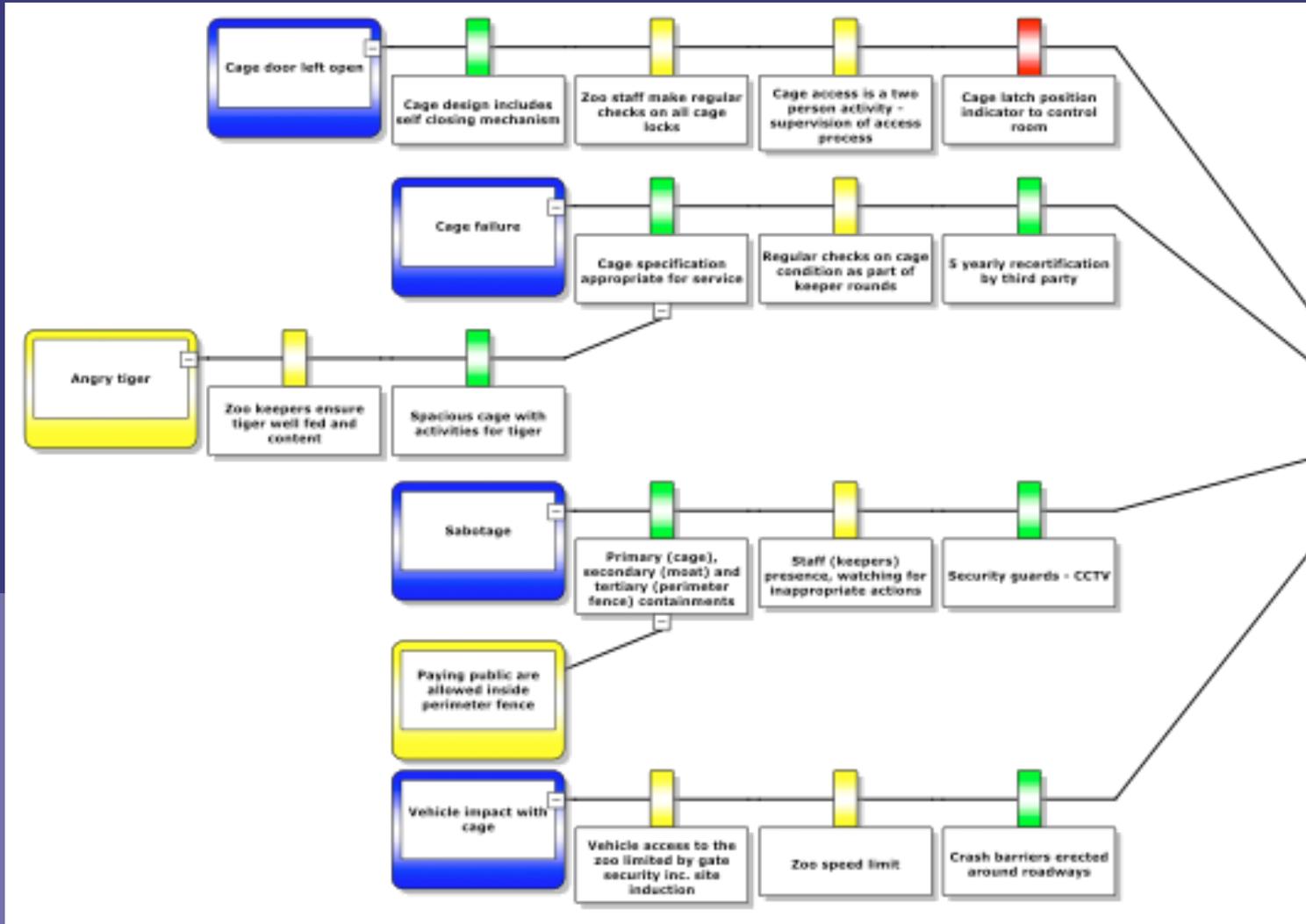


Figure 1: The Bow-Tie

In a previous issue, Risktec discussed the steps of an effective risk management process and highlighted the importance of risk assessment/analysis within this process. A number of differing techniques are available for assessing or analysing risk (e.g. risk assessment matrices) and in this issue, Risktec focuses upon a powerful and increasingly popular risk assessment technique, the Bow-Tie method.

WHAT IS A BOW-TIE?

The Bow-Tie method, so called because it describes the management of risk in the shape of a bow-tie, is an extremely powerful way of clearly illustrating how risk is being managed within an operation, business etc. It helps ensure that risks are managed rather than just analysed, partly by going beyond the usual risk assessment 'snapshot' and highlighting the links between risk controls and management systems.

AN ELEGANT SOLUTION?



Figure 2: Building the Bow-Tie

A bow-tie diagram provides a readily-understood visualisation of the relationships between the causes of business upsets (hazards which, if realised, could compromise business objectives e.g. impact on health, safety, the environment, operations etc.), the escalation of such events, the controls preventing the event from occurring and the preparedness measures in place to limit the impact (see Figure 1). The power of a bow-tie diagram is that it provides an overview of multiple plausible scenarios in a single picture.

BUILDING THE BOW-TIE

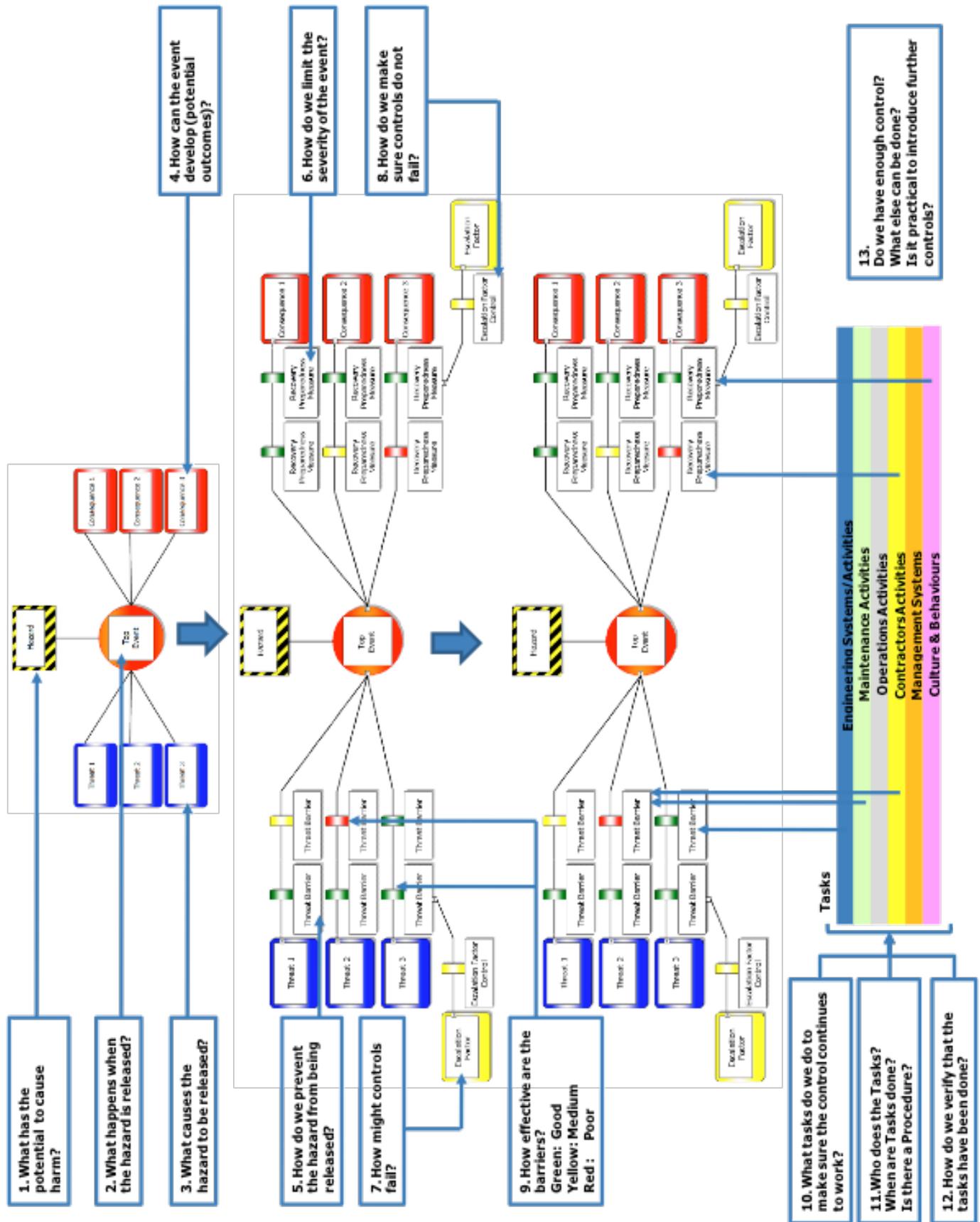
A bow-tie diagram is built by asking a structured set of questions in a logical sequence (see Figure 2). The completed bow-tie illustrates the hazard, its causes and consequences, the controls to minimise the risk, and a list of the critical tasks undertaken to ensure ongoing integrity of these controls.

Bow-Ties are best constructed via facilitated workshops involving people who are regularly confronted with the risks. This is proven to be the most effective way of identifying real controls and capturing current practice. Honesty is an essential ingredient during these sessions if any weaknesses in controls are going to be uncovered. To encourage honesty, the workshop needs to be run in an open and

engaging fashion, and an independent facilitator can often help to create such an environment.

To provide a practical example of a completed bow-tie, we can again look at our multi-purpose "Tiger in Cage" analogy. In this example, wild animals (i.e. tigers) are the hazard, with the top event (i.e. when control of hazard is lost) being tiger escape from the cage. The threats, consequences, barriers and recovery preparedness measures for this scenario can be easily understood at a glance as illustrated in Figure 3.

Figure 3: "Tiger in Cage" Bow-Tie



BENEFITS OF THE BOW-TIE METHOD

1. Logical, structured understanding

Risk assessments can have a tendency to concentrate on the level of risk only, rather than considering all aspects of the management of risk. The structured approach of the bow-tie forces an assessment of how well all initial causes are being controlled and how well prepared the organisation is to recover should things start to go wrong. This logical approach often identifies gaps and issues that are missed by other techniques.

2. Clear communication and improved understanding

By visually illustrating the hazard, its causes and consequences, and the controls to minimise the risk, the bow-tie can be readily understood at all levels, from senior managers and operations personnel, to regulators and members of the public.

3. Greater ownership

Bow-tie workshops encourage participation and stimulate communication between key stakeholders, whether from the company, contractors or external parties, who all have a role to play in managing risk and yet may not be involved in more traditional techniques. When people feel involved they tend to 'buy-in' to the process. When action is taken based on what they say, people will take ownership. All of which lends itself to more effective risk management.

4. Efficiency gains

Bow-ties help identify where resources should be focused for risk reduction (i.e. prevention or mitigation), thus reducing the volume of safety analysis, leading to a potential reduction in unnecessary/lower importance barriers.

5. ALARP Demonstration

Bow-ties are an effective tool for qualitative demonstration that hazards are being managed to a level which is As Low As Reasonably Practicable (ALARP). The bow-tie diagram clearly identifies all existing barriers in place to prevent realisation of a hazard, and prompts operators to ask "is there anything more we can reasonably do?"

6. "Future Proof" Risk Management

Unlike other risk assessment techniques, the bow-tie illustrates not only what controls are currently in place, but, through the use of critical tasks, why they will still be there tomorrow.

SO WHERE DO BOW-TIES FIT IN?

Bow-tie diagrams can be generated for every hazard identified for any particular operation at any point in its life cycle. However, it is clearly not appropriate, efficient or cost effective to construct diagrams for all identified hazards. Bow-tie diagrams are most commonly used, and realise the largest benefit in analysing major hazards.

The Risk Assessment Matrix, discussed in a previous issue (see February/March 2012), can be utilised as a "screening" tool to identify major hazards requiring further investigation, with bow-tie diagrams clearly identifying the controls/mitigations against such hazards.

LIMITATIONS OF THE BOW-TIE METHOD

Of course bow-ties are not the panacea for all risk management problems. If you want to quantify your level of risk in absolute terms then the bow-tie method will not help directly. Similarly, if you want to model complex inter-relationships between your risk controls, there are better ways than using bow-ties.

As with all risk assessment techniques, the quality of the information output is dependent on the quality of the individuals leading the workshops/assessment and the team assembled to assist. The danger exists that, due to the apparent simplicity of the bow-tie diagram, such assessments are undertaken by inexperienced personnel and without the direct input from all involved parties (operations, maintenance etc.). In such a scenario, bow-ties could be generated which do not represent the on-site operations and omit key threats, consequences or controls.

In summary, a number of differing techniques are available for assessing risk. However if you want to remove the mystique of risk management and obtain insights into your risk controls that are easy to understand and easy to communicate, then there is no better method than bow-ties.

James Sneddon
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Intellectual Property

IN THE RENEWABLES SECTOR

The renewables sector is fast developing. This means that new ideas, thoughts and processes are being created at an extremely fast pace. As with all developing industry sectors, intellectual property is going to be imperative to business success. For this reason it is important that all businesses are aware of what intellectual property (IP) they own, how IP is created and most importantly, how it can be protected.

INTELLECTUAL PROPERTY – THE CONCEPT

Before considering each IP in turn, it is worth reiterating the basic concept of IP.

Intellectual property rights are basically intangible rights, with the idea that they protect the products of human intellect. Intellect cannot be seen but can nevertheless have a value. It is capable of being “owned” which means that it has to be somebody’s property.

Intellectual property is everywhere and large businesses spend huge sums maintaining and protecting their IP rights, whether developed by their employees or consultants.

TYPES OF IP

There are various types of IP which fall mainly under two headings: the artistic and the commercial (although clearly for the renewables sector, commercial is going to be the key focus). IP rights can be trade marks, copyright, design rights, patents, works know-how or confidential information. Various other IP rights such as database rights may also be applicable although perhaps to a lesser extent in this sector.

Looking at each of these IP rights in turn it becomes clear as to how they will become relevant.

TRADE MARKS

A trade mark is a brand name or symbol that distinguishes one business or product from another. In a developing sector we see business start ups and new products and it is likely that new names will be developed. The best way to protect such names or logos is to register them as trade marks.

Rights will still exist in unregistered trade marks but for enforcement purposes and for enhanced levels of protection and ownership rights, a lawyer will always advise registering trade marks where possible.

Depending on each individual circumstance, trade marks can be registered in the UK; as a Europe wide community trade mark; or certain territories can be cherry picked if the marks require protection in other jurisdictions. Once trade marks have been registered it is easier for businesses to then take steps to prevent third parties infringing their marks.

COPYRIGHT

Copyright is a monopoly right that arises automatically and is basically a right to prevent copying. It is likely in the renewables sector that new plans and drawings will be prepared which will attract copyright protection.

No further steps are needed to obtain the benefit of this right (contrary to popular belief there is no central copyright register) but best practice would suggest that businesses in this sector do acknowledge themselves as the copyright owners on important documents, including on their websites, by using the copyright symbol along with their name and date that the work was created.

DESIGNS

Designs can be registered and unregistered. Again, it is likely that this right will be a direct benefit to businesses in the sector and it is envisaged that design rights will be needed and used. Unregistered design rights protect functional objects for up to a ten year period. Clearly by the title no steps are needed to register this right.

Perhaps of lesser significance is the right of registered design which relates to the appearance of an object but not its technical function.

PATENTS

Patents give their owners the highest level legal protection in the area of intellectual property rights. Patents are very much a commercial IP right and protect inventions. Please do be aware that patents can also protect an improvement or an idea.

It may also be the case in this sector that a patent has been obtained for one function but can be used in a completely different context, such as a bearing protection or fluid protection system which is enhanced and adapted for offshore use. In certain situations, this would also be capable of patent protection in its own right.

A patent gives the holder a right to a monopoly right for twenty years. Patent is derived from "letters patent" meaning a description of the inventions made public in return for the grant by the Crown of the period of protection. The reasoning behind this is that an individual who has expended time and effort in inventing a new concept should have the benefit of this.

Please note that the information relating to a patent does have to be kept in the strictest confidence before the patent can be filed. This comes on to the next area of confidential information.

CONFIDENTIAL INFORMATION

It is perhaps misleading to have this heading in an article on IP as the law of confidence is not an IP right in the true sense. Given its significance however, it is often classified along with the other rights and it is clearly associated with them. It is imperative in the renewables sector in light of its "newness" that ideas are kept confidential. Certainly before businesses agree to meet or discuss concepts or ideas, strong confidentiality agreements should be put in place. To the extent that intellectual property rights need to be protected then this should be specifically noted in the confidentiality agreement.

AWARENESS AND PROTECTION

The key issue for businesses operating in this sector is going to be awareness when considering intellectual property rights. It is also worth reiterating that IP which may have been protected in the past, but which is going to be used in a new context, should also be reviewed and considered.

The advice is to register where possible and certainly take steps to protect intellectual property or ideas by using confidentiality agreements or other methods where rights are unregistered.

Marie Kell (head of commercial and intellectual property)
Andrew Jackson Solicitors
www.andrewjackson.co.uk

e = See enhanced entry online



INNOVATION AND NEW TECHNOLOGY FEATURE

INNOVATION IS THE BY WORD FOR THE WIND ENERGY INDUSTRY. IN NO OTHER INDUSTRY HAVE WE SEEN SUCH GROWTH IN SUCH A SHORT SPACE OF TIME. ENGINEERING PROBLEM SOLVERS CONTINUE TO ASTOUND US WITH THEIR INGENUITY AND 'THE ANSWER IS YES NOW WHAT IS THE QUESTION' ATTITUDE.

WE START THIS SUBSTANTIAL FEATURE WITH ZF SERVICES WHO SAW AN OPENING WAY BACK IN 2009 AND HAD THE FORESIGHT TO PREPARE FOR THIS MASSIVE MARKET PLACE.



UNIQUE WIND TURBINE GEARBOX OVERHAUL AND TEST FACILITIES KEEP UK WIND FARM OPERATORS IN GENERATING MODE

Operating in a wind energy market that's not only one of the most productive in Europe but also a world leader in establishing off-shore wind farms, the UK's wind turbine operators are dependent on a sound support infrastructure. To assist the industry in this respect, ZF Services UK Ltd set up a new wind turbine gearbox repair and overhaul facility in 2009 at its Nottingham headquarters. Now firmly established in the wind energy market, the company continues to invest in the facility to cope with the growing demand for a UK-based service.

Although the basis of the service is straightforward, the implementation is unique, providing facilities unavailable elsewhere in the UK and enabling significantly faster turnaround times than available from original equipment manufacturers situated elsewhere in

Europe. The Nottingham site for example boasts the only purpose-built wind turbine gearbox validation test rig in the UK and the only one in the ZF Group outside of its wind turbine headquarters in Dortmund.



OVERHAUL PROCESS

During disassembly, the condition of each internal component is inspected and recorded. Failure mode and cause are noted where applicable, helping to minimise the risk of repeat or premature failure. During overhaul, bearings and seals are replaced with OE parts. Gears, shafts, and bores are measured against OE drawings to assess whether components are within tolerance and can be safely re-used, or require specialist refurbishment or replacement. To save cost and time, damaged gears within tolerance can often be reground using the latest CNC technology and machinery, but where this is not possible they are replaced with OE quality gears. Similarly, bores and shafts can be brought back within specification using proven and accepted recovery techniques.



