CATAPULT
Offshore Renewable Energy

CIRCUIT

Spring 2015 | Issue 5

At The Leading Edge

In this issue

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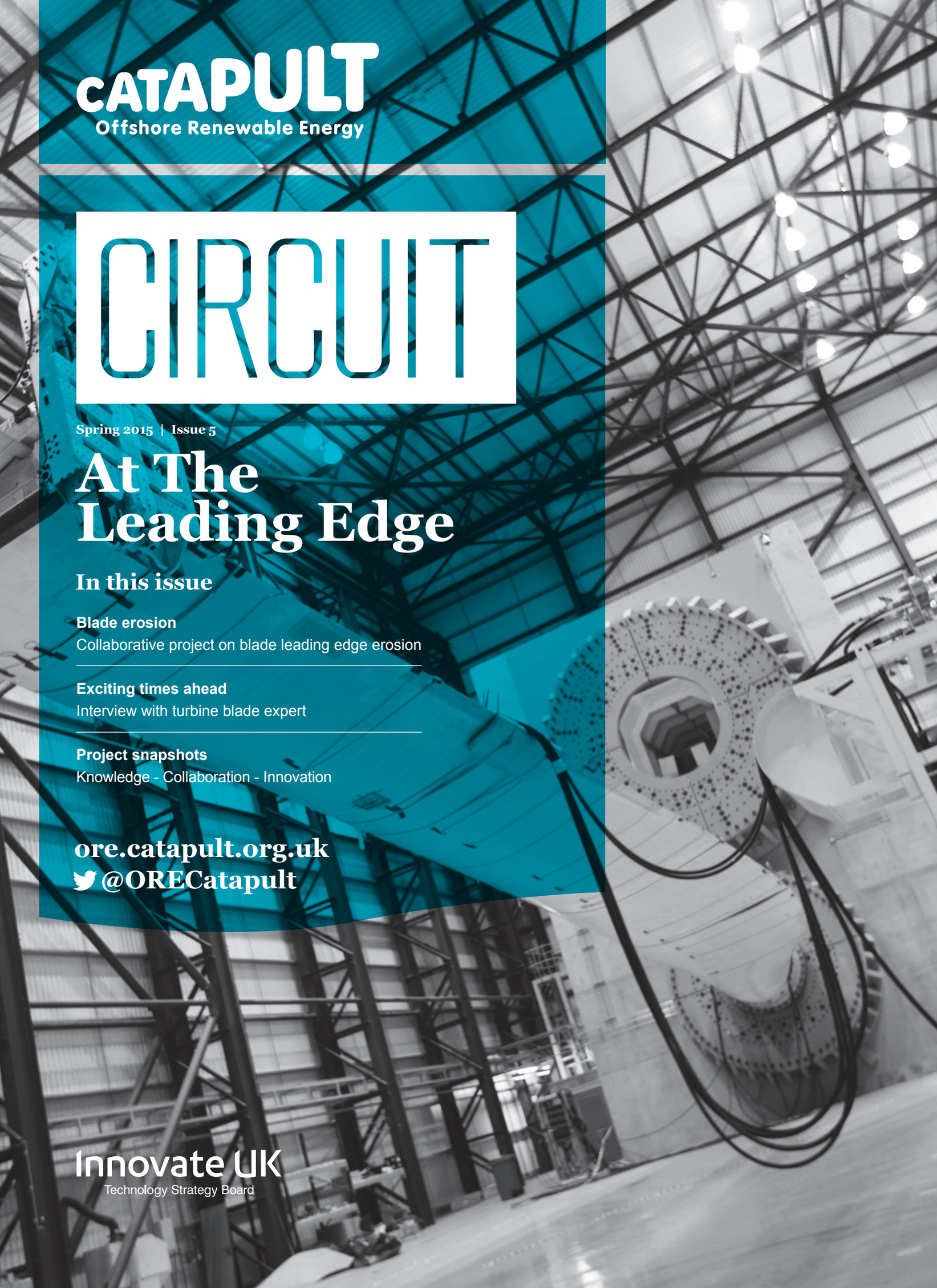

Innovate UK
Technology Strategy Board

CATAPULT
Offshore Renewable Energy

Driving Innovation and Knowledge

The Offshore Renewable Energy Catapult is the UK's flagship technology innovation and research centre for offshore wind, wave and tidal energy.