SCOPE OF ACTIVITIES

To date, the smallest gearbox serviced in the ZF Services UK wind turbine overhaul facility is three tonnes in weight and the largest 11.5 tonnes, but the lifting gear and test rig are capable of handling gearboxes of up to 30 tonnes. Maintenance and repair of gearboxes can include items such as brakes, oil coolers, torque arms, rotor shaft repairs, gear analysis using video endoscopy, vibration/oil analysis and equipment updates.

Gears and shafts beyond the limits for safe recovery are replaced by OE standard components meeting the rigorous standards demanded by the wind turbine industry. In instances where parts are obsolete or prove hard to obtain, ZF Services UK's specialist suppliers are capable of reverse engineering these to OE standards.

UPDATES AND UPGRADES

ZF Services has access to the latest OE upgrade information, and through its central wind turbine gearbox design and development facility can also offer bespoke solutions to gearbox problems. These services include updating gearboxes to the latest design standards, upgrading lubrication systems, and reprofiling gear teeth to ensure optimum efficiency and increased component longevity.

UNIQUE TEST FACILITY

Every wind turbine gearbox overhauled at ZF Services UK undergoes a rigorous test procedure of around eight hours' duration before release to the customer. This is achieved using a unique, purpose-built validation rig designed for partial load testing of gearboxes from turbines of up to approximately 2.5 megawatts generating capacity. Capable of delivering more than 64,000 Nm torque, the test rig applies a load through the gearbox via a slave gearbox and output motor. Adjustable drive and load motors are used to cope with the variation in height and width of different gearboxes.

The equipment can analyse oil flow and pressure, gearbox temperature, tooth contact pattern, and noise and vibration profiles, and thermal imaging is used to ensure that there are no local hot spots in the gearbox. Current draw, temperature, vibration and torque figures are recorded on the test rig's human-machine interface (HMI) panel, with a data logging frequency of at least 10 Hz.

VITAL CHECKS

Wind turbine gearbox bearings may fail prematurely if not correctly installed, so particular attention is given to monitoring that all bearings are precisely set and not preloaded. Cleanliness of the gearbox oil is another critical factor in component longevity. The oil filtering unit checks for correct oil flow and filters oil down to at least 14/11 cleanliness code as defined by the ISO4406:1999 standard, ensuring that the gearbox is free of any particulate contaminants prior to despatch.

FUTURE ENHANCEMENTS

The ZF Services UK wind turbine gearbox overhaul facility will shortly have a fully-automated data logging system in place to collect all data and enhance the productivity of the overhaul validation test rig.

ZF Services UK
www.zf.com/uk

e = See enhanced entry online

LAUNCH OF SAFE, RELIABLE AND EFFECTIVE CONTINUOUS JACKING SYSTEM

Bosch Rexroth's new high performance, continuous jacking system is safer, more reliable and ensures the effective installation and maintenance of wind farms.

Through this latest development, Bosch Rexroth has set a new standard for the future installation and maintenance of wind turbines at sea.

EXPERTISE, IN-HOUSE DEVELOPMENT AND PRODUCTION

Bosch Rexroth has provided leading companies in the offshore and construction industry with advanced jacking systems for many years. Purpose-built integrated drive and control systems with a jacking force of 23,000 tons upwards are the result of profound application expertise, in-house development and production. They now meet modern demands through their new high performance continuous jacking system.

TOUGH ENVIRONMENTAL CONDITIONS

The service life of a jacking system needs to be 25 years or more to withstand tough environmental conditions. In cooperation with certifying bodies and knowledge institutions, Bosch Rexroth has developed new standards and innovative solutions to tackle the problem of fatigue risks. The advanced control system is characterised by a tight control of accelerations, decelerations, parallel and opposite cylinder motions, smooth transfer of the high loads and an automatic four quadrant process, in which the system automatically switches from leg lowering to platform lifting operation and vice versa. This results in a constant jacking speed of 1 m/min and higher.

Additionally, specifically integrated features lead to more reliability, safer operations and a considerable reduction of required power.

INTEGRATION

A modern operator will benefit from the tight integration of the jacking system to the crane, mooring, handling and sea fastening systems. This integration adds to the reliability of the vessel and to overall cost savings. Secondary controlled drive systems for the vessel crane combine high performance with reduced power consumption, occupied space and weight.

IN-HOUSE DESIGN AND EXPERTISE

The software, cylinders, power units and control systems are designed and manufactured in-house. Systems



CERAMIC INTEGRATED MEASURING SYSTEM (CIMS)

Rexroth jacking cylinders are equipped with CIMS which provides an accurate signal. This allows the control system to evaluate the status of the system in relation to the precision, motion pattern and levelling of the vessel or platform. The cylinder rods are protected by a ceramic coating which is suitable for harsh environment conditions.

are thoroughly examined by FMEA, simulations and shop tests. They are installed (with prefab piping) and commissioned on location by Bosch Rexroth experts. A robust lifecycle management programme ensures that all systems remain in top condition throughout their service life, anywhere in the world.

Bosch Rexroth
www.boschrexroth.co.uk

THE WINDS OF INNOVATION

The wind turbine industry is a driving force for advancing high-performance industrial lubricants, says Shell's Joe O'Connor...

Advances in wind turbine technology have resulted in dramatic changes to standard gear oil used for wind turbines. The pressures wind turbines place on lubricants are now greater, and the operating conditions can be very harsh. To maintain a high level of operational reliability against the elements, and to keep up with industry technology advances, lubricants have had to become increasingly sophisticated.

RIGOROUS TESTING

Unique insight is being developed into the challenges of producing lubricant that meets the requirements of the wind turbine industry. It is an expensive process and involves more than 300 separate laboratory and rig tests before it is even considered for a field trial. These tests measure a multitude of parameters such as wear protection, load carrying capability, shear stability, resistance to foaming, filterability, and micropitting protection.

Clearly, developing a lubricant that meets the exacting standards of wind turbine equipment manufacturers is a substantial challenge, but it has led to a wide range of highly advanced lubricants that are used across other industrial sectors.

A GROWING POWER GENERATOR THAT NEEDS TOP PROTECTION

Wind turbine installations and structures are increasing in size to maximise power generation capacities, and some turbines can stand up to 150m high and have a rotor span of 100m – this requires high durability lubricants to ensure maximum protection and smooth running of the machine.

Lubricant developments are helping to maximize returns on investment by reducing the costs of producing electricity from wind power. This is achieved through ensuring the equipment works reliably and requires minimal maintenance, as well as limiting downtime, in part through lubricants with longer operational life spans.

DESIGNED TO MEET CHALLENGES

The main gearbox of a wind turbine, which drives the generator, comes under enormous strain every day, and reliability of the working functions is imperative. A major concern is gearbox micropitting, which results from factors such as case hardening and the surface roughness of the gear teeth, as well as inappropriate lubricant selection and application.

Given the gearbox's size, the lubricant's short recirculation times and the potential for air entrainment in the system, good air-release and anti-foaming characteristics are vital properties for the gear oil. Excessive foaming can cause the oil level to rise above the maximum, which may result in unplanned turbine shutdown and loss of power to the grid.

TEMPERATURE VARIANCE

Further, wind turbines sit on top of high columns, and many installed units have to be robust enough to withstand both very high and very low temperatures. In the UK wind turbines have to contend with cold temperatures and wet weather which can lead to rusting. The rotors can also be static for periods of time, all of which place specific challenges on the lubricants to provide maximum protection for the longest time period.

SHELL OMALA S4 GX 320

To deal with all of these challenges Shell Lubricants has developed Shell Omala S4 GX 320, a synthetic gear oil that provides excellent performance in the areas requiring added protection against common failure modes, including micropitting and bearing wear. The product offers distinct advantages over conventional gear oils, particularly for product life. Field trials have shown it has up to four times the oil life of conventional mineral oil-based products, which enables the intervals between maintenance to be extended. The lubricant also gives excellent wear protection and is designed to reduce micropitting wear on gear teeth, which helps to extend the life of gearbox components and prolong operation.

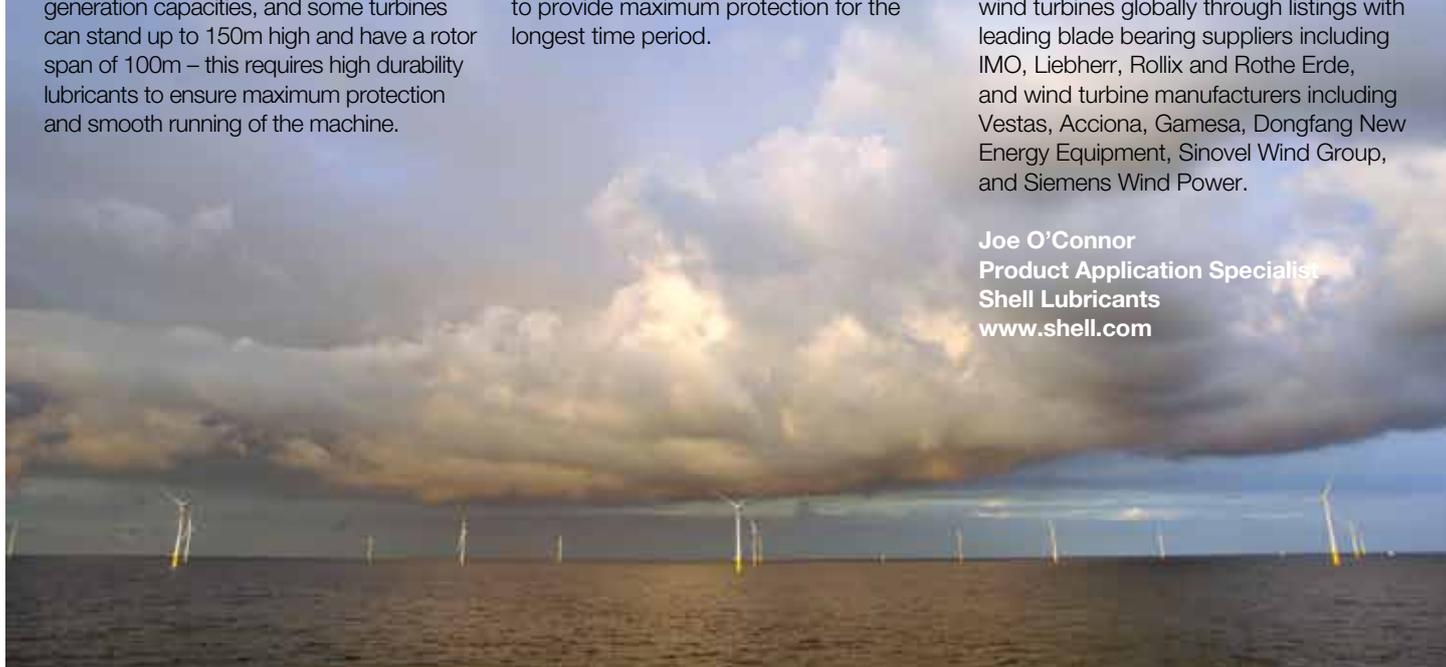
A wind turbine's lubricant-related challenges are not limited to the gearbox. The massive blades of a wind turbine are supported using grease-lubricated blade bearings that, if insufficiently lubricated, can fail through fretting and false brinelling. Again, the lubricant must be able to operate at temperature extremes and have corrosion-protection qualities.

SHELL RHODINA BBZ GREASE

In reaction to this Shell formulated another lubricant from their experience in developing greases for helicopter rotors: Shell Rhodina BBZ grease. This is designed to protect bearings against fretting corrosion, moisture contamination, and false brinelling at temperatures as low as -55°C.

Shell Rhodina BBZ is establishing a track record with both customers and major wind turbine manufacturers. It is lubricating the blade bearings of many wind turbines globally through listings with leading blade bearing suppliers including IMO, Liebherr, Rollix and Rothe Erde, and wind turbine manufacturers including Vestas, Acciona, Gamesa, Dongfang New Energy Equipment, Sinovel Wind Group, and Siemens Wind Power.

Joe O'Connor
Product Application Specialist
Shell Lubricants
www.shell.com



3M'S

INNOVATIVE APPROACH

The approach to innovation at 3M comes in a number of approaches and formats.

The latest Wind Blade Protection Coating is one of many technologies leveraged from the company's core competencies in the fields of films, adhesives and coatings and the inventive power of its 40 plus technology platforms.

WIND BLADE PROTECTION COATING

Building on these key technologies platforms enables 3M to make innovative advances with new solutions for wind turbines, specifically for the blade surface and the blade structure. Adds Steven Powell, Business Manager for 3M Renewable Energy Division in the UK, "This has enabled 3M to develop new solutions such as the new Wind Blade Protection Coating to improve resistance to erosion, a key industry need as blades are getting longer, with higher tip speeds and increasingly deployed in more challenging environments".

The development of this new Blade Protection Coating started with the objective of having a liquid erosion protection solution with superior product performance compared to existing coating solutions, combined with ease of application.

WIND BLADE PROTECTION TAPES

Another path to innovation for 3M is to tune in to industry needs and challenges and adapt already existing products from other markets it serves. An example of this was the Wind Blade Protection Tapes adapted from over 40 years of experience in the aerospace market, protecting aircrafts and helicopter rotor blades. "Even moderate erosion and pitting can lead to increased drag, decreased lift and a reduction in Annual Energy Produced (AEP) of around 4% to 10% and up to 20% when delamination occurs. This means lower output and returns for the asset owner unless preventative maintenance steps are taken", adds Powell.

WIND BLADE BONDING ADHESIVE

Another driver of innovation can be responding to industry needs such as the need for more reliable and cost effective solutions, helping Wind to compete more effectively with other established energy sources. The development of the Wind Blade Bonding Adhesive is an example of this and can help improve crack resistance and can save up to six hours cure time in the mould for blade manufacturers, helping to improve efficiency in the manufacturing process.

3M
www.3m.com



REDUCING THE RISKS OF WINDPOWER PROSPECTING

Helikites are extremely steady, very tough, all-weather aerostats. Aerodynamic Helikites are actually pushed up by the wind, rather than pushed down. They are excellent at operating at sea and for measuring meteorological data at high altitude, for long periods.

They have successfully operated from anchored barges, survey ships, naval ships, high-speed ribs, and USV's. Helikites have flown from all types of vessels, above the Arctic Ocean, South Atlantic, Pacific, Caribbean, and many other seas.

Comparisons between Met-Masts Met-Helikite Aerostats

MET-MAST

- High installation cost (£5M - £10M).
- Unreliable data collection due to mast sway
- Equipment failure due to infrequent maintenance.
- Slow installation creates construction-window risks.
- Immobile site creates risk of incorrect sensor positioning.
- Small number of sites gives high risk of incomplete data.
- Loans for mast construction create interest-rate & repayment risks.
- Health and Safety mast construction risks.
- Health and Safety mast transport risks.
- Health and Safety mast maintenance risks
- Damage to maintenance boats accessing masts platform.
- Collision risks to sea traffic
- Environmental risks during construction and placement.

HELIKITE

- Low installation costs (£0.2M)
- Steady, reliable Helikite aerostat platform gives excellent data.
- Easy access to Helikite barge allows frequent maintenance visits.
- Instant installation eliminates construction time risks.
- Helikite can be moved easily to ensure correct placement.
- Fifty Met-Helikites can be sited for one Met-Mast. Much more data.

- Minimal upfront cost greatly reduces repayment and interest risks.
- Met-Helikite construction is all on-shore with no risks.
- Met-Helikites can be easily transported on a boat with negligible risk.
- Met-Helikites can be brought onboard ship for maintenance.
- Maintenance boat cannot be damaged by tiny, soft, Helikite barges.
- Helikite barges have soft surrounds so as not to damage boats.
- No environmental risks with Met-Helikites.

data from the altitude sensor and then commands the winch, via the radio-link, to let out, or take in, flying line. This keeps the Met-Helikite at the same required altitude - with 1 metre tolerance.

Wind-turbines do not operate above 50 knots, so wind speed data is not required for winds over this. If the wind speed goes above 50 knots, then the microprocessor on the Helikite sends a message to the winch on the barge, to command the winch to bring the Helikite down safely onto its Helibase on the barge, to await less powerful winds.

7 FOOT BARGE SPECIFICATIONS AND EQUIPMENT

- Multiple anchor chains to sea-bed
- Helibase launch pad for Helikite
- Remote-control electric winch
- Meteorological sensors
- Data recording
- Battery charged by solar panels
- Iridium satellite link.



Worldwide, Helikites have been lifting meteorological equipment for many years. Recent work done has been done by a working group in Germany to compare the results between sensors on Met-Helikites and on adjacent 50 metre tall Met-Masts. The results are favourable and lead to the conclusion that a Met-Helikite is a good substitute for a fixed mast.

MET-HELIKITE DEPLOYED FOR WIND PROSPECTING

Met-Helikite can fly steadily in winds from 0 - 50 knots however there will be slight differences in line angle at different wind speeds. In order to keep the height of the Helikite the same, whatever the wind speed, the microprocessor obtains

4M BARGE LONG MET-HELIKITE AT OVER 100M+ ALTITUDE WITH MICROPROCESSOR, RADIO-LINK TO THE BARGE AND SENSORS TO MEASURE:

- Wind speed
- Wind direction
- Air temperature
- Barometric pressure
- Altitude (to 1 metre)
- Relative Humidity
- Dew-Point

Allsopp Helikites Ltd
www.allsopp.co.uk

INNOVATION IN DESIGN AND CONSTRUCTION

Although offshore renewables is an industry in its infancy, significant innovation has been seen over the last four years in both design and construction.

COST REDUCTION

One area which has seen significant innovation and cost reduction is in the cable pull-in process and foundation interface design.



Historically, a j-tube would house the cable and route it from the hang-off point down to the seabed. From the aperture of the j-tube, the cable would be protected with retrofitted cast-iron split pipe and rock dumping would prevent scour developing which resulted in vulnerable, free suspended cable.

Although this method was relatively effective, it required up to three installation activities creating a lot of room for improvement and cost reduction.

DESIGN CHALLENGE

In 2008, Tekmar were presented with a design challenge to remove j-tubes from offshore monopile foundations and create an optimised solution for cable pull-in and protection over a 25-year design life. The key challenge was that without a j-tube, the cable was at risk of being permanently damaged during the pull-in process alone.

TEKLINK® CABLE PROTECTION SYSTEM

Tekmar consulted with experienced cable manufacturers and offshore installers and then developed the Teklink® Cable Protection System which has now been successfully installed in over 8 operational Offshore Wind Farms (OWF), with a further



9 OWFs currently in the installation, design or engineering stages.

SIGNIFICANT COST SAVINGS

This solution saw significant cost savings by removing the j-tubes and converted up to three installation activities into one single activity as the Teklink® Cable Protection System is installed during the main cable pull-in operation.

The cost savings in removing j-tubes alone on a wind farm with 100 turbines is estimated to be over £5m, a significant figure which, when added to the reduced installation activities, could be expected to more than triple.

Tekmar Energy
www.tekmar.co.uk

HUTTON'S HELPS IMPROVE EFFICIENCY OF WINDFARMS

Harbour Chandlery Marine Services, the new renewables division of Hutton's, is pleased to announce it has been appointed as sole UK and Ireland Distributor for the Bladezil Wind Turbine Cleaning System to both the offshore and onshore wind power market sectors.