We deliver prioritised research underpinned by world-class test and demonstration facilities, collaborating with industry, academia and Government to reduce the cost of offshore renewable energy.

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Welcome

In this edition of our in-house magazine, Circuit, we focus on innovative blade technologies. Blades is one of seven 'Knowledge Areas' that ORE Catapult recognises as vital to continuing to drive down the levelised cost of offshore renewable energy.

Blade technologies must evolve rapidly in order to meet the rigorous demands of the offshore sector, and do so in a cost-effective way. Bigger turbines require longer blades capable of withstanding higher tip speeds and greater mechanical loadings. On top of these stresses, blades must deal with often adverse metocean conditions, including lightning strikes, turbulence and the ongoing corrosive effects of salt water and a humid environment. Combined, these factors challenge the boundaries of engineering and materials science knowledge.

Our collaborative industry project BLEEP is investigating the issue of blade leading edge erosion, one of the major challenges facing the offshore wind sector today. Leading edge erosion presents significant operational, maintenance and cost challenges to the industry. BLEEP is looking at the science behind leading edge erosion – why it happens, and why its effects seem accelerated offshore – and is investigating new, innovative blade repair and protection systems, as well as construction of a world-leading blade erosion test rig at our National Renewable Energy Centre in Blyth.

We've launched specific innovation challenges to industry in the areas of blade erosion and blade condition monitoring and are looking to work with industry partners, large and small, such as GEV Wind Power, on innovative solutions to some of these issues.

In March 2015, we welcomed to our team Raul Prieto, one of the industry's leading experts in the field of blade technologies, who has joined the Catapult to lead our blade technology innovation programmes. We're also actively researching new ways of blade technology testing and demonstration such as dual-axis blade fatigue testing and innovative condition monitoring systems.

In common with other key turbine components, blade reliability is critical to the industry, given the high costs and logistical complexities associated with offshore operations and maintenance. Improving repair techniques and technologies will contribute to cost reduction, whilst advances in field blade condition monitoring equipment will aid industry best practice by allowing wind farm operators to better plan their turbine maintenance regimes, ultimately improving wind farm reliability and availability and increasing power output and revenue.

I hope that you will find this edition of Circuit both interesting and informative, and please do get in touch with us if you would like to discuss any of the topics that we cover.

Andrew Jamieson, CEO

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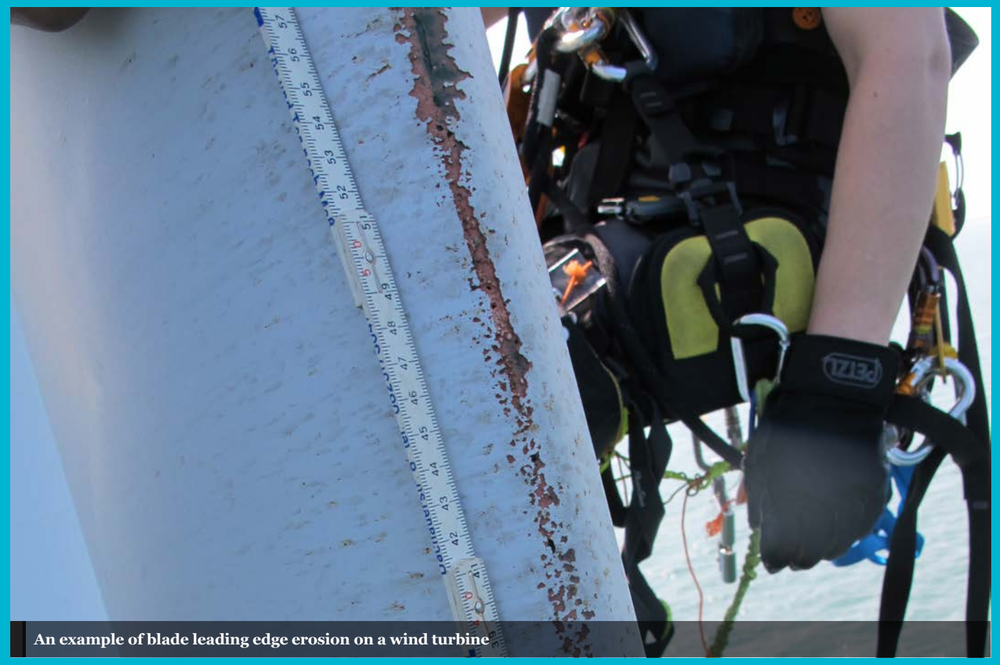
At the leading edge of blade erosion

The erosion of a wind turbine blade's leading edge is a major challenge for the wind industry, both on and offshore. ORE Catapult has convened a joint collaborative programme to tackle this problem and better understand why it happens, its financial impact on the industry, and develop new and innovative repair and protection methods to mitigate its effects.



An example of blade leading edge erosion on a wind turbine

Blade erosion

The Blade Leading Edge Erosion Programme, or BLEEP for short, has been developed by ORE Catapult to tackle one of the biggest challenges facing the wind industry today. It brings industry and academia together, promoting collaboration and knowledge sharing to try to minimise the impact of blade leading edge erosion (LEE) on offshore wind revenues and energy costs.

The erosion of the leading part of the turbine blade i.e. the part of the blade that experiences the strongest impact with rain droplets and other airborne particulates, is a problem both on and offshore, but the erosion seems to be accelerated offshore due to harsher environmental conditions.

Erosion affects the aerodynamic performance of the blade – its flow, lift, and power – and its structural integrity as water ingress and UV light exposure can lead to structural damage. This leads to reduced turbine efficiency, reliability and availability, and increased operations and maintenance activity with repairs in situ being difficult and expensive. All this proves costly for offshore wind farm owner/operators through lost power generation and revenue.

One of the first aims of the BLEEP programme will be to better quantify the magnitude of leading edge erosion (LEE) across the sector by investigating its effect on wind turbine blade efficiency, assessing the impact on aerodynamic performance and structural integrity and on the overall cost of electricity generated from offshore wind. One programme objective is to minimise operations and maintenance activities whilst maximising reliability and availability, thereby cutting the cost of electricity generated from offshore wind.

The science behind erosion

Andrew Kay, ORE Catapult Technical Lead on BLEEP, says that the science behind erosion on wind turbine blades, and why it happens, is an area that is not yet fully understood and deserves more investigation. "Why does LEE occur, and why does it seem to be accelerated offshore? Through the BLEEP programme, we will investigate the fundamental physics underpinning LEE failure through experimentation, analysis of natural erosion damage occurring in the field and by using computer modelling, and we will use that knowledge to improve test methods and de-risk techniques for LEE protection and repair."

Part of this investigative work will be the development of an independent, state-of-the-art blade erosion test rig at our National Renewable Energy Centre in Blyth, Northumberland. The facility will be used to assess the performance of current protection and repair solutions (materials, coatings etc), many of which are not performing as expected in the offshore environment. From the results of this testing, new industry-wide standards for the evaluation of new erosion protection and repair technologies for offshore wind turbine blades will be developed.

Industry collaboration

Andy Lewin, ORE Catapult Project Manager for BLEEP, said: "So far, industry support for the programme has been strong, with representatives from UK offshore wind farm owner/operators, wind turbine manufacturers and inspection and repair companies supporting the project. Our project management expertise, combined with our strong industry and academic partnerships and world-class research and testing capabilities, means we are in a strong position to become an international authority on blade leading edge erosion and make a significant impact in mitigating its effects."

Blade innovation challenges

A key element of ORE Catapult's activities, and the BLEEP programme, is to develop a deep understanding of the sector's blade innovation challenges and then feed this information into the industrial and academic supply chains to stimulate new and improved technology solutions. ORE Catapult then engages and collaborates with innovators to accelerate the development and commercialisation of their technology by utilising the Catapult's sector knowledge and

Blade erosion continued...

technical expertise, and making its testing capabilities available to innovators.

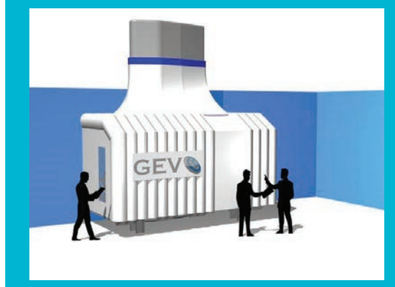
We've launched blade erosion innovation challenges to industry, providing opportunities for organisations to develop improved technology solutions in the following areas:

- Blade inspection and monitoring technologies.
- Blade access systems for inspection and repair.
- Blade repair systems and materials.
- Blade erosion protection systems and new, more durable blade materials.