HCMS will be responsible for the marketing, sales and distribution of this new advancement in cleaning technology.

PRODUCT DEVELOPMENT

The specially formulated cleaner was developed by Ensearch to clean wind turbine blades. However, the Bladezil Wind Turbine Cleaning System can also be used with equal ease on turbine towers.

Bladezil is friendly to the

environment since it is biodegradable and complies with EU Registration, Evaluation, Authorisation and Restriction of Chemical (REACH) regulations.

When diluted, Bladezil is sprayed on to the blade, using a back-pack if necessary, gradually working down the fin. The product, loosens dirt and contaminants without damaging the blades and is then spray-washed off with clean or sea water. Bladezil penetrates and loosens contaminants from blade surfaces including deposits which may have eaten into the surface and become time, weather or sun hardened such as airborne pollution, mould and mildew, adhered dust, salt, oils and petroleum deposits and bird droppings.

Hutton's sales manager Jon Hickey said: "Cleaning wind turbine blades using Bladezil can save two per cent in efficiency which can amount to millions of pounds worth of power generation over a year!"



DESIGNED FOR THE TASK IN HAND

The highly concentrated, low-viscosity liquid is designed to meet the challenging task of cleaning in a vertical position, usually in a roped support and often in high winds. Bladezil can also be applied via the new automated cleaning systems currently on the market and in development.

Harbour Chandlery Marine Services will also be distributing a wide range of biodegradable products from the same innovation team at Ensearch.

Hutton & Co. (Ships Chandlers) Ltd
www.huttons-chandlers.com

FTL TECHNOLOGY OFFERS SEALING SOLUTIONS FOR WIND TURBINES

PRODUCT PROGRAMME FOR WIND TURBINES

Well proven radial lip seals, specially designed for wind turbines are available in NBR, HNBR and viton materials.

Seals are available from Ø200 to Ø1,700 diameter, and dimensions up to Ø3,000 can also be manufactured through a special jointing process.

For offshore applications, seals are also available in NBR or HNBR with corrosion-proof Aramid Fabric, to resist aggressive media, including ozone and salt water. Potentially, seals from their standard programme can be equipped with a leakage sensor.

PROFILE RINGS - THE SPECIAL SOLUTION FOR PITCH AND YAW BEARINGS.

Their profile rings are batch vulcanized in a unique manufacturing procedure and offer lasting advantages over glued rings, and offer extended lifetimes, low torques, high resistance, and secure installation

for the wind industry. They also offer the profile programme in length form, for maintenance and repairs. Other products available for wind turbines include...

- Magnetic Filters
- Hydraulic Seals
- Hydraulic Accumulators
- Rings
- Special Sealing Products
- Vibration Control Mountings

SERVICE PROGRAMME FOR WIND TURBINES

Much of FTL Technology's expertise involves the re-specification of sealing systems where the performance is less than satisfactory, in arduous applications. Many companies can offer alternative seals but few offer an investigation of the problem from first principles and a completely engineered solution.

They take a 'hands on' approach to sealing problems, and offer optimised solutions in areas where leakage had become an accepted inconvenience. Split and jointed seals can be fitted 'in situ'.

FTL Technology
www.ftltech.co.uk

e = See enhanced entry online





www.deepeacegroup.com

DEEPOCEAN

formerly:
CTC Marine Projects



We are dynamic and pioneering...

delivering innovative services and technologies for the subsea industry - from Teesside

- SURVEY AND SEABED-MAPPING
- SUBSEA INSTALLATION
- SEABED INTERVENTION
- INSPECTION, MAINTENANCE & REPAIR (IMR)
- DECOMMISSIONING

INNOVATION TO MORE ACCURATELY ASSESS THE IMPACT OF WIND TURBINES ON AVIATION STAKEHOLDERS

Aerostat Surveys Ltd is a new company that hopes to change the way the impact of many wind turbines on aviation is assessed through the innovative use of technology.

FORMER QINETIQ AND CAA AIR TRAFFIC SYSTEMS ENGINEER ADRIAN CLOUGH, EXPLAINS...

It is not uncommon for those in the wind energy sector to come up against objections to planning applications from Aviation stakeholders, and these issues can sometimes be 'show stoppers'. Wind turbines have the potential to cause significant problems for aviation stakeholders; they can interfere with radar, navigation and communications systems, or present a physical obstruction that impinges upon an airport's safeguarded volume of airspace.

CONSTRAINTS, COST AND COMPLEXITY

Whilst flight paths can be changed, radars repositioned, and aircraft re-routed around wind turbines, all of these solutions present aviation stakeholders with additional constraints, cost and complexity. There are cases where the above solutions have been implemented, however as a rule, many aviation stakeholders are concerned about the need for a consistent approach to wind turbine planning applications that does not result in their own operations being compromised.

AIRPORT PROXIMITY

For proposed turbines that are more than 15km from an airport, any objection is likely to stem from a belief that the wind turbine will be 'visible' to aeronautical radar, navigation or communications facilities. The aviation stakeholder will almost certainly have used a software tool to predict the path loss between the aeronautical system (e.g. primary radar) and the proposed wind turbine structure. This in turn enables the strength of the aeronautical signal incident on the wind turbine's structure to be estimated, and any consequential effects (e.g. clutter, bearing errors or shadowing etc.) to be quantified.

COMPUTER MODELS

The problem with computer models is that they are only as good as the information they are given. For example, all digital elevation models have a limited resolution and can 'miss' some of the high spots along the signal path. In the real world, there are literally thousands of additional physical objects (buildings and structures, foliage, vehicles etc.) and other factors such as the actual performance of an installed antenna (rather than the manufacturer's specification) that can influence the amount of signal reaching the wind turbine.

However, aeronautical stakeholders using a computer model to determine whether a wind turbine will be visible to aeronautical systems will not be concerned about such factors, as the result provided will be suitably conservative – in other words, these assessments should predict more signal than would exist in the real world. Whilst this may not be a problem for aeronautical stakeholders, the problem with this approach is that there will inevitably be objections to some wind turbines that if built, would not be 'visible' to aeronautical systems as a result of real world factors. At the same time, if incorrect parameters are used in the modelling, it is also possible for predictions to be overly optimistic, and this can lead to problems downstream for the aviation stakeholder.

AEROSTAT SURVEYS' SOLUTION

Recognising the limitations of desktop radio propagation modelling assessments, Aerostat Surveys has developed an innovative way to measure the actual strength of aeronautical signals at a given point-in-space, thereby ensuring that all factors are taken account of in the assessment.

Extremely lightweight signal measurement equipment is carried by a small tethered helium balloon to heights of up to 500 feet above the site of the proposed wind turbine. Precise data relating to the frequency and magnitude of signals measured is then fed down to the ground via a fibre-optic cable, where it is stored and subsequently analysed. In addition to the signal data, we also use GPS to monitor the balloon's position, and a barometric altimeter to provide height information in real time.

By knowing the signal strength at a given location with a high level of certainty, aviation stakeholders will be in a far better position to assess the impact of a proposed wind turbine, and developers will have greater visibility of the constraining factors. Because measurement is better than prediction, we firmly believe that this approach will help all stakeholders understand the issues, and work together to find mutually acceptable solutions.



Aerostat Surveys
www.aerostat.co.uk

PROTECTING INNOVATION AND IDENTITY THROUGH INTELLECTUAL PROPERTY

COMPANIES IN THE ENERGY SECTOR, AND THE WIND ENERGY SECTOR IN PARTICULAR, INVEST A SIGNIFICANT AMOUNT OF TIME AND MONEY IN DEVELOPING NEW PRODUCTS AND PROCESSES.

These innovations can help to distinguish one company from the competition, and drive the industry forward, and it is important that these companies consider protecting their investment.

EXPERIENCE

Dummett Copp LLP are a firm of Patent and Trade Mark Attorneys based near the Suffolk coast. They have particular experience in the renewable energy sector and have been on the judging panel for the East of England Energy Group (EEEGR) Innovation Awards for a number of years. They are able to advise on all aspects of intellectual property including obtaining patent protection for innovative new products and registering brand names as trade-marks.

PATENTS

Patents can be used to protect ideas or inventions of a technical nature. These innovations may not only lie in the equipment used to harness and generate energy, such as wind turbines, but may involve control systems, associated safety or monitoring equipment or methods of installation, and often an invention will consist of an improvement to a known product or process.

A granted patent gives the owner exclusive rights over the invention and allows the owner to take legal action against anyone who uses the invention without their permission. Patent protection can, therefore, provide a monopoly right, which will give any business an advantage in an increasingly competitive market place. In addition, a patent is a property right which can be bought and sold, or licensed to another company, and which can form a key part of the assets of a company.

TRADE MARKS

Companies may also consider registration of their company name or product name as a trade mark. A trade mark gives brand recognition and helps guarantee the origin and quality of goods or services. Registering a trade mark gives the owner the exclusive right to use the mark for the goods or services for which it is registered, and allows them to take action against another company who is using a mark that is the same as or is confusingly similar to their trade mark. A registered trade mark may, therefore, be a valuable asset to a business.

DUMMETT COPP LLP
www.dummett.com



Offshore Wind. Delivered.

With over 200 turbine installations to date, Seajacks has the knowledge, experience and people to ensure your wind farm project is installed successfully and safely.

seajacks

For more information on Seajacks and the services we offer, call +44 (0) 1493 418070 or email info@seajacks.com

seajacks.com

NEW-GENERATION CLX CHAIN HOIST FROM KONECRANES

Speeds up the work cycle and maintenance work, improves security and doubles the service life of the machine.

Summer 2012 sees Konecranes introduce a new-generation, cutting-edge CLX electric chain hoist that will reduce the operating temperature, enable larger load capacity and double the life cycle of the machine. The new chain hoist is a modern and completely redesigned version of the company's previous chain hoist.

Not only does the CLX chain hoist contain new technology; it also incorporates new innovations to speed up and facilitate operations by the end-user.



VERSATILITY AND DURABILITY

The new, steel-framed and sturdy CLX chain hoist is particularly suitable for individual workstation applications, such as assembly cells in a process industry.

Other applications include jib cranes, track systems and monorails and EOT cranes. The particularly sturdy structure of the hoist enables a larger load capacity, while doubling the life cycle of the machine compared to the current hoist. The durability of the lift chain was also a key element in the design. The patented chain sprocket dramatically improves the durability of the chain.

REDESIGNED TRANSMISSION

The chain sprocket's transmission has been completely redesigned. The new, oil lubrication-based transmission reduces the operating temperature, enabling increased power. Furthermore, the new transmission is maintenance-free and much quieter to operate. The new transmission increases the speed ratio between low and fast speeds.

The new 6:1 speed ratio enables a safe and accurate installation speed and an extremely fast movement speed. The wider speed range makes the CLX chain hoist 25% faster than its predecessor, which helps speed up the work cycle and improves work efficiency.

EASY MAINTENANCE

All components that require maintenance are easily accessible and do not require the removal of any parts. All electronics are located compactly on reliable circuit boards, minimising the amount of internal wiring. The new design solution makes maintenance work significantly easier and faster.

SAFETY

The safety functions have been integrated into the standard characteristics of the hoist. For example, the brake and the clutch have been installed on the same axle preventing the load from dropping even if the clutch fails for some reason. This feature takes the safety of the CLX chain hoist to a completely new level.

INCREASED TEMPERATURE RANGE

The designers at Konecranes have managed to increase the temperature range of the CLX chain hoist; it now operates from -20 degrees to +50 degrees.

The new-generation CLX chain hoist has been designed to be energy efficient, and it meets all the requirements of the RoHS Directive. The hoist's circuit boards do not contain any hazardous materials such as lead used in soldering material; just one example of the hoist's eco-friendly features.

AVAILABLE SPECIFICATIONS

Three versions of the CLX chain hoist will be introduced initially: Type CLX02 with a lifting capacity of 63-320 kg, type CLX05 with a lifting capacity of 250-630 kg and type CLX10 with a lifting capacity 500-2500kg.

Konecranes
www.konecranes.co.uk

HEIGHTEC

RAISING THE STANDARD WITH THE CYCLONE PRO LOCKING PULLEY

heightec have worked closely with height safety and rescue professionals within the onshore and offshore renewable industry for over 15 years and provided RenewableUK accredited training for over four years.

RECURRING ISSUE

A recent recurring issue has been the difficulty offshore technicians experience when moving relatively light loads from the deck of the transfer vessel, up onto the deck of the Transition Piece (T.P.).

SOLUTION

As designers and manufacturers of specialist technical work at height and rescue equipment, heightec set about designing a cost effective solution to this manual handling and lifting issue, with the aim of reducing the risk of dropped loads onto the vessel and crew below.

Simplicity, performance and ease of use were specific requirements in the design of the Cyclone Pro. Within six months they had conceived, designed, tested and manufactured the Cyclone Pro Locking Pulley.

FEATURES INCLUDE...

- Stainless steel for strength and corrosion resistance
- Simple clean design for ease of rigging
- Low friction integrated pulley wheel
- Utilises our unique X-Cam™ locking mechanism
- 100kg working load
- For use with 10.5 mm to 11.0 mm diameter rope
- Lightweight and portable

The stainless steel Cyclone Pro locking pulley has patented X-Cam™ technology and is designed to operate in the hostile offshore environment. It provides a safe, quick and cost effective means to lift loads of up to 100kg safely from vessel to turbine.

INNOVATIVE NEW DESIGN

X-Cam™ is a completely new design giving a considerable improvement over “traditional” sharp too cams. The X-cam has exceptional grip without causing damage to the rope, yet has improved ability to remove the device from the rope after loading. It will never jam, even when pushed hard against a knot.

There are now hundreds of Cyclone Pros on wind farms in and around the UK, making the day to day task of lifting personal equipment from vessel to T.P. quicker and more safely than before, reducing the risk to all involved.

SPECIFICATIONS

From its initial development for offshore applications the Cyclone Pro has become a firm favourite. It is now also used widely onshore for lifting equipment in areas inaccessible by the WTG crane or hoist. This allows technicians to perform safe and controlled lifting operations in restricted spaces and unusual places.

Simplicity, performance and ease of use were specific requirements in the design of the Cyclone Pro.

MINIMISING COSTS

Training in the use of the Cyclone Pro is very simple and the running costs are virtually nil. It is also flexible enough for situations where an electric hoist is either impractical or dangerous. Being highly transportable the Cyclone Pro is a very cost effective solution to electric hoists.

In this economic climate, minimising costs is paramount and, if the renewable industry is to continue its rate of growth, even the smallest of savings matter.

The heightec Group Ltd
www.heightec.com



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+44 (0)3333 441113

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LAUNCH OF TWO NEW EXCITING PRODUCTS TO ASSIST IN THE SAFE TRANSFER OF PERSONNEL DURING OFFSHORE WIND FARM OPERATIONS

VESSEL MOTION MONITORING SYSTEM™ (VMMS™)

VMMS provides accurate motion monitoring, improves safety during vessel transfer operations and offers impact load measurement combined with additional data logging capability.

ECO-FENDER™

Eco-Fender™ provides enhanced turbine transfer performance and safety. High quality, in-house developed solutions using the proven technologies and capabilities of companies within James Fisher and Sons plc – developments that

An accurate motion monitoring system can increase the operational window considerably during critical operations by allowing the user to monitor all motion parameters rather than relying on significant wave height as the main limiting factor.

IMPROVES SAFETY LEVELS

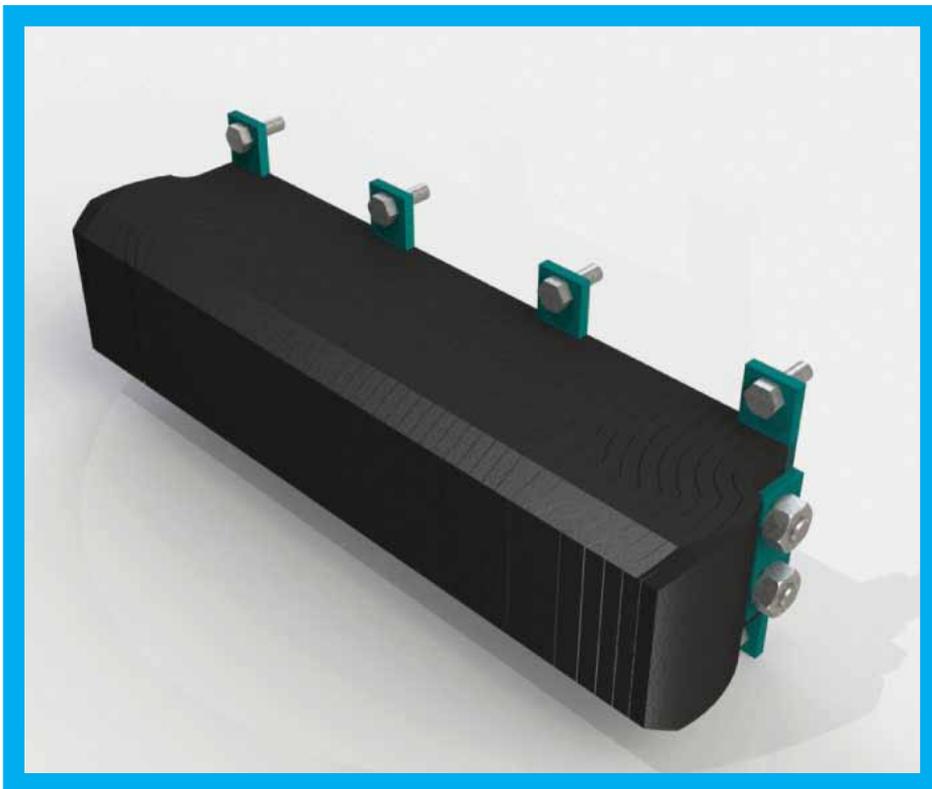
The VMMS™ can significantly improve safety levels during critical operations and can also be used as a dedicated health and safety tool, as it collects data for statistical purposes as well as accident investigations. When transporting personnel from shore to the work site (or between work sites) the motion trend displays can be used by the master to quantify vessel motions, enabling more effective changes in course and speed to be made to mitigate against seasickness.

During docking operations and the offloading of personnel, the displays can be used to monitor heave levels and provide warning to the master when pre-set danger limits are about to be reached. All transfers can then be halted until conditions improve in order to safeguard personnel and avoid damage to vessels or equipment.

“The VMMS™ system marks a significant step forward in the development of our marine services business, demonstrating that we have the scale, technology, expertise and reach to deliver value added solutions to the offshore wind sector,” said Fendercare Business Development Director Martin Dronfield. *“Moreover, it also exemplifies the unique and innovative approach of James Fisher and Sons based on over 165 years as a vessel owner and operator and leading provider of marine services worldwide”*

ECO-FENDER

The new Eco Fender™ range has been designed with Maritime International specifically with one aim – to enhance the operational ability of wind farm access vessels. By substantially increasing the grip levels between the vessel bow fender and turbine fender tubes, the Eco-Fender™ promises to revolutionise crew



further underscore the commitment they give to the offshore wind sector

Fendercare Marine and Strainstall, members of James Fisher and Sons plc, in conjunction with Maritime International have launched these two new exciting products both specifically targeted to assist in the safe transfer of personnel during offshore wind farm operations.

VMMS

VMMS will provide accurate motion monitoring during wind turbine transfer operations offshore. Vessel motion is the main safety factor when transferring personnel from shore to wind farm & turbines.

transfer safety, allowing a much more stable and reliable platform to work from in extreme sea conditions, without having to make costly modifications to existing vessels.