Collaboration with ORE Catapult adds value to innovators by providing in-depth understanding of the blade erosion challenge, knowledge of current solutions, routes to market, etc. We also have in-house technical expertise and good, in-depth knowledge of blade technologies and the development process which can be used to validate concepts and optimise their development paths.

Our own blades and testing facilities can be used to support the development and validation of early stage concepts and we are working with wind turbine asset owners to develop pathways to demonstrate technologies in the field. We are also working with the key customers for blade erosion innovations to develop a deep understanding of their requirements, in turn enabling us to support innovators to develop robust commercialisation plans for their technologies.

ORE Catapult is currently collaborating with a number of innovative technology developers addressing the blade erosion challenge. But we are always keen to hear from companies who feel they can provide improved solutions to this key industry challenge. Our engagement and collaboration process is outlined on our website and if you feel you have a project or innovative technology that might meet our criteria, contact us through our website at **https://ore.catapult.org.uk/innovation-challenges**



GEV Wind Power

GEV Wind Power are developing an innovative blade habitat technology. This technology will allow a blade repair to be undertaken in a weatherproof environment where temperature and humidity can be controlled. This opens up the weather window for repairs and could potentially speed up repair times, which will reduce O&M operations and costs.

ORE Catapult is working with GEV Wind Power to help them to develop and validate their value proposition with the marketplace and, based on this feedback, to optimise their development and commercialisation plan.

We are providing access to our blade testing facilities at the National Renewable Energy Centre to support technology development and are now supporting them to identify operational assets in order to trial their system in a real-world environment.

Following successful onshore demonstration, we will shape up a collaborative project to develop and trial the system offshore.

Exciting times ahead

One of the industry's leading experts on wind turbine blades, Raul Prieto has recently joined the ORE Catapult team. Here, Raul gives an honest opinion on the market and outlines some of the key areas where he plans to focus the Catapult's attention.

Raul Prieto, Senior Engineering Specialist

Prior to joining ORE Catapult in March 2015, Raul worked as a Blade Engineer for Finnish wind turbine manufacturer WinWinD. He spent his early career working as an aerodynamics researcher at Airbus before moving to the wind industry where he worked in blade aerodynamics for Gamesa and CENER (Spanish National Renewable Energy Centre). He has an MSc in Aeronautical Engineering from Universidad Politecnica de Madrid (UPM) and enjoys hiking and watching Atlético de Madrid in his spare time.

Control room inside Catapult Blyth's 50m blade test facility

Leading blades expert

Over the past few years the general consensus in the offshore renewables industry continues to be that the cost of energy, and the drive to reduce these costs, will be critical in determining the future size of the market in the UK. Progress towards the DECC target of £100/MWh by 2020 is being made, and the industry is now looking further ahead with ambitious plans to achieve further cost reduction.

Rotor blades currently account for around 11% of undiscounted capital, and operational costs of a typical offshore wind farm and rotor servicing costs account for 4% of the total 16% operation and maintenance (O&M) servicing costs. Offshore blades therefore represent an important opportunity in reducing the cost of energy from offshore wind.

Developments and adaptations in our 100m blade test facility, at the National Renewable Energy Centre in Blyth, are ongoing with the deployment of the novel hydraulic ram (RAT), to support the testing of larger blades. An internal project on dual-axis fatigue testing is also helping to pave the way to achieving test conditions more representative of actual blade operations, as well as shorter test durations.

The development of advanced design tools and models of a blade's structure relies closely on blade testing, and is a key instrument for validating novel structural concepts. This progress will allow us to leverage best use of the world-class 100m facility and further support the development of blade technologies.

As the trend in offshore blades moves towards more slender, flexible and thicker blades, they become more sensitive to performance degradation due to soiling. These innovations in blade design also present additional design challenges in the fields of aerodynamics and aero-elasticity. This requires further investigation in order to develop high fidelity models, and could provide an opportunity to improve energy yield in future offshore blades.

The industry should engage in applied research around innovative blade materials to tackle issues such as in-service degradation, excessive safety factors due to material properties uncertainty, residual resistance of field repairs or leading edge erosion. The capability of subcomponent and detail testing will also allow for the progressive reduction of safety factors, blade mass and costs.

All these themes are fundamental to furthering our knowledge and understanding of blade life cycle costs. In line with this, research and development (R&D) projects such as the BLEEP programme, aimed at unveiling the mechanisms of leading edge erosion, are very relevant in the context of the move to achieve greater blade tip speeds and longer blade lifetimes. This is exactly the type of activity where we plan to spend more time focusing and refining our efforts.

Undertaking R&D, creating strategic partnerships with original equipment manufacturers (OEMs), and engaging with small businesses and the academic community, remain important to developing and validating blade technology. Furthermore, we need to continue devising new services aligned with the needs of the sector, and contribute to the cross-fertilisation of wind, wave and tidal energy technologies, using our existing expertise and experience of wind turbine blades to drive forward the design and standardisation requirements of tidal turbine blades.

Contributing to and driving the development of IEC (International Electro-technical Commission) standards regarding blade testing, distilling our testing experience into an active presence in the certification forums to gain international consensus on new testing methodologies such as dual-axis fatigue testing is also key to supporting and progressing the industry and achieving 40% cost reductions.

This is an exciting time for blade technology innovations and an interesting area for the Catapult to lead on.

Continuous development allows us to go longer

After developing the world's largest blade testing facility in 2012, some people may have thought it was time to relax as the hard work was complete. The reality, however, was very different. We were just at the start of a long and challenging journey in the evolution of the facility.

Inside the 100m blade test hall

Facility enhancements

This new chapter has been a valuable learning curve. To prepare ourselves effectively we have instigated several projects to break down barriers, overcome technical challenges and future proof the facility so that it is ready to meet the needs of the industry and test the next generation of longer turbine blades reaching up to 100m in length.

We have already gained considerable experience from testing shorter blades and implementing a range of innovative facility improvements as part of our continuous development programme. This know-how has enabled us to ensure that the correct foundations are in place to successfully test longer blades. This year promises to be particularly exciting as a number of ground-breaking projects are due for completion.

Historically, we have used our Compact Resonant Mass (CRM) system to excite blades at their natural frequency in a flap-wise direction. For longer blades, the natural frequency is lower, which means that the CRMs can no longer exert enough force to achieve the required test loads. In contrast, the Resonant Actuator Test (RAT) has one single actuation point which is floor mounted and coupled to the underside of the blade. This allows the blade to be driven in a sinusoidal motion which imparts the forces and bending moments on to the blade. Using the RAT means that less test equipment needs to be attached to the blade, so the blade's natural frequency can remain high, reducing the duration of the test, which in turn makes the test more cost effective. The introduction and commissioning of this technology will allow the facility to fully exert its 100m design potential and allow us to offer the client complete flexibility and choice over the type of loading applied depending on the test criteria and their requirements.

We have also implemented a number of upgrades to our bespoke control and software systems in our 100m facility. A hydraulic winch system which is attached to the blade during a static test exerts forces over the blade over a controlled period of time. From this, we are able to know exactly what is happening to the blade during the test. The control system also stops the blade from becoming overloaded and allows us to monitor the loading on the blade and respond accordingly. In the fatigue test, the traffic light system has also been an effective in-house development allowing us to continually monitor the strain gauges and any damage, acting as an early warning system and automatically stopping the test if any problems occur.

These activities and facility refinements have all helped to prepare the facility to test long blades in the region of 65m upwards. Blades of this length affect the testing parameters, from relatively simple challenges such as handling and logistics to more complex issues such as the larger test loads and the resulting blade deflections.

Supporting industry through innovation is central to ORE Catapult's philosophy. An excellent example of this is the ongoing dual-axis fatigue testing project which is being delivered through a Knowledge Transfer Partnership (KTP) programme with Durham University.

When blades are in service, there are two main sources of loading: the blades are of course loaded by the wind, which varies as the rotor spins because of turbulence, tower shadow and wind shear; gravity, however, is also a major source of fatigue loading for the blades, particularly as they grow in length and mass. The aerodynamic loads mainly act in the flap-wise direction, and the gravity loads mainly act in the edge-wise direction. Single-axis tests are designed to represent these two sources of loading, with equivalent test loads calculated for each direction and then applied to the blade in separate flap-wise and edge-wise tests.