RECYCLING

All products within the Eco-Fender™ range are produced from recycled truck tyres, thereby reducing dependence on virgin rubber products, alleviating landfill and saving usage of oil.

DEVELOPMENT

Based on 60 years of experience with tugs, barges and workboats, the Eco-Fender™ range has been developed with the following criteria in mind...

- Significantly increased friction coefficient over existing materials and systems
- Economically competitive to existing systems
- Lighter than conventional extruded rubber bow fendering
- Increased durability over existing systems
- Quantifiable performance (energy absorption and reaction force)

The first products within the Eco-Fender™ range are currently being tested. The Vessel Motion Monitoring System™ is immediately available with both products already experiencing a high level of demand.

Tim Smith, Business Development Manager, Sustainable Energy Team commented *“Given the current industry-wide debate about windfarm transfer safety improvement, these two systems hold the capability to transform the industry.”*

A GLOBAL SUCCESS STORY FOR THE UK MARINE INDUSTRY

James Fisher has grown rapidly over the past decade as its leading divisions, including Fendercare Marine and Strainstall, have been able to exploit the synergies of product, service and technology made available through the company’s acquisitions and subsequent organic growth.

Fendercare Marine alone has grown its revenues in excess of ten-fold over the past decade and it is targeting significant further expansion through its ability to deliver exceptional quality of products and service, encompassing the unique skills

and expertise available across the global James Fisher organization.

“Our aim is to provide the most innovative products and effective services, according to the highest standards of environmental protection and safety, that create value for our customers operating in the marine environment in all parts of the world,” said Group Business Development Director Jim Hey.

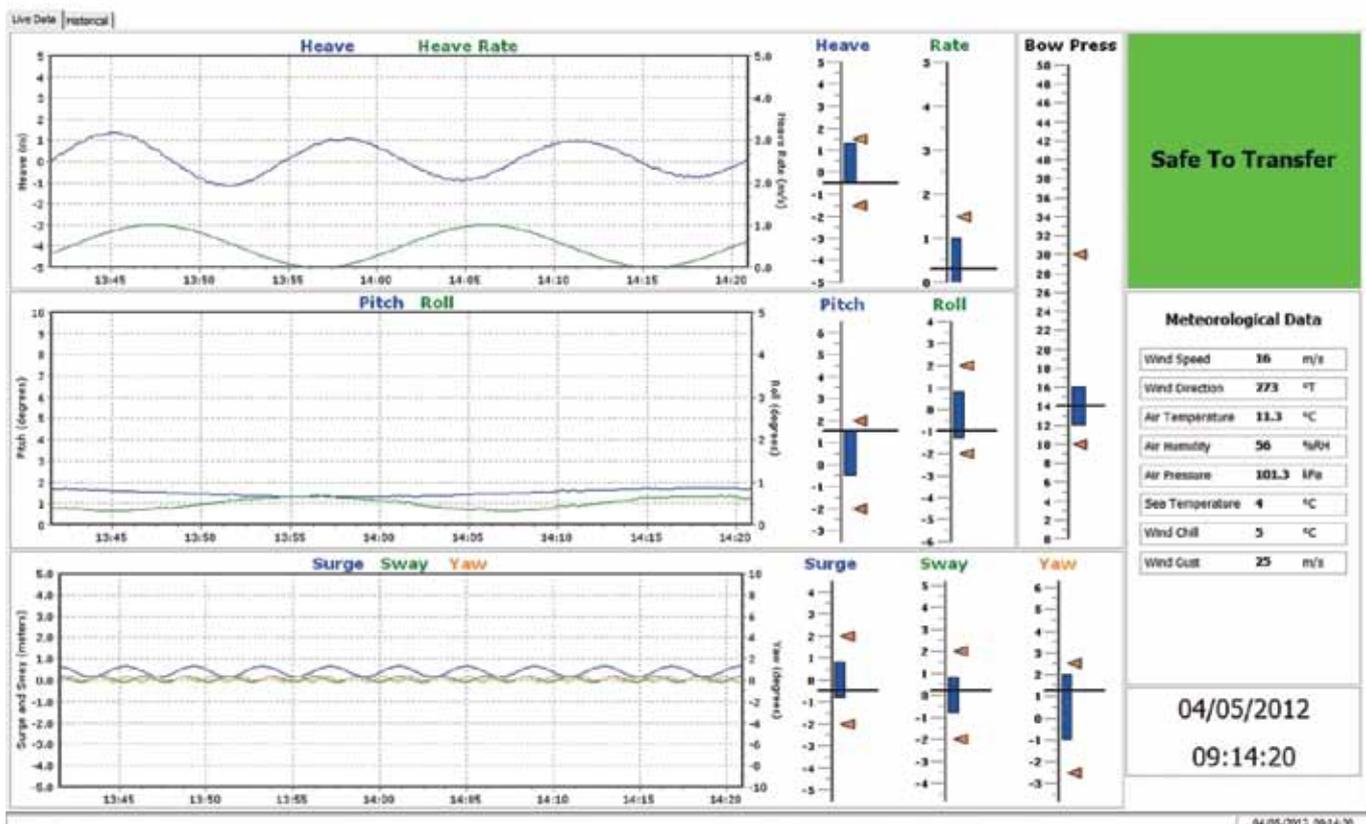
“With our portfolio of marine technologies, operational expertise, capability, facilities, and our ability to offer packaged solutions according to precise requirements, we believe that our innovative and flexible approach can make a significant contribution to realising cost effective and safe off-shore wind and marine energy programmes”

James Fisher and Sons plc
www.james-fisher.co.uk

Strainstall
www.strainstall.com

Fendercare UK
www.fendercare.com

e = See enhanced entry online



IS YOUR SYSTEM SAFE? IS IT RELIABLE?

Wind farm operators are aware that good reliable systems are needed to ensure all aspects of running and maintaining wind farms are safe and efficient. However, it is also necessary to understand engineering hazards associated with the plant and process systems. By systems, we mean process and power systems such as oil, gas, chemicals, electrical power, lubrication, cooling etc. It is important to understand and recognise the hazards that could make these systems fail. Therefore, safeguards to reduce these risks can be built into the design, thereby reducing risk to the health and safety of operators and maintenance crews, the environment and the plant and process of the asset.

NEWCASTLE CHAMBERS OF ENGINEERING

NCOE employ the investigative tools to determine the hazards and reduce risk on a regular basis. As part of the design process it is also necessary to ensure the safeguards are reliable and fit for purpose. The safeguards when determined are checked usually by reliability analysis.

IMPORTANT CONSIDERATIONS

Three important considerations for those involved in an engineering system design, whether for an offshore oil & gas installation or wind farm, are...

- Has the system a potential to harm people – this is considered as safety?
- Has the system a potential to cause harm to the environment?
- Does the system carry commercial risk?

HAZOP STUDY

Generally the starting point for a project safety review is a HAZOP study. This identifies hazards and operability problems through credible deviations from the design intent. The methodology is based on parameters and guideword examination of the plant or system i.e. no pressure or high pressure, etc. This is an important step in ensuring that possible hazards have been recognised

FUNCTIONAL SAFETY

Functional Safety is not about slips and trips but about dynamic active systems and reducing the risks associated with them.

Following a HAZOP study, the three considerations mentioned above are further investigated and mitigated against by the use of functional safety assessment methods. This methodology has been driven by the UK and international safety organisations. The investigative methods used are also very effective when used to investigate risk reduction for environment and commercial risk.

NCOE has more than 10 years experience in this field. In the last few years we have increasingly used the methodology on volatile hydrocarbon systems but also on electrical power networks. This is mainly because of the increased use of microprocessor controlled systems, such as power surge protection and short circuit protection systems.

INTERNATIONAL STANDARD

Since the 1990's IEC61508 - Functional Safety of electrical/electronic/programmable electric safety related systems has become an international standard, since its emergence this has been combined with hazard and operability investigative studies to become the driving force for the analysis and consequential improvement in system reliability and availability of the dynamic active systems.

INDUSTRY GUIDELINES

NCOE uses key industry standard references for determining the Safety Integrity Level (SIL) specification. Our analysis of electrical power distribution networks include guidelines from...

- IEEE - Guidelines 493-2007
- Energy Institute, London - Guidance on Assessing SIL of Electrical Supply Protection.

These guidelines refer to the risk associated with safety of people and this has always been at the forefront of engineering oil & gas processes and structures. Alongside this, and just as important are environmental risks and commercial risks. This must also become the case for wind farm systems.

FUNCTIONAL SAFETY – LIFE CYCLE PROOF TESTING

The life cycle maintenance and management concept is raised in IEC61508 and is a further feature of Functional Safety. NCOE build these aspects into the design completion, implementation and commissioning process. This requires a register that details all safety critical items which must be maintained during their lifecycle.

Safety issues and mitigating against risk has to be considered very seriously at all times. This should always be included as an activity during any FEED or detailed engineering phase of a project and during the whole life cycle of a plant or installation.

The NCOE consultancy group manages all aspects of hazard and safety analysis when project managing and engineering new and modified systems.

Newcastle Chambers of Engineering
www.ncoe.co.uk

e = See enhanced entry online



RAMORA UK LAUNCHES NATIONAL EXPLOSIVE SAFETY SCHEME (NESS)

Ramora UK, a leading Explosive Ordnance Disposal (EOD) company, has launched the National Explosive Safety Scheme.

BEST PRACTICE

Having already helped to develop and implement official explosive related procedures which are accepted as best practice throughout the industry, Ramora UK is now offering its expertise 24 hours a day through NESS.

NESS

The scheme will equip companies with the knowledge and capability to be prepared for any incident involving explosives, through advice, training and the delivery of practical EOD/bomb disposal services by Ramora UK's specialist EOD teams.

MEMBERSHIP

There are three levels of NESS Membership - Bronze, Silver and Gold - each designed to accommodate the specific EOD requirements of individual clients. But all levels offer a discount on EOD services including a training package, access to a 24/7 Emergency Response Helpline and Time Expired Pyrotechnic (TEP) storage as well as a range of free-of-charge services.



TEP STORAGE RENTAL SOLUTION

An additional option to the Membership is the NESS TEP Storage Rental Solution which provides everything that you need to store TEPs safely and legally. This includes licensing, training and access to an easy to use online Miscellaneous Pyrotechnic Accounting System (MPAS).

"We believe that NESS represents a significant initiative for our industry" commented David Welch MIEPE, Managing Director of Ramora UK. "The threats posed by Unexploded Ordnance affects businesses across a wide range of industries, but accessing the services they need to prevent and/or deal with the problems is not always as easy as it should be. NESS is really going to help them do that."

Ramora UK
www.ramora.uk.com

PARTNERSHIPS/CONSORTIA AND WORKING TOGETHER

A FOCUS ON THE RES GROUP AND TIDAL TRANSIT

Yet again we find companies and organisations seeking to work together to ensure successful project outcomes whether large or small.

Over the last few months we have experienced many and have selected 3 such projects which are perfect examples demonstrating the need to work together.

- 1 RES Group's official celebration of the launch of 'Eden Rose' one of Tidal Transit's transfer vessels at Grimsby
- 2 Tidal Transfer and Sheringham Shoal partnership
- 3 Iberdrola-Eole-RES Consortium secure French Government contract

RES GROUP'S CELEBRATION LAUNCH OF 'EDEN ROSE' VESSEL IN GRIMSBY

This event was jointly sponsored by Port of Grimsby East and RES which gave invited guests an opportunity to view one of the very latest offshore wind farm access vessels, "Eden Rose".

The Eden Rose was launched in April 2012 and is a sister vessel to the Ginny Louise which visited Grimsby earlier this year. She was chartered by RES to visit a metrological mast situated more than sixty miles offshore, as such she has to be classified as a Class 1 vessel.

As well as Grimsby Renewable Partnership members, the invite extended to local authority members, LEP members and MPs. There was plenty of time available for networking and short presentations were given by RES/POGE and GRP.

OFFICIAL PRESENTATIONS

Following a very interesting on-board visit to 'Eden Rose' Chris Holden, RES Offshore Operations Manager opened the proceedings thanking those present for attending the GRP event sponsored by RES and Port of Grimsby East and celebrating the fact that this is a significant milestone in the journey of Great Grimsby's role in the O&M area of Offshore Wind.

SPECIAL THANKS

Chris publicly thanked and asked the assembly to toast Winston Phillips on his work to get GRP where they are today.

SMART WIND MET MAST

Prior to this gathering a team of RES engineers and contractors sailed to the SMart Wind met mast. The mast is situated over 60 miles offshore and needed to utilise a vessel known as Cat1 capable of safely operating at that distance from shore.

The Eden Rose, which is at the cutting edge of technology carried out this task. Adam Wright skippers Eden Rose. He is also a director of Tidal Transit and brings his skills from the fishing industry to the offshore wind industry.

UNNERVING EXPERIENCE

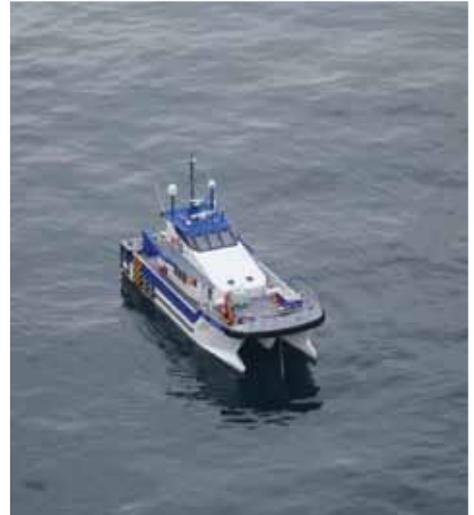
The RES team who visited the mast undertook a series of planned maintenance tasks including the replacement of a faulty aircraft warning light over 120M above sea level. The mast is a lattice structure which is designed to move slightly. At 120M above sea level the mast moves about 2M side to side. Even with all the fall prevention PPE, the experience is unnerving to even experienced climbers.

TRANSFERABLE SKILLS

Chris then went on to name many who have been involved in the fishing industry who would be well suited to the offshore wind industry to ensure the best services are provided for future customers and clients.

GREATER GRIMSBY

Greater Grimsby is already benefiting from the Centrica. R1 and R2 windfarms and survey work for Eon, RWE and Dong, who's offshore wind farms are due to commence construction shortly.



The importance of this visit to the met mast cannot be underestimated. This was the first ever maintenance visit to a North Sea Round 3 asset. It was operated from Greater Grimsby and it really puts them on the map, showing that Greater Grimsby is the place where Operations and Maintenance activities for any of the R1 R2 and now round 3 wind farms can be undertaken.

I personally, am very proud to stand here today and it gives me great pleasure to ask council leader Chris Shaw to join me.

COMMEMORATIVE TANKARDS

To mark the occasion Chris asked those involved in this first feat of many which will be experienced in Round 3 he gave out commemorative tankards to Adrian White, Mike Smith, Tony Gell, Lisa Somercales and Gary Maddison from RES, Adam Wright from Tidal Transit, Roger Smith from POGE and Stuart Deans from Grimsby Rigging.

Chris rounded off the proceedings by toasting the achievement not only for RES, POGE, Tidal Transit but also for Greater Grimsby in building a solid and sustainable future.

RES Group
www.res-group.com

e = See enhanced entry online

TIDAL TRANSFER AND SHERINGHAM SHOAL TIDAL TRANSIT'S VESSELS LEAD THE WAY IN NORTH SEA OFFSHORE WIND

Scira Offshore Energy, the company developing the Sheringham Shoal Offshore Wind Farm (88 turbines between 9-17 miles off the coast of North Norfolk) is to chartering 'Eden Rose', one of Tidal Transit's innovative wind farm personnel and equipment transfer boats, to service the site development.

TIDAL TRANSIT VESSELS

The Sheringham Shoal Offshore Wind Farm is the third major offshore wind energy project to be supported by Tidal Transit vessels. Immediately after her arrival in the UK from Spanish ship builder, Mercurio Plastics, 'Eden Rose' went into operation for RES Offshore in Grimsby, servicing meteorological masts 60 miles out into the North Sea. Sister vessel 'Ginny Louise' is currently contracted to the SSE and RWE npower renewables partnership; this partnership is developing the 140-turbine Greater Gabbard Offshore Wind Farm off the Suffolk coast.

Both are state-of-the-art, high-specification, purpose-designed vessels for use by companies involved in the planning, development and construction of offshore wind farms in the Greater Wash and southern North Sea.

SCIRA OFFSHORE ENERGY

Einar Stromsvåg, General Manager of Scira Offshore Energy, said: *"Here at Scira, we are very pleased to welcome such a high specification vessel to our fleet, and are delighted that we can source this vessel from a local company."*



Tidal Transit is a fantastic example of a Norfolk based company which has positioned itself as part of the supply chain for the developing wind industry in this region."

TIDAL TRANSIT

Tidal Transit Commercial Director Leo Hambro is delighted with the company's progress since the first vessel, 'Ginny Louise', arrived in the UK in late December last year, saying...

"There are currently some 4,000 offshore wind turbines in the early stages of the survey and EIA process, waiting for planning consent or actually under construction in the Greater Wash and the southern North Sea. This is creating a strong demand for our no-compromise workboats which are specifically designed to serve the needs of the North Sea wind energy industry. These are greatly superior to the current fleet being used for the same purpose around the UK."

He added: *"The Sheringham Shoal development is widely seen as a 'pathfinder project' and we are delighted to now be working with the team at Scira Offshore Energy."*

Tidal Transit Limited
www.tidal-transit.com

Scira
www.scira.co.uk

IBERDROLA-EOLE-RES CONSORTIUM AWARDED 500 MW SAINT-BRIEUC OFFSHORE WIND PROJECT, FRANCE

Consortium creates project company, Ailes Marines (Sea Wings), to develop, build and operate 100 wind turbines in an 80 km² area off the coast of Brittany Project which will generate 2,000 jobs and help develop an offshore wind industry in France.

KEY ROLE IN DEVELOPING OFFSHORE WIND INDUSTRY IN FRANCE

The French Government has announced its decision to award the Iberdrola-Eole-RES consortium exclusive rights to develop a 500 MW offshore wind project in the area of Saint-Brieuc, off the coast of Brittany. The project is expected to generate 2,000 jobs and play a key role in developing an offshore wind industry in France.

CONSORTIUM

The offshore wind farm will be built some 20 km off the coast of Saint-Brieuc Bay in the French administrative area of Côtes d'Armor by the consortium led by Iberdrola and Eole-RES and including technology partners Areva, Technip and Neoen Marine.

AILES MARINES (SEA WINGS)

A Joint Venture company, Ailes Marines, or Sea Wings, has been set up to manage the project and subsequent operation of the site. Over the next 18 months, the consortium will analyse both the technical and environmental risk conditions of the site in order to conduct the project feasibility study.

In July 2011, France launched the first round of a tender process aimed at installing 3,000 MW of offshore wind capacity which involved the construction of around 600 wind turbines by 2018. The Saint-Brieuc offshore project covers a total area of 80 km² and comprises 100 wind turbines of 5 MW capacity each.

VOTE OF CONFIDENCE

Keith Anderson, Offshore Division Director of Iberdrola said, *"We have overcome tough competition and this decision is a vote of confidence for the Iberdrola-Eole-RES led consortium as well as a milestone in the creation of a permanent offshore industry for France. The development, construction and operation of this wind project will lead to the creation of 2,000 jobs, many of them based in North Western France, and give a significant boost to the economy in Brittany."*

RECOGNISING EXPERTISE

Jean-Marc Armitano CEO of Eole-Res said, *"This success recognises the expertise of the Iberdrola and Eole-RES consortium in the development and operation of wind energy projects. Our offer has met the government's requirements in terms of its industrial plan, energy price and environmental solutions."*

WORKING RELATIONSHIPS AND LOCAL SKILLS

One of the first tasks of the project company Ailes Marines will be to continue the working relationship with other legitimate users of coastal waters, the local communities and other key stakeholders.

The Iberdrola-Eole-RES consortium will also deploy local skills such as civil engineering, manufacturing and shipbuilding to create the required economic fabric and supply chain from the wind turbine construction stage to offshore operation.

The consortium partners will play a key role in the creation of a truly French offshore wind industry. Of the more than 2,000 jobs created in the development, construction and operational phases, mainly in North Western France, a significant part will be in Brittany. Wind farm operation and maintenance alone will generate 140 permanent jobs in Saint-Brieuc Bay for a minimum of 20 years.



Co-investors Iberdrola and Eole-RES, with the support of Neoen Marine, will jointly develop the offshore wind farm which will be operated by Ailes Marines. Areva Group will manufacture turbines at a factory in Le Havre and will also be responsible for their maintenance. Technip plans to create 300 new engineering jobs in Brittany for the installation of subsea cables, foundations and turbines. The consortium has also signed agreements with French companies STX and Eiffage to manufacture jacket type foundations.

IBERDROLA
www.iberdrola.com

EOLE-RES
www.eoleres.com

FT TECHNOLOGIES

MARKET LEADER IN WIND SENSORS

FT TECHNOLOGIES IS FOCUSED ON PRODUCING MARKET LEADING WIND SENSORS FOR TURBINE CONTROL. THEIR SENSORS ARE INSTALLED ON NEARLY A QUARTER OF ALL TURBINES WORLDWIDE AND ARE USED ON APPROXIMATELY 70% OF ALL OFFSHORE WIND TURBINES.

Their principle aim is to provide reliable data in demanding conditions to assist the wind industry in meeting its ever increasing targets.

ACOUSTIC RESONANCE MEASUREMENT PRINCIPLE

All their sensors incorporate Acu-Res technology which uses their patented Acoustic Resonance measurement principle. This technology enables them to produce a strong ultrasonic signal in a small space. The sensors are therefore small, have no moving parts and are extremely tough and their current range of sensors has passed over 28 environmental tests including hail, vibration, icing, drop, sand and lightning.

The sensors need to be rugged as they are exposed to the worst that the climate can throw at them and they have to be able to provide 5 readings per second every minute of the day – otherwise the turbine will shut down.

INVESTMENT

They pride themselves on the thoroughness of their engineering and the quality of their manufacturing processes and continue to invest in product development and are conducting leading edge research in to acoustics, transducers, aerodynamics, materials, coatings and environmental protection.



OGIES

HISTORY AND EXPERIENCE

FT Technologies was founded over 30 years ago and has just celebrated 10 years of being in the wind industry. The business originally concentrated on defence based research projects and in the early 1990s there was a military requirement for a wind sensor for ballistic meteorology with no moving parts. It had to be rugged enough to operate reliably on battlefield equipment.

With this in mind FT went on to produce and patent their first product that had a stainless steel body which was combined with other features that suited many military uses. It gradually became clear that the product's robustness made it ideal for the developing wind turbine industry.

The products are now manufactured from high grade machined aluminium and the design has been tested to the limits via Highly Accelerated Life Testing. The sensor has survived vibration at 30g and rapid temperature cycling between -100c and +100c.

Manufacturing such a tough product is essential for an industry that depends on the continual provision of reliable data, week in week out, in all weather conditions. The stronger the product, the less maintenance required and therefore the less down time for the turbine.

IMPRESSIVE CLIENT LIST

Our wind sensors are used by 12 of the 15 biggest turbine manufacturers in the world. Over the past four years, sales have increased by 100% allowing the business to expand and provide a better service to our customers, from Japan to the US and everywhere in between.

FT is continuing to invest in the technology to improve the overall reliability, performance and accuracy of the sensor.



FT Technologies
www.fttech.co.uk

e = See enhanced entry online



Marketing & F

AT THE RECENT GLOBAL OFFSHORE WIND 2012 CONFERENCE AND EXHIBITION, ORGANISED BY RENEWABLEUK, AND HELD AT EXCEL, LONDON, WE MADE OURSELVES KNOWN AS A COMPANY WHICH CAN OFFER MORE SERVICES TO CUSTOMERS AND CLIENTS THAN JUST A MAGAZINE AND WEBSITE.

This is just the start of our own marketing and rebranding exercise and can understand totally that this can be a daunting prospect.

FEATURE

We approached companies and organisations to give us words of wisdom based on their own experiences so that our readership can have more of an insight on what to expect.

The wind energy industry is fast moving and very exciting and we have therefore found many companies expanding very quickly, as well as others working together, forming partnerships and consortia to achieve successful outcomes.

This feature is therefore very relevant both now and in the future.

OUR PARENT COMPANY – GREEN ENERGY PUBLISHING LTD

Green Energy Publishing, as the title implies, is a publishing house which we own and your editor is the Managing Director. GEP is the parent company from which other products and services are offered.

The reasoning behind this came from your editor's experience of working for publishing houses. The more a publication became successful the more adverts filled the pages.

Don't get me wrong because publications are funded by promotion of products and services however it is my opinion, based on being a buyer most of my life, that if a publication becomes a book of adverts readers stop reading and therefore no one wins.

THE MARKETING MIX

Our advice, gained from years of knowledge involved in marketing, may be summarised as being best achieved by a mix of editorial, advertising and using online tools to catch the attention of the reader. The variety of methods and interesting ways offers interest, engagement and interaction.

The art of marketing, after all, is to get your information in front of your customer at a time when he is ready to learn more (or in a buying frame of mind).

DESIGN

We have been asked many times over the last three years to provide a design service which our readership may use. We believe this is due to the simplicity and stunning design used in our magazine and website.

We are pleased to introduce a full design service – from advert creation, website design, marketing collateral to a full company redesign. Please contact the sales team for a bespoke package creation.

GREEN ENERGY PUBLISHING LTD SERVICES

- **Wind Energy Network** – dedicated magazine, website, and supply chain register which is a communication hub for the industry and is a B to B publication specifically targeting senior decision makers
- **Wind Industry Careers** – dedicated website, online magazine and supply chain register of companies, organisations and training providers which specifically targets schools, colleges, universities and industries/armed forces to attract skilled people into the industry
- **Design** – dedicated in-house team offering website/magazine/promotional design including bespoke logo and branding

Green Energy Publishing
www.greenenergypublishing.co.uk

Rebranding

REBRANDING

A CASE STUDY

DeepOcean Group Holding aligns all divisions under the brand DeepOcean

SEVERAL MONTHS AFTER REBRANDING TO ONE COMPANY NAME, DEEPOCEAN CONTINUES TO BE AWARDED A STRING OF OFFSHORE WORK ACROSS THE BREADTH OF ITS SUBSEA SERVICES. NOW AS ONE INTEGRATED BUSINESS, THERE ARE FEW COMPANIES IN THE OFFSHORE INDUSTRY THAT PERFORM SURVEY, ROV, TRENCHING AND MARINE OPERATIONS TO THE EXTENT THAT DEEPOCEAN DOES AND EVEN FEWER COMPANIES HAVE THE EXTENSIVE PROJECT MANAGEMENT AND ENGINEERING CAPABILITIES TO PLAN AND SUPPORT THE OFFSHORE OPERATIONS.

ESTABLISHMENT AND FINANCIAL RESTRUCTURING

The parent group, DeepOcean Group Holding AS, was established in May of 2011. Following a financial restructuring, DeepOcean Group acquired new owners, a new board of directors and a new global CEO. The Group was formed upon the successes of DeepOcean Group's predecessor companies, CTC Marine Projects (subsea installation and trenching) and DeepOcean (seabed mapping, survey and IMR), which have a long, established history in the North Sea and in subsea engineering.

Following the restructuring, it was deemed a logical step to rebrand the DeepOcean Group of companies to one name. May 2012 was considered the earliest opportunity to effectively rebrand the organisation following other restructuring priorities.

REPUTATION

Whilst a complete new name was considered, it was also apparent that the 'DeepOcean' name still held a lot of equity and was associated with the industry in which the company operates. DeepOcean is a powerful brand that stands for safe operations, a relentless customer focus and operational excellence.

SAFETY AND QUALITY STANDARDS

When customers award work to DeepOcean they know that it will be done to the highest safety and quality standards. Meanwhile, the CTC Marine Projects (CTC) brand was slightly tarnished from the financial stability of the previous parent owner and historically it was still associated with the founder of the business who had left the company back in 2007. It was agreed that this part of the business would adopt the DeepOcean name, but special effort would be needed to reassure previous and existing customers that CTC's significant track record in subsea trenching would be carried across to the new brand.

AMBITION

This rebrand was designed to mirror the transformation of the business over the last year to ONE company and its ambition to grow DeepOcean into an industry leader in the provision of its five main subsea services, namely: Inspection, Maintenance and Repair (IMR) of Infrastructure; Survey and Seabed-mapping; Subsea Installation; Seabed Intervention (trenching) and Decommissioning.

REBRANDING COMMUNICATIONS PLAN

A rebranding communications plan was put in place to ensure the DeepOcean roll-out was carefully managed and budgeted. A dedicated marketing and business development team was put in place to manage this and still continues to promote the brand name going forward to ensure all clients and suppliers are given the new 'message'.

CONTINUATION OF SERVICE AND ASSURANCE

As a result of the rebrand to DeepOcean there were some concerns that employees, clients and suppliers may suspect that CTC was going out of business. It was essential that DeepOcean made several forms of contact with all of these people to reassure them that this wasn't the case. Although the company was changing its name, and its core services of cable lay and subsea trenching would be somewhat diluted in a bigger company, it would still continue to provide these subsea protection and installation services amongst a wider range of services.

Prior to the launch date, all marketing collaterals and electronic media were changed to the new brand, although it still remains an on-going process to ensure that all external communication is corrected to the DeepOcean brand. It was also important to convince employees internally that the rebrand was a suitable solution for moving the business to the next stage.

its competitors. This strong portfolio of services, coupled with a fleet of owned and controlled specialised equipment and multi-purpose support spreads, enables DeepOcean to bundle its subsea services to deliver cost-effective, tailored solutions to meet individual client needs.

GLOBAL BUSINESS STRENGTH

With the name change comes a strengthening of the business, providing DeepOcean with the opportunity to reach resources around the world from its offices in Norway, UK, the Netherlands, Brazil,

Mexico and Singapore, and the ability to draw on its 1,000 employees and use its large fleet of vessels and equipment to serve clients better.

RESOURCES

As a company, DeepOcean has a fleet of 7 owned vessels, 9 chartered vessels, 22 Remotely Operated Vehicles (ROVs), 1 module handling system and 17 trenchers & ploughs. This puts DeepOcean in a strong technical position against competition with a fleet of tools that can help serve any client requirements.

"The move is more than a name change," says DeepOcean Group CEO Bart Heijermans. "We will operate as one company offering our customers a unique integrated suite of subsea services."

"As a result of this rebranding, we believe that CTC, now known as DeepOcean UK, will emerge stronger and more competitive than ever as the new integrated DeepOcean. DeepOcean will offer a breadth of subsea services to the offshore construction market including CTC's core services, seabed intervention (trenching) and subsea installation."



Several communication forums were held with employees from both the CEO and regional Managing Directors to notify people of the intended rebrand, reasons behind this and the message that needed to be delivered externally about this.

DeepOcean would retain each of the division's successful track records, people and assets, and continue to provide a high-quality service to its clients. DeepOcean worked very hard to instil customer confidence in the business which has paid off as it continues to be awarded work from previous and new clients.

IMPORTANT MILESTONE

This is an exciting and important milestone for DeepOcean, following several challenging years in the economic downturn. Now operating as one business, DeepOcean offers a breadth of subsea services which rivals many of

DeepOcean

www.deepoceangroup.com

e = See enhanced entry online

▶ = See video library online

THE POWER OF THE MOVING IMAGE

You may have heard the expression a picture paints a thousand words. If this is true, and it would be interesting to know if this is statistically proven anywhere, then just imagine the power of using video.

Using video can help to demonstrate what would otherwise take a million words. Video is versatile and vibrant allowing you to convey a message in a cost effective way.

There may be many aspects to projects that you would like to have documented for various purposes and audiences. Whether you wish to show the construction of a wind farm, or the finer details associated with design & construction within the industry. Perhaps you may require video to add value to your in house training? Whatever the purpose, the fact that you can actually show your audience rather than just tell them gives the message a massive and memorable impact.

COMPUTER GENERATED IMAGERY (CGI)

In terms of filming for energy and engineering sector, previously, it was quite difficult to film operations such as the inner workings of a piece of machinery or underwater drilling. To overcome this we can now incorporate Computer Generated Imagery (CGI) into video to create a realistic view of what the operation actually looks like. CGI has come a long way in the past few years and can look so much more realistic than ever before.

Recent filming developments have given us 3D, and 3D televisions are creeping into more and more homes. Currently this is very expensive to produce at a professional level, and it still seen as rather 'gimmicky'. However, as this develops it could be utilised to advantage in the future, and have a place illustrating wind energy and engineering projects.

QUALITY VIDEO

A stunning, engaging, quality video is very important and impact comes from considering both the message you want to convey and who the main target audience is.

It is important to work very closely with clients particularly at this step, making sure that the video produced is the video that is going to work.

ONLINE OPPORTUNITIES

Although you may want to use video in a traditional capacity, for example having a video distributed on DVDs, there are other options to consider as well. Over the past few years we have seen huge advances in digital technology and in particular the rise of using video online.

STATISTICS – MONITORING AND TRACKING

Using online video can be monitored. For example, viewing a training video on a company's intranet can be controlled and kept to a specific audience and can be tracked to see which members of staff have viewed it and when.

On the other hand, using video on a website, or Youtube, can lead to powerful results. Youtube is now said to be the second most popular search engine in the world, and can take your video to new audiences. All of which can be tracked in viewing statistics, showing not just how many people have watched your video but geographic locations, and many other demographics.

A POWERFUL MARKETING DEVICE DELIVERING A POWERFUL MESSAGE

This gives rise to the use of video as one of the most powerful marketing devices, in not only delivering a powerful message, but also being able to see where it actually goes to.

Almond Productions
www.almondproductions.co.uk

DRIVER GROUP ACQUISITION

Early in 2012 the Driver Group, the global construction consultancy, acquired Trett Consulting from Grontmij N.V.

Trett Consulting are a leading dispute resolution and contractual advice consultancy business with over 30 years of experience within the construction and engineering industries. The total consideration for the acquisition was £3.0m and was satisfied out of the company's existing financial resources.



STRATEGIC FIT

The acquisition is an excellent strategic fit for the company and has strengthened Driver Group's core capabilities. Trett Consulting has an excellent reputation for providing support in dispute management, dispute resolution and dispute avoidance globally. This acquisition has enhanced Driver Group's offering by adding to the company's experience and high-quality team of individuals. Driver Group clients extend to almost every sector of the construction and engineering industries and our services are used at all stages of a project, from inception through to completion, operation, and decommissioning.

INCREASED GLOBAL PRESENCE

In addition to increased UK presence, the acquisition has increased the company's global presence. Driver Group now operates from offices across Africa, Americas, Asia Pacific, Mainland Europe, Middle East, and UK.

Their team has grown to over 265 employees, making the group one of the largest providers of consultancy services to the international engineering and construction industry.

COMBINED STRENGTH

The combined strength of two of the strongest brands in the dispute and advisory market will ensure both Trett and Driver clients receive unparalleled expertise and advice. Improving their clients' commercial position and performance, by delivering sound and innovative solutions to complex problems, remains the group's key goal for delivering client satisfaction.

OTHER GROUP OFFERINGS

The strategic fit of the new Driver Trett brand complements other group offerings. Driver now has the capability to deliver a full suite of services through DIALES, Driver Project Services, Corporate Services, and Strategic Project Management to the existing Driver Trett client base. Given the complementary nature of the two businesses the acquisition provides Driver Group, and its clients, with synergistic benefits.

GLOBAL GROWTH STRATEGY

The acquisition fits perfectly with Driver Group's global growth strategy and full-service offering. Trett has a strong, long-established brand within the global consultancy industry, and Driver's management team are certain that the combination of these brands can only serve to increase the group's ability to deliver results for their clients.

STRAIGHT FORWARD INTEGRATION PROCESS

The two businesses, their approach and culture, are very similar allowing for a straight forward integration process that will be completed by the end of the summer.

Driver Group now provides three distinct service streams...

- DIALES: quantum, delay, and technical experts providing support services in arbitration and litigation proceedings;
- Driver-Trett: dispute resolution and advisory services
- Driver Project Services: project controls solutions for pre-contract services commercial and contractual management and administration; quantity surveying; and planning and programming

DEVELOPING OFFSHORE WIND EXPERIENCE AND EXPERTISE

One of the first areas of integration focus and completion was the offshore wind sector, given the importance of this to both the Driver and Trett businesses before acquisition. Over recent years both businesses have invested considerable time and effort in to researching and developing their experience and expertise in this sector.

This is supplemented by the experience both companies have in the offshore oil and gas market, where they have operated for many years with similar technologies and clientele.

Mike Turgoose, director of Driver Trett's Teesside office, has been appointed sector leader for offshore wind and is responsible for the continued development of all Driver Group service offerings to this market and commented;

"The formation of Driver Trett places us in an excellent position to maximise our service offerings in this sector. Not only will we continue to provide our recognised and respected dispute resolution and delay analysis expertise to contractors and developers; we are now able to offer a true 'cradle to grave' service through the entire Driver Group. In addition, we can deliver a pan European service from our overseas offices in Holland and beyond, as well as the UK.

"The expanding offshore wind market in UK, and overseas waters, is short of personnel with real commercial management expertise. Our recent appointments have seen us called upon to manage and assist with tendering, procurement, contract formation, quantity surveying and planning services and the detailed analysis of variations and claims on the world's largest offshore wind farms in operation and currently under construction". Mike concluded.

Driver Group
www.driver-group.com

FLI STRUCTURES THE UK'S LEADING TOWER AND MAST SUPPLIER

With over 60 years of experience in the field they design, manufacture and install towers and masts and other steel, like helical piles, in telecommunications and radar markets and over the last decade for the rail, highways and renewable energy markets.

They focus on designing for efficient manufacture and installation and their design skills won Network Rail's first ever supplier innovation award. they use these skills to provide their customers with the best solution for their project and achieve high quality standards at an economic rate.

IN-HOUSE SERVICES

With in-house project management, engineering, detailing/drawing office, manufacturing and installation teams it means they fully understand the whole process and can work clients to produce more efficient products on an ongoing basis.

The in-house capabilities gives them a competitive edge over competitors and allows them to provide a more flexible service. They are often asked to turn around products for an urgent site, at short notice and are able to do so, with the help of 70 staff, many of whom have worked for them for decades and are committed to doing the best for clients.

CHALLENGES

The team are also willing to take on challenging projects, like moving a radar tower across a 'live' airport runway, by liaising with air traffic control or designing a product to support antennas on the top of Waterloo Station.



They have significant experience in supplying meteorological masts to carry wind measuring instrumentation and have standard products for this sector, but are happy to provide bespoke designs if needed. They are also able to apply design skills to solve problems regarding the accessibility of the booms and to check towers for fatigue and transportation to offshore sites.

ONSHORE

FLI Structures have been supplying permanent free standing meteorological masts for more than 10 years for various wind farm projects. In the early days, the required heights were 50m to 60m. However, about 2 years ago the heights have increased to 80m to enable the collection of wind data at the increasing hub height of the wind turbines. Currently, they are working on the supply a 110m high freestanding met mast, which is easily achievable by extending their mast product range and fully expect even taller masts will be required in the near future. They can respond to demand as it arises.

Guyed met masts are also supplied for temporary applications and less commonly for permanent sites and have been supplying these types of products for decades.

They have recently supplied a 90m guyed mast for a dedicated Lidar & Sodar test site and can also provide a turnkey solution, including the base design and installation as well as the supply, installation and commissioning of the instrumentation.

OFFSHORE

FLI Structures have supplied a number of offshore met masts and currently have 3no. 90m (117m with pile) for Round 3 offshore wind farm projects in fabrication.

Offshore met masts present different challenges to onshore such as more stringent quality control, due to the high cost of rectifying any problems. This suits their normal working practices as they surpass the requirements of ISO9001 quality standard, OHSAS18001 occupation health & safety, ISO14001 Environmental Management and part of the Achilles Link-up qualification scheme.

The requirements for design verification are also more onerous and at FLI they have a team of 7 engineers, so this is not an issue for them.

WIND INSTRUMENT BOOM DESIGN

Another area of interest is wind instrument boom design with varying requirements from clients regarding their height, lengths and how they should be accessed and constructed. They do not simply offer one solution to fit all. Instead their experienced structural steel designers work with the client to provide the solution that they need for their project, which seems to vary every time.

They are making booms with rollers at present and are working on a 'swing boom' design and have produced a neat standing board design at boom levels, to make access easier, without adding too much wind distortion local to the instrumentation.

They are also to detail and manufacture Lidar frames, if they are required in addition to a meteorological mast or in its place.

STANDARDS

Meteorological masts are designed for site specific environmental parameters to comply with British/European standards. Site wind speeds, ice loading, altitude and terrain are all factors considered to comply with the requirements of the industry standards BS8100, BS EN 61400-12-1 and the more recent BS EN 1991-1-4 and BS EN 1993-3-1 when fully adopted.

FLI Structures
www.fli.co.uk

ENERGY IN ACTION AS INTERNATIONAL FIRMS SEEK SUPPLY CHAIN SUPPORT IN THE EAST OF ENGLAND

FIGURES WILL SOON BECOME FACTS FOR THE EAST OF ENGLAND ENERGY SECTOR AS INTERNATIONAL MANUFACTURERS START SEARCHING FOR SUPPLIERS TO SERVICE THE UK'S MULTI-BILLION POUND OFFSHORE WINDPOWER BUSINESS.



Tim Johnson, of DONG Energy

EAST OF ENGLAND ENERGY GROUP CONFERENCE (EEEEGR 2012)

Areva and Dong Energy were among major companies at the EEEGR2012 flagship conference at Trinity Park, Ipswich, urging local supply chain members to stake their claim and ready themselves for action.

Around 250 delegates also heard from the Fred Olsen Group and the Crown Estate about the changing and developing offshore opportunities which will be a key focus of the region over future decades.

Andrew Fox, Business Relationship Manager with Areva, warned that although no decision had yet been made, he thought it unlikely that the region would be chosen as the UK manufacturing base for his company's 5MW wind turbines; it was more likely to be located further north.

COMPETITIVE AND RELIABLE SUPPLY CHAIN

"But there are many things we will be looking for in this area and all along the East Coast – including the supply of components and support in the installation and operations and maintenance market," he added. *"What we want you to do is think how you can supply us competitively."*

Tim Johnson, Procurement Contract Manager for Dong Energy, said they would be looking for a reliable UK supply chain to support them in windfarm projects around the coast including Gunfleet Sands and London Array. They had invested £4.2bn in the UK to date.

"We have massive plans for the UK and we need UK companies to give us a reliable supply chain for the future, particularly from 2016 onwards. Without it we will not succeed."

But he warned that there must be a realistic and competitive approach. The toughest challenge was to bring down energy costs but still ensure that everyone made a profit.

SUSTAINABILITY KEY

Ipswich MP Ben Gummer said that from a public, and Government, point of view the cost of energy and its sustainability was the major issue. But the Government needed to listen carefully: *"We haven't yet produced the support the industry wants so we need to know from you exactly what that is. It's frustrating for us all."*

SKILLS FOR ENERGY

For the first time, there was a Skills for Energy session at the conference to focus minds on one of the critical issues for the industry's future – the need for more training and utilisation of existing skills. The evolving decommissioning and marine supply chain sectors also came under the spotlight, along with new build projects for the region.

Simon Gray, new Chief Executive of EEEGR, told delegates the association had an essential role to play as the region sought benefits from £30bn of energy investment plans over the next five years.

"Members will be at the core of everything we do to build a bigger, better, brighter and bolder association with enhanced membership benefits," he added.

The event was supported by the European Regional Development Fund and sponsored by Birketts, Harwich International Port, Lovewell Blake and Barclays.

EEEEGR
www.eeegr.com

e = See enhanced entry online



Delegates at the EEEGR 2012 Conference

CABLE PROTECTION SYSTEMS

AN OVERVIEW BY WOOD GROUP KENNY

Wood Group Kenny has extensive experience in the design of cable systems for wind, wave and tidal projects, and has recently led research on cabling hazards for the Carbon Trust.

ARRAY CABLES AND EXPORT CABLES

Offshore wind farms commonly feature two types of cabling: array cables and export cables. The array cables link the wind turbines to one another, in strings or loops, and to an offshore substation. At the substation, the voltage is stepped up to minimise transmission losses and one or more large export cables are used to carry the combined output to land for connection to the onshore grid. Loss of an array cable may result in the loss of output from a string of turbines; perhaps 6 - 10 machines depending on the string configuration and the location of the fault. Damage to an export cable, however, may result in the loss of revenue for an entire wind farm.

CABLE PROTECTION

Protection of subsea power cables is therefore critical to the maximisation of revenue of the wind farm. Cable damage may occur during both the installation phase and operational phase of the project. During installation, cables may be bent beyond their design radii or overloaded due to careless handling. Post-installation testing is conducted prior to release of the cable installation contractor to minimise the likelihood of an installation defect remaining undetected. Cables are then at risk of impact from, or entanglement with, anchors, dropped objects, debris and (particularly) fishing equipment throughout the operational lifespan. Damage can also result from cable movement leading to fatigue and abrasion, particularly where amplified by resonance.

CABLE BURIAL

For the operational phase, export and array cables are often buried to avoid subsea hazards, typically either by ploughing, or by post-lay jetting. The burial depth required will depend on the soil characteristics encountered, the mobility of the soil and the site-specific risks to the cable. Cable installation should be preceded by a burial assessment with the objective of recommending a suitable and statistically robust level of protection at minimum cost to the owner. In some areas, burial may not be possible and additional protection measures may be required. Such areas include...

- Where the soil depth is insufficient to provide protection
- Where the soils are too hard to trench economically
- At and approaching crossings with other cables or pipelines
- At the final approach to offshore structures where it is difficult to safely deploy burial equipment

ADDITIONAL PROTECTION

Where additional protection is required, mattresses of interlinking concrete blocks are often used to stabilise and shield the cable. These can be installed from a vessel-mounted crane using a special frame and manoeuvred into position with the assistance of ROVs. They can also be fitted with fronds to encourage the settlement of mobile sediments to provide extra protection to the cable and prevent secondary scouring.

Rock dumping is also used widely to protect cables (and structures) in the offshore wind industry. Rocks are dropped from a specialised vessel either via a fall-pipe or by side dumping. Split hopper vessels are also used which can jettison their load by a release mechanism which effectively parts the hull of the vessel. Rocks must be sized and berms designed to ensure that they can withstand the hydrodynamic loading as well as being of a suitable size that scour around the berm is not initiated by their presence.

Another possibility for cable protection comes in the form of cable-mounted articulated shells made from polyurethane or cast iron. The extra armouring provides impact protection and additional ballast to the cable. The shells are typically formed as pairs of interlocking half-pipes in 0.5-2m lengths which are strapped or bolted together around the cable whilst still on deck. They can also be retro-fitted underwater, although this can be difficult and time-consuming particularly where the cable is already in contact with the seabed.

OTHER VULNERABLE AREAS

The cable is also vulnerable as it approaches the wind turbine structure, between the seabed and the termination point on the work platform. The cable commonly enters the structure via a J-tube or an I-tube (so-called because they form the shape of the corresponding letter) which protects it through the splashzone. Where the cable enters the tube, a bellmouth is fitted to prevent overbending and facilitate installation and a Cable Protection System (CPS) is used to manage the shift between the dynamic subsea environment and the rigid tube. It is commonly made from moulded polyurethane elements which provide a gradual transition in stiffness, dampening the movement of the cable and preventing overbending.

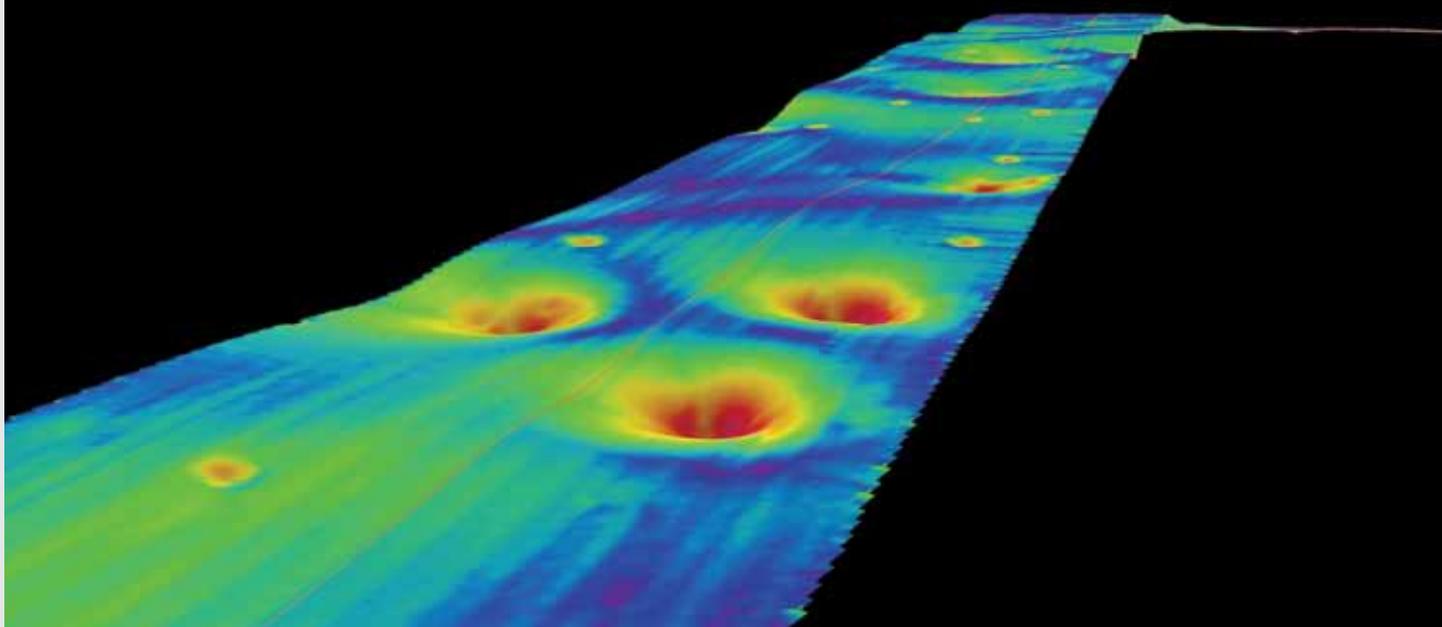
J-TUBES

The use of J-tubes in particular is widespread in the offshore wind industry, and installation contractors tend to be familiar with the issues associated with cable pull-in into such systems. When used in conjunction with monopile foundations, however, they have to be fitted after the pile has been driven to avoid being displaced by the impact. To avoid the need for this operation, a number of products have been designed which avoid the need for a J-tube by protecting the cable through a reinforced aperture in the base of the pile. Once inside the monopile, the cable spans freely, in the absence of hydrodynamic loading.

CABLE-MOUNTED ENTRY SYSTEMS

Cable-mounted entry systems are functionally similar to the CPS described previously, but they also effectively act as a permanent guide to the cable, managing the transition between horizontal and vertical alignment. The system will feature a latching mechanism to secure and seal the cable to the wall of the monopile at the entry point, which may be actively or passively operated. A second, smaller polyurethane assembly is located on the front end of the device to protect the cable against overbending on the inside of the pile. Such systems are still in relatively early stages of development.

Wood Group Kenny
www.woodgroupkenny.com



HILTI

As Hilti continue to strengthen their position in the wind energy market they inform Wind Energy Network about a new product....

TAKE YOUR PRODUCTIVITY TO NEW HEIGHTS!



Between the planning phase and the final commissioning of a wind farm lies a long, arduous journey, presenting new challenges and problems daily. At Hilti, they go to great lengths to understand these challenges, help their customers work with a solution-based approach, help them to work more efficiently and also to save costs.

CUSTOMER FOCUS

They work closely with their customers and with their input, develop solutions that not only meet expectations and fulfill approval requirements, but also lead to a rise in productivity.

Thanks to their extensive knowledge of the applications involved, traditional working methods can be constantly improved and alternative, time-saving methods made available.

Working together with Hilti doesn't just help you save time, it also cuts costs – from planning to when the work is carried out, be it at manufacture, fabrication or installation stage. Hilti products are easy to use and designed to speed up individual operations. Thanks to outstanding Hilti solutions, approved products and competent specialist support at every stage of planning and construction, any wind farm project can benefit tremendously from greater efficiency and reliability.

EXPERIENCE

With the benefit from the superior performance of Hilti's sealing system in towers and nacelles and more than 20 years of experience in this field, Hilti is one of the leading suppliers of high-quality, easy-to-use firestop (or passive fire-protection) systems.



PROBLEM SOLVING

For example, the modular Hilti cable transit system solves three problems simultaneously. It's not only fire-resistant but also gastight and watertight, all of which are of great significance in wind power installations.

offer maximum versatility in a host of applications. All products and solutions are designed to meet the requirements of facility owners, installers and inspectors, which are approved by third parties.

QUICK, EASY AND FLEXIBLE – THE HILTI CABLE TRANSIT SYSTEM

Using the Hilti cable transit system helps increase productivity on installation projects in towers and nacelles.

No matter whether in the preparatory phase of a project or already at the construction stage, you can depend on their support in the form of quick professional planning, comprehensive technical literature and specific training. With Hilti you can also rely on high-grade products, optimum services and added value, which can be decisive when it comes to ensuring competitiveness in this industry.

PRODUCTS AND APPLICATIONS

The wide range of products

The product is straightforward, quick to install and easy to re-penetrate. Only seven different modules are required to cover all cable diameters from 3 to 99 mm, requiring only low inventory. It offers the end-user significant savings thanks to module interlinking, especially where cables run vertically.

For third parties, the colour-coded adapter system also simplifies checking and the inspection of correct installation.

The Hilti sealing products are extensively tested and approved for use worldwide and are fire-proof according A-60 and H-120 marine fire rating. Approvals are available from American Bureau of Shipping, Lloyd's Register, Det Norske Veritas, Germanischer Lloyd, Chinese Classification Society, Transport Canada, US Coast Guard, MED.

Hilti
www.hilti.co.uk

e = See enhanced entry online

PIPESHIELD INTERNATIONAL LTD

PIPELINE & CABLE PROTECTION SPECIALIST

EXPERIENCE AND KNOWLEDGE

Pipeshield® is a well known world leader in subsea pipeline protection and a highly reputable brand in the offshore oil and gas arena. They are also a leading source of knowledge on cable protection and scour prevention and protection within renewables.

UNIQUE CHALLENGES

Cable protection has the same issues as pipelines, but also some unique challenges, especially where the cables are laid adjacent to the mono-piles of wind turbines where enhanced near seabed velocities bring issues of scour as well as ensuring stability to the cables.

Headquartered in Lowestoft, the company maintains manufacturing bases in England and Scotland and has established a permanent manufacturing arrangement in South East Asia and production experience in the Middle East, Indonesia, Canada and South Africa.

BESPOKE SOLUTIONS

Pipeshield have been working with some of the biggest companies in this arena to develop bespoke solutions to one of the most prolific problems renewable energy has to resolve subsea. They have provided mattresses on the Lynn Inner Dowsing, Gwynt Y Mor, Scroby Sands and Egmond Windpark projects.

CONCRETE MATTRESSES

Concrete mattresses provide both scour prevention, stabilisation and protection and the flexible nature of the block form ensures that the seabed and cable contours are closely followed. In the event of any localised scouring around the edge of the mattress then blocks will settle into the hole to prevent undercutting.

To enhance the scour protection a frond system can be fitted to the mattresses prior to deployment and then activated post installation. In the right conditions the fronds will attract up to 1m of sediment over and around the mattress providing enhanced stability and impact protection.

CERTIFICATION

Pipeshield is approved to ISO 9001:2008, 14001:2004, ISO 18001, and is a supplier member to FPAL and has achieved the VERIFY status for its quality systems.

CASE STUDY - LYNN INNER DOWSING

This project required stabilisation and protection of the inter turbine cabling. To optimise the mattress requirement calculations were performed to optimise both the number and size of the mattresses to fit in with the installation logistics.

Deck space is always at a premium and therefore it was important to keep the total volume of mattresses to a minimum thus to ensure stability mattresses using a high density concrete were used to keep the thickness down.

Installation used the in house designed frames that can be operated either by diver, ROV or by remotely activated hydraulic operation. In this case the installer used an ROV to position and release the mattresses over the cable.

Pipeshield International
www.pipeshield.com

e = See enhanced entry online



CABLE PROTECTION IN THE OFFSHORE WIND INDUSTRY

CABLE PROTECTION IS A VITAL PART OF ANY OFFSHORE WIND FARM (OWF). DESPITE CABLE PROTECTION BEING A WELL TRODDEN PATH IN SIMILAR INDUSTRIES, SUCH AS OIL & GAS AND TELECOMS, THE CHALLENGES FACED BY OWF'S CALLED FOR NEW INNOVATIVE ENGINEERING TO ENSURE THAT OWF'S BECAME A VIABLE OPTION FOR EUROPE'S RENEWABLE ENERGY PLAN.

CHALLENGING SUBSEA ENVIRONMENT

The OWF's have a particularly challenging subsea environment due to the shallow depth of water and windy conditions in which where they are located. These conditions create strong currents and tides which cause corrosion of the seabed around the base of the wind turbine foundation, known as scour development. This scour development causes the cable to be suspended across the free-span formed by the scour, which exposes the cable to various forces over its 25 year service life. Further to these forces, the cable protection must also be able to cope with extreme "freak" waves which are predicted every 1, 10, 50 and 100 years. These forces will both fatigue and over-bend the cable if it is not sufficiently protected and will ultimately render the cable useless for power transmission.

BENEFITS

This system had a number of benefits to the industry; being J-Tubeless it allowed developers to save significant costs by reducing the amount of steel fabricated, assisted installers to improve the cable installation process and gave confidence to added security to cable manufacturers.

LESSONS LEARNED

Overall the industry has seen failures and learnt lessons in the true requirements for cable protection in terms of both installation and service life, particularly during the UK round 1 phase of construction. These lessons learned are currently being demonstrated with the successful installation of Tekmar's Teklink® Cable Protection System on Walney, Thornton Bank, BARD & Anholt Offshore Windfarms which are the biggest windfarms in construction or operation in the UK, Belgium, Germany and Denmark respectively.



HISTORY

Early OWF's adopted cast iron cable protection systems that were commonly found in the Oil & Gas and Telecoms industries. Although cost effective and easy to install over long distances, protecting cables in an OWF with cast iron proved unsuccessful due to its weight and brittleness in a dynamic subsea environment.

MODERN DAY SOLUTION

So what has changed in the industry to mitigate against these challenges faced by OWF's? One of the key developments to cable protection over the last 3 years has been the increase use of J-Tubeless cable protection designs, which was first championed on the Bard OWF in Germany with the Teklink® Cable Protection System.

FUTURE

The future of Cable Protection is set to evolve even further with OWF being constructed in deeper waters. Deep jacket foundations and even floating foundations present new, exciting challenges which will ensure that Offshore Wind remains the renewable energy of choice for the European market.

Jack Simpson
Tekmar Energy
www.tekmar.co.uk

SUBSEA CABLE PROTECTION A KEY CONSIDERATION

Protection of the subsea cables from external damage is a key consideration for offshore wind farms. Fully operational cables are essential both for export of electricity from the wind farm, and for control of the turbines (using the fibre optic communication cores included within the power cable) from onshore.

CABLE DAMAGE CAUSES

Causes of cable damage range from dropped object impact, being snagged by fishing or anchor gear and dragged, causing either the cable to exceed its maximum allowed tension or be bent tighter than the allowable minimum bend radius, or abrasion or fatigue damage due to unprotected cable movement.

CABLE BURIAL – NOT ALWAYS AN OPTION

Cables can often be protected by burial into the seabed, however this is not always possible, for instance close to

TUBULAR PRODUCTS

Tubular products that are fitted around the cable during the cable laying operation have the advantages of instant protection, certainty that the protection is around/over the cable, and obviate the need for a second operation.

Tubular products are available in polyurethane and ductile iron. Polyurethane products have tended to derive from the subsea oil and gas market, where the waters are typically deeper and stiller than in the renewable energy market.

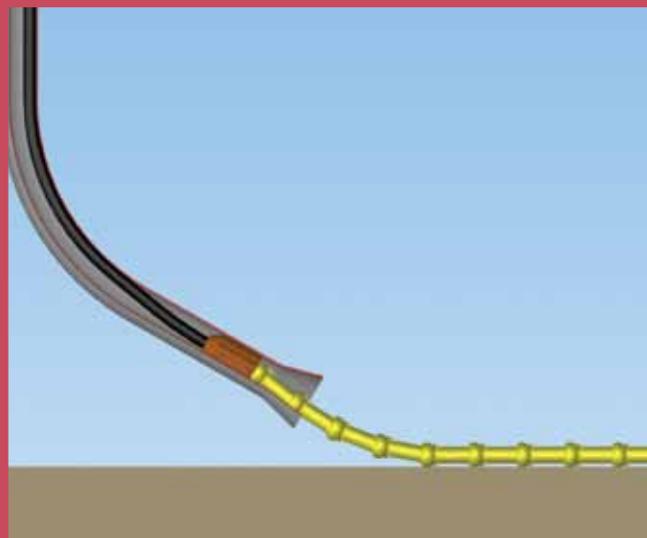
A disadvantage of polyurethane in shallower water application such as most offshore wind farms, and certainly any tidal energy site, is that it is a very light material underwater, and consequently adds little or no stabilising weight whilst still adding drag to the cable through the increased diameter. The consequence is that the overall stability of the cable (expressed as ‘weight

many years (known as ‘split pipe’ or ‘articulated pipe’), and the use of iron split pipes for this application dates right back to 1924 when Siemens took out their first patent for the product.

In more recent years, the development of ductile iron since the 1960s, under the slogan of ‘more strength for less expense’, has transformed many industries, particularly the automotive and related industries. Ductile iron provides more strength, impact resistance (e.g. use in construction plant bucket teeth), fatigue life (e.g. use for engine crankshafts) and abrasion and wear resistance (e.g. use in plough shares).

BLUE OCEAN PROJECTS LTD (BOP) DESIGN

Blue Ocean Projects entered the ductile iron cable protection market in 2009, and



developed a new range of ductile iron cable protectors, aimed primarily at the renewables market, to fill a gap in the market.

A key consideration was a design for quick and secure assembly on board deck of the cable ship, rather than using a design based primarily on diver installation.

The new design provides greater articulation angle at each joint than conventional ‘split pipe’, facilitating use over sheaves, chutes and quadrants. It also provides an all bolted assembly with identical top and bottom castings and use of large fasteners with built in nut recesses for simplicity, speed and reliability of assembly.



turbine foundations, in shallow water and at landfalls, boulder fields or areas of rocky seabed.

Alternative protection methods to burial include rock placement, gabion bags, concrete mattresses and tubular products fitted around the cable, all of which have their place in the market, sometimes in combination.

to diameter ratio’) is reduced, leading to higher risk of cable movement. In contrast ductile iron tubular products have the opposite characteristic, and will increase, rather than reduce, the overall seabed stability of the cable.

DUCTILE IRON TUBULAR PRODUCTS

Ductile iron tubular products have been around for subsea cable protection for

SECONDARY KEY CONSIDERATION

A second key consideration was to ensure a high level of quality, both of the end product and of the input material used. Consequently Blue Ocean Projects teamed up with a large, high quality and highly mechanised UK based 'automotive grade' foundry which specialises in ductile iron castings, for quality, consistency of fitting, material traceability and dependable lead times. This arrangement also enables large orders to be met in short lead times. All casting tooling is manufactured directly from 3D CAD software models for quality and precision. Each casting is finished by robot grinding to ensure no sharp edges, and first time fit.

ACCESSORIES

A range of accessories has been developed, including male/male adaptors with cable clamps, female/female adaptors, end pieces, pulling heads, and I/J tube centralisers. Cable protectors can be supplied 'self coloured' or in a range of subsea grade coatings to reduce corrosion allowance.

Blue Ocean Projects has to date supplied such protectors for use on offshore wind farms, power cable river crossings, at tidal and wave energy development sites, for telecom cables on hurricane exposed Caribbean landfalls, and larger diameter products for protection of PE pipe marine outfalls.

One area of current development at the company is to develop products for 'J-tubeless' cable protection systems, which is an increasing requirement in the offshore wind industry to suit monopile foundations in deeper water, where the use of conventional J tubes for routing the cable from the seabed up to above water level on the turbine foundation becomes less practical, and alternative, cost effective solutions are sought by the market.

Blue Ocean Projects Limited
www.blueoceanprojects.com

SUBFLEX CABLE PROTECTION SYSTEMS

Subsea Energy Solutions has been founded as a direct request from the renewable energy industry for the necessity for increased competition, reduced system costs and enhanced solutions, within a limited Cable Protection System market place.

DEMAND FOR COST REDUCTION

They are an ISOQAR 9001 : 2008 registered company, which has risen to the urgent industry challenge to the demand for offshore wind farm long term sustainability, through means of cost reduction.



With industry assistance, Subsea Energy Solutions can significantly contribute towards the reduction of offshore wind farm design, construction, operational, maintenance and de-commissioning costs.

EXPERIENCE AND INDUSTRY ADVICE

With their industry and project wide experience, the unique patent pending SUBFLEX Cable Protection System offers many unrivalled and unparalleled technical and commercial features.



Subsea Energy Solutions have sought industry advice during the development of the SUBFLEX Cable Protection System and taken into consideration many requirements such as purchase cost, rapid offshore assembly, rapid installation, rapid burial, enhanced cable protection, elimination of maintenance requirements, standardisation of components to name just a small selection of features.

CABLE INSTALLATION IMPORTANCE

Offshore windfarm cable installation is a high cost/high insurance claims theatre and it is well documented that 70% of insurance claims from windfarm operators relate to cable damage, so there has never been a greater, more important time, for the renewable industry to come together and support a rapidly emerging company in developing a fully coordinated and fully standardised approach to monopile J-tube & J-tube-less installations.

Subsea Energy Solutions
www.subenesol.co.uk



FOUNDCEOAN BRINGING OIL AND GAS EXPERIENCE TO OFFSHORE WIND

We introduce FoundOcean as a company who have a few stories to tell and we will be featuring them in future editions.

We start with a case study – as expressed before case studies demonstrate real world situations and therefore the proof of what companies can achieve for their clients and customers.

EXPERIENCE

FoundOcean has over 45 years' experience of subsea and offshore grouting for the global energy construction industries. Grout is the fundamental element to all that FoundOcean does. The company has already completed grouting operations for five offshore renewables projects in and around the North Sea since 2009 and this figure is set to rise sharply in the next five years.

REALISTIC PREDICTIONS

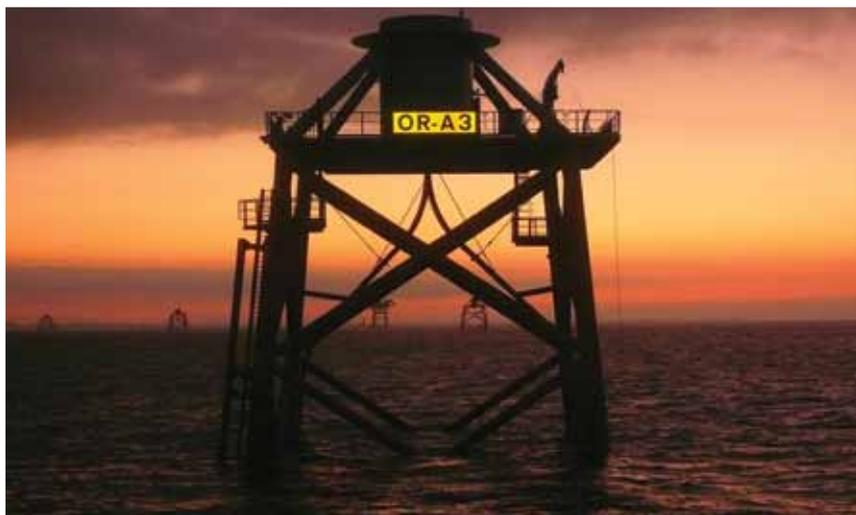
In the next five years, an estimated 4,000 new fixed structures are scheduled to be installed in the North Sea alone. This is mainly due to the upsurge in offshore wind activity associated with Round 2 and Round 3 projects. FoundOcean has already been contracted to complete grouting operations for two offshore wind farms (272 turbine foundations) starting in 2012, and is in final negotiations for a further two projects, again starting this year, and continuing into 2013.



ORMOND OFFSHORE WIND FARM

One of those projects is the Ormonde Offshore Wind Farm, located 10km off Barrow-In-Furness, in the Irish Sea. The wind farm is in the final construction stages, with the 30 RePower 5MW wind turbines being fitted as weather allows. This is sufficient to supply the equivalent of approximately 100,000 homes per year with clean power. The turbines will cover an area of nearly nine square kilometers.

The wind farm utilises jacket-type foundations similar to those used at many offshore oil and gas platforms. The combination of the size of turbine and a silty seabed will have influenced this choice. Ormonde was the first large-scale commercial wind farm in European waters to use jackets for the turbine foundations, as well as the substation foundations. Other offshore wind farms, in various stages of construction, to also use jacket-type foundations are Thornton Bank II and III, and Nordsee Ost.



Ormonde was the first major offshore wind farm that FoundOcean has grouted, but since then they have completed grouting operations at two more offshore wind farms in the North Sea.

The company is due to start grouting operations at two more offshore wind farms in the North Sea. The company is due to start grouting operations for four more in 2012, in addition to their thriving global oil and gas operations.

FoundOcean
www.foundocean.com

e = See enhanced entry online

GROUTING MATERIAL

The progression towards jacket foundations has opened up the market for standard cement-based grout: foundation designers can turn to Ordinary Portland Cement (OPC) for the grouting material.

The grout connectors were located on the jacket transition deck, with the lines running down the inside of the legs. Oil and gas jackets tend to have these located below the water line. Having the grout connectors located top-side made for speedier hose connections and disconnections when moving between jackets.

The 31 four-legged steel jackets were secured to the sea bed by their four main legs which were inserted into pre-driven piles. The connection between the leg and the pre-driven piles was made by injecting an OPC cement grout into the annulus around each pile and stab-in leg. Each leg had a primary and secondary grout line through which grout could be pumped into the annulus. Grout overflow was observed at the top of each pre-driven pile. A minimum overage of 10 per cent in excess of the theoretical annulus volume was pumped to the annulus after good quality grout returns were confirmed at the top of the pre-driven pile.

GROUT TESTING

Grout strengths are tested by manufacturing a series of grout cubes at intervals during the mixing process. They are stored in a temperature-controlled water bath, and then crushed at age 24 hours, 7 days, and 28 days to monitor their compressive strength build up. Grout properties are defined by their 28 day strength, but 24 hour strengths are important to know how resistant a structure is to freak waves or collisions in the early stage of the curing process.

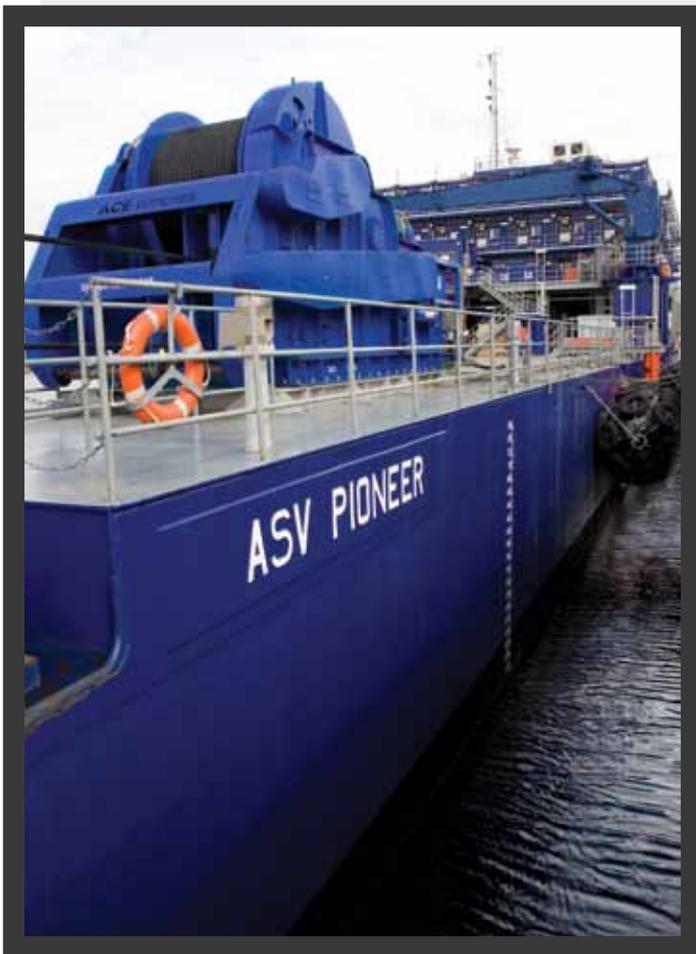
FoundOcean undertook two types of material testing for Ormonde: grout strength testing and grout slurry density. The grout slurry density was monitored by densitometers mounted on the mixer units to provide continuous monitoring of the slurry density. The slurry density was also measured at intervals using a pressurised slurry density balance.

Three samples were taken during the grouting of each annulus: one after approximately 1.5m³ had been pumped, one approximately halfway through grouting, and one towards the end of the grouting process. A total of 1,116 grout cubes were manufactured for testing, each weighing approximately 850g. Each cube was marked to identify the platform, leg number, time and date of casting and the specific gravity. The samples were cured underwater at 80C ± 0.50C until testing.



Offshore wind accommodation solutions

Established in 1976, the Ferguson Group has grown to become one of the world's leading suppliers of containers, refrigeration/freezer containers, accommodation, workspace modules and accommodation service vessels to the offshore energy industry.



ASV PIONEER

They have experienced growth on an international level and in 2011 launched its new accommodation service vessel, ASV Pioneer, which has recently completed its first contract on a renewables project in the North Sea. Gary Wilson, Director - Business Development said: *“The team is extremely pleased with the performance of the ASV Pioneer during its first contract and it has proven the vessel is ideally suited to offshore renewable projects.”*

FLEXIBLE ACCOMMODATION

ASV Pioneer is a versatile offshore accommodation service vessel providing the highest quality offshore accommodation solution complete with office, galley, mess, medical and recreation facilities. In addition, the ASV Pioneer offers a large open deck space capable of a multitude of uses to support the offshore renewable energy industry.

QUALITY: STANDARDS AND CERTIFICATION

All accommodation and workspace modules on-board the ASV Pioneer have been designed and built to DNV 2.7-1 and EN 12079 standards in-house at Ferguson Group's purpose-built facility. With rigorous control over the production process, they can guarantee the quality of the end product.

Manufacturing operates to the highest industry standards, providing customers with the reassurance that they are using modules that comply with the latest HSE regulations.

The company is committed to HSEQ, and looks to deliver market-leading performance in all that it does. Its management system reflects this and is demonstrated by the company's achievement in receiving BS EN ISO 9001, BS EN ISO 14001 and OHSAS 18001 accreditation.

SPECIFICATION

Port of registry	MPA Singapore
Built	2007 Nantung
Classification	American bureau of shipping
Length	100.60m
Beam	30.48m
Depth	6.09m
Draft	2m
Main generators	3 x 900KW. 440v. 60Hz. 3ph
Emergency generator	1 x 900KW. 440v. 60Hz. 3ph
Deck area	1100m²
Max dead weight	6838.7te
Deck capacity	15te/m²
Gross tonnage	7858te
Net tonnage	2357te
Fuel oil	600m³
Fresh water	1360m³
Deck service crane	7.5te@25m max lift capacity mezzanine

RANGE

The Ferguson Group is able to provide the renewable sector with high quality A60 DNV 2.7-1 offshore accommodation and workspace modules including accommodation complexes, recreation rooms, medic suites and gymnasiums to support the larger accommodation complexes along with offices, laboratories and test cabins. All modules can be stand-alone, linked or stacked to form a multipurpose complex in an offshore environment.

Ferguson Group
www.ferguson-group.com



MAXIMISING HYDRAULIC SYSTEM PERFORMANCE

CHOOSING THE RIGHT HYDRAULIC OIL AND OIL ANALYSIS PROGRAMME IS KEY TO MAXIMISING THE HYDRAULIC SYSTEM PERFORMANCE OF WIND TURBINES

Today's wind turbines comprise a significant number of diverse and complex operations. Each operation requires specific attention and there is no 'one size fits all' approach for such advanced equipment, particularly when it comes to lubrication. Hydraulic systems within a turbine are good examples of this. Best known for the pitch control of rotor blades and braking systems, some wind turbines are now also being designed with a hydraulic transmission system. All of these require specific hydraulic oils to maintain optimum performance.

CAREFUL SELECTION

Operators need to carefully select the correct hydraulic oil for each application, assessing its viscosity, and performance capabilities. Temperature changes can range considerably and conditions can be variable. The use of the correct oil will not only reduce wear and minimise maintenance costs, it can also bring hydraulic efficiency benefits increasing machine productivity.

MAKING INFORMED DECISIONS

By following the tips below, operators can make informed decisions when it comes to selecting the correct hydraulic oil and system maintenance plan to help ensure their operations are as efficient and as reliable as possible.

WHAT TO LOOK FOR IN A HYDRAULIC FLUID?

- **Correct specifications**

One starting point for selecting a hydraulic oil is the original equipment manufacturers' (OEMs) recommendation. This may be specific to the machine manufacturer or the hydraulic component manufacturer. The OEM's recommendation may provide the appropriate viscosity grade for the expected operating temperature range as well as a minimum level of specifications and performance if specific particular branded hydraulic oils are not stated.

- **Right viscosity**

Viscosity is the most critical factor when selecting a hydraulic fluid. It is important to match the appropriate viscosity grade to operating temperatures and load conditions that a hydraulic system may undergo on a daily basis. Without the correct viscosity, the system will not operate as designed and the system is unlikely to ever reach its peak efficiency. For equipment that is subjected to both hot and cold extremes, then a high viscosity index hydraulic oil is beneficial and typically recommended.

- **Strong performance attributes**

Due to the operational demands on hydraulics systems, hydraulic fluids must do more than simply satisfy the correct viscosity and OEM specification. Utilising technologically advanced, synthetic hydraulics oils can maximise wind turbine productivity and help combat the demanding conditions of increased system pressures and temperatures. ExxonMobil's range of proven synthetic oils features Mobil SHC 524, which has a balanced proprietary formulation of performance additives blended with fully synthetic base stocks.

The balanced formulation of Mobil SHC 524 provides oxidative and thermal stability which helps reduce degradation and deposits, maintains system cleanliness and increases oil change intervals. In addition there is a high level of wear protection, excellent filterability and outstanding air release and anti-foam performance that out-performs conventional mineral oils.

BEST PRACTICES FOR HYDRAULIC SYSTEM MAINTENANCE

USED OIL ANALYSIS (UOA)

As part of a routine maintenance programme to detect equipment wear and optimise hydraulic oil life and performance, the hydraulic oil should be regularly sampled and analysed. It is advised that maintenance professionals undertake hydraulic oil sampling at least every year but may even consider taking samples every six months to coincide with gearbox oil sampling as this can be cost effective. Regularly monitoring patterns of the oil analysis data over time, which is known as 'trending', can play a major role in the early identification of any operational issues or unnecessary equipment wear before they become problems.

For plant managers and equipment maintenance professionals who want an effective oil analysis programme that can also save time and money, there is ExxonMobil's proprietary online Signum oil analysis programme. It offers engineers immediate access and direct control of their lubricant and hydraulic oil sampling programme.

MAXIMISING HYDRAULIC SYSTEM PERFORMANCE

Today's hydraulic systems for wind turbines are far more sophisticated than ever before. By following the tips provided and using Mobil SHC hydraulic oils and lubricants, wind farm operators and equipment maintenance professionals can make informed decisions that will help them to boost productivity levels with a potential to minimise maintenance costs.



Robert Pears
Business Development Manager UK &
Ireland (Renewable Energy)
ExxonMobil Lubricants & Specialties
www.mobilindustrial.com

THE GLOBAL WIND ALLIANCE AND THE STORY CONTINUES

WE CONTINUE TO FOLLOW THE WORK OF THE GLOBAL WIND ALLIANCE HAVING COVERED THEIR PHILOSOPHY AND ASPIRATIONS IN A PREVIOUS EDITION.

COLLABORATION

Alone, each member company can only offer a part of the solution that global customers require; but by collaborating with others, who can offer complementary products and services, they can compete and win work on a global stage that would otherwise be unobtainable.

We feature the work and receive advice from GWA member Hydac.

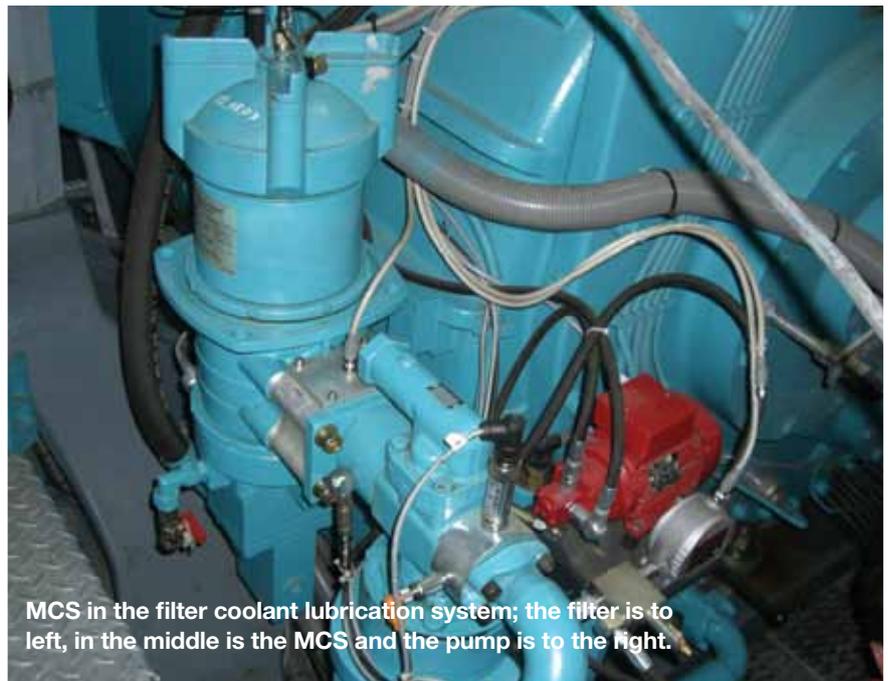
MONITORING OIL FLUID CONDITION MONITORING IN WIND POWER PLANTS PROTECTS AGAINST EARLY FAILURE

Renewable energy sources are currently enjoying great popularity amongst the public. Electricity produced from wind energy in particular is expected to undergo a boom.

In order for this to occur, ecologically friendly energy has to become economically more attractive. Wind energy is still plagued by the public perception that the industry survives only with government support. In the past gearbox damage caused enormous costs, because the complexity of the stress on the gearbox during operation was underestimated.

Although conceptually and from a design perspective quite a lot has changed, wind energy turbines do not make it through their complete service life of 20 years without the gearbox having to be replaced.

Replacing the gearbox of a 1.5 MW turbine costs approx. 300 000 – around 20 % of the cost of a complete new turbine. If the gearbox has to be replaced twice during the service life of the turbine, it has a dramatic effect on profitability.



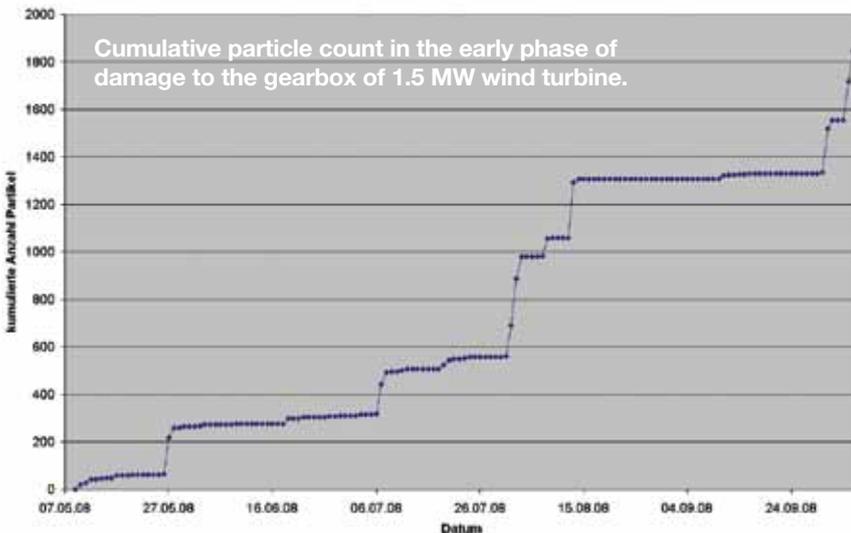
MCS in the filter coolant lubrication system; the filter is to left, in the middle is the MCS and the pump is to the right.

DETECTING DAMAGE EARLY

By continually monitoring the gearbox, malfunctions and the resulting damage can be detected early and remedied through small repairs, before a total failure occurs. Recording and analysis of vibrations in the gearbox makes this possible to a large extent.

Of course damage that does not produce any vibrations or for which noise transfer is very inefficient, as in the case of problems in the planetary gear, cannot be detected.

This problem can be solved by monitoring the lubrication oil for metallic particles which are generated through wear and fatigue on the gearbox. These particles are carried along by the lubrication oil and thus can be detected by inductive particle sensors in the cooling lubricant circulation system.



PARTICLE SENSORS

Hydac MCS 1000 particle sensors were specially developed for such applications.

They can be installed seamlessly into the cooling lubricant circulation system, and at the moment they are the only sensors on the market that completely fulfill all the requirements of Germanischer Lloyd for particle sensors.

FINDING LARGE PARTICLES

In an inductive particle counter, a field coil produces an alternating magnetic field whose strength is measured with a pick-up coil. If ferromagnetic particles enter the magnetic field, it becomes stronger.

Non-ferromagnetic conductive particles induce eddy currents in the particles, which causes a magnetic field to be produced that weakens the original magnetic field.

These particles are picked up by the oil circulator, conveyed through the MCS and are then completely separated out by the oil filter. In contrast to fine soiling, there is no consistent concentration of particles that would characterize the condition of the gearbox.

One challenge of this inductive measuring technology is eliminating its basic but unwanted sensitivity to air bubbles. The lubrication oil in the gearbox is, depending on its design, the suction point of the pump and the oil used is always more or less strongly frothed up.

A high performance signal processor takes care of the task of identifying the air bubbles as bubbles on the basis of their special signal form and not as particles. If the signals were processed purely on an analog basis, the air bubbles would cause false results in the error rate count and would severely limit the early detection of damage.

CONCLUSION

Integrating inductive particle sensors into vibration monitoring systems represents an excellent addition to the early detection system for gearbox damage.

Combining the systems makes it possible to jointly use the electronic data transmission and alarm system structures. MCS provides the necessary interfaces.

According to the needs of the system, parametrizable switching outputs that signal the detection of particles, or digital interfaces such as the RS485 and the ethernet can be used.

The probability of a complete failure of the gearbox with a correspondingly lengthy downtime for the wind turbine and the loss of electricity production and the associated financial risk can thus be minimized.

With a sensor diameter of 25 mm, ferromagnetic particles 200 μm and greater can be detected as well as nonferromagnetic particles of 550 μm and greater. Particles of this size are not normally found in a "healthy" gearbox, whose lubrication oil is typically constantly filtered with a filter fineness of 10 μm .

PARTICLE SWARMS

In the early phase of damage, large particles are normally not produced continuously, rather particle swarms sporadically appear. This occurs when material splits off from a surface and falls directly into the oil sump or goes through the tooth flanks and is crushed.

Hydac
www.hydac.co.uk

Global Wind Alliance
www.globalwindalliance.com

SPX HYDRAULIC TECHNOLOGIES

INNOVATING HYDRAULIC SYSTEMS AND TOOLS FOR THE WIND ENERGY INDUSTRY

There are hundreds of bolts in each wind turbine, and typically contractors are working 24/7 to erect the turbines. They need efficient hydraulic tools making jobs faster and easier.



GLOBAL MANUFACTURER

SPX Hydraulic Technologies, part of SPX Corporation, is a global manufacturer of high-performance systems in hydraulic energy and offers on-site solutions to enable assembly of large wind turbines by developing a series of hydraulic torque wrenches and pumps to target the bolting process.

INNOVATIVE PRODUCTS AND HIGHER PRODUCTIVITY

These innovating products provide greater tool portability, flexibility and continuous operation. Employing constant horsepower technology, the SPX HT hydraulic torque wrench pump increases the flow rate across the flow curve. The result is faster and precise tool operation and improves process efficiency – more bolts tightened per hour.

WIND ENERGY INDUSTRY – NEW PRODUCTS

SPX HT have launched new products specifically adapted for wind tower construction and maintenance...

- **TWHC** is a new Square Drive Torque Wrenche designed for a very high usage and to reduce costs by improving high cycle life 2-3 times more than existing technology -TWHC had been tested in excess of 30.000 cycles
- **PE39**, the newly design compact pump, is manufactured for checking bolt torque integrity and has been tested to over 100.000 cycles. Lighter weight and small form factor, the PE39 can be carried in a vertical, as well as a horizontal orientation. It is easily portable and handled for small working spaces
- **The SPX PE45** in an Infinite Stage Pump increasing productivity on the job by providing continuous pressure (from -25°C to +50°C) for up to twice the speed of typical 2-stage pumps, making jobs faster and easier
- **The SPX HT** new series of Wind Tower Tensioners have superior quality designed in with optimal operational features reducing fatigue, improving productivity whilst at the same time increasing safety. Different models are available: small in diameter to fit into areas where there is little radial clearance around the bolt.

SPX Hydraulic Technologies
www.spxhydraulictech.com

[e](#) = See enhanced entry online

[▶](#) = See video library online

[▶](#) = Video 2

[▶](#) = Video 3



WIND ENERGY NETWORK SUPPLY CHAIN REGISTER CHANGE

We have received a number of comments regarding our supply chain register which has proved to be a very worthwhile addition to Wind Energy Network.

As we progress we have found that more and more of our readers are taking advantage of the user friendly website to find companies and organisations specific to our industry.

After taking these comments into consideration we have taken the decision to remove the supply chain register from our printed version of the magazine.

COMMENTS AND REASONING

- Online uses no paper
- The online supply chain register is much easier to use than the printed version when searching for specific companies and organisations
- You can search the online version by A to Z as well as by category of specialism

- We can now update the online version immediately we receive an additional subscriber for your benefit instead of having to wait until the magazine is printed so that there is compatibility

INTERACTIVE WEBSITE

The supply chain register has grown considerably and now has many interactive tools such as.....

- Bespoke extensive micropages for companies and organisations containing considerable information both in text and imagery
- Video and audio
- Page turnable documentation and brochures
- Case studies

In short the magazine is limited in what it can do however the website is limitless.

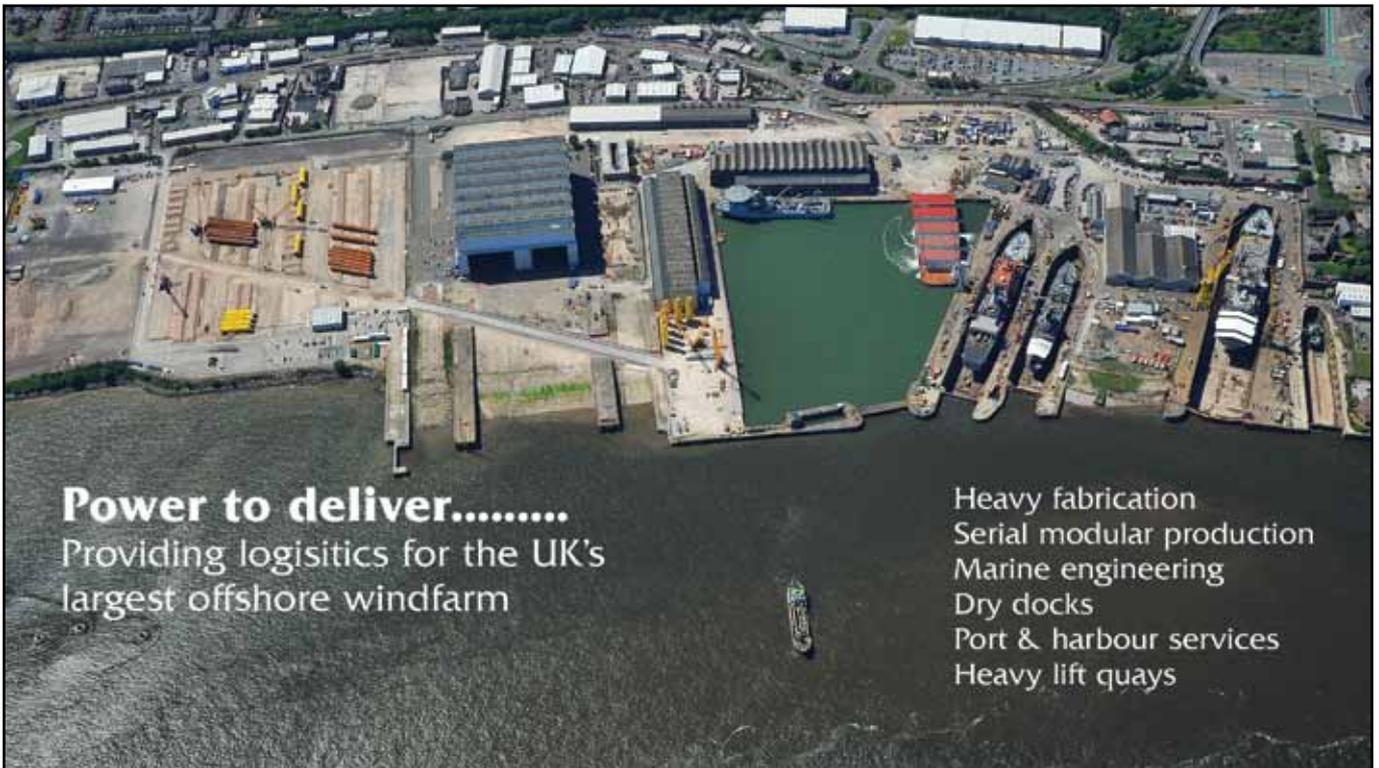
e = See enhanced entry online

▶ = See video library online

FUTURE CONSIDERATION

We have decided to print the supply chain register just once per year, which will be distributed to subscribers in the Spring of each year.

Duncan McGilvray
Editor | **Wind Energy Network**



Power to deliver.....
Providing logistics for the UK's largest offshore windfarm

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Marine engineering
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FOR FURTHER INFORMATION CONTACT US ON:

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HOTA. Malmo Road, Sutton Fields Industrial Estate, Hull. HU7 0YF

FENDERCARE

great yarmouth

Renewables

Fendercare Marine, a member of James Fisher & Sons plc, has now opened its second UK offshore renewables support base in Great Yarmouth, Norfolk.

Following on from the success of its first wave and tidal energy base in Lyness, Orkney, the Great Yarmouth base will provide an extensive range of support services and equipment to the expanding offshore wind industry.

This new facility will provide:

- Quayside frontage
- 4,000 m² site capacity
- Full mobilisation and de-mobilisation facilities (crane up to 80T vessels)
- Maintenance and repair facilities
- Mooring facilities for up to 3 offshore support craft, with capacity for further 5 on land
- Storage
- Fully equipped project management offices
- Bunkering and fuelling services
- Lifting and testing services
- Marine hardware and rope sales
- Fendering sales



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