Unfortunately, in service the two sources of loading occur at the same time, so testing in this manner cannot truly represent how fatigue damage accumulates on the blade whilst it is in service. Dual-axis testing seeks to address this problem by performing the two tests at the same time, which makes the test more representative - with the added benefit that the test time can be halved. Testing in this

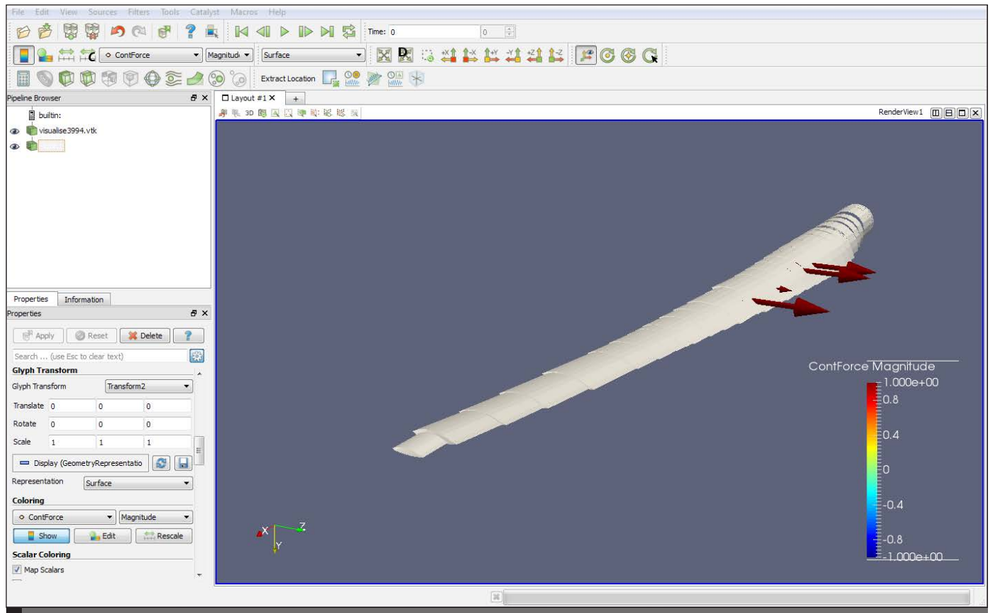
Facility enhancements continued...

way, however, is not trivial - if the calculated single-axis test loads are simply applied to the blade at the same time then the blade will be damaged in ways that it would not be by its service life.

An optimised dual-axis test is potentially the jewel in the crown to testing long blades. It is anticipated that this methodology offers significant benefits in terms of more representative testing and a reduced test duration. These can be obtained without the over-testing which would occur if the two single-axis tests were simply performed at the same time.

Through our knowledge and position within the sector we are also delivering industry wide R&D projects focused on blade technology, such as the Blade Leading Edge Erosion Programme (BLEEP). BLEEP aims to reduce the adverse impact of blade leading edge erosion on the operational performance of offshore wind turbines, by assessing the impact on aerodynamic performance and structural integrity. This will help to minimise operation and maintenance activities whilst maximising reliability and availability.

The importance and desire to continually innovate and deliver collaborative projects remains paramount and helps to ensure that the Catapult maintains its world leading status for blade testing know-how and expertise. These developments help us to illustrate our commitment to the industry in preparing for the scale-up of these technologies, ready to meet the harsher conditions experienced when going further and deeper offshore, and ultimately in driving down costs.



Simulation software to predict how the blade will behave during a dual-axis test

Cost of offshore wind energy falls sharply

The Cost Reduction Monitoring Framework (CRMF) report, issued in February 2015, reveals that the cost of energy from offshore wind farms has fallen by almost 11% over the past three years, putting the offshore wind industry ahead of schedule on its path to delivering the UK Government's target of £100/MWh by 2020. The report also provides clear evidence that offshore wind can play a significant role in the UK's sustainable energy mix in the coming decades.

Offshore wind farm installation. Image courtesy of DONG Energy

The report, commissioned in 2014 by the Offshore Wind Programme Board at the request of industry leaders and government, was delivered by ORE Catapult in collaboration with The Crown Estate, providing analysis of data gathered by Deloitte and DNV GL from offshore wind farms in UK waters. It charts progress between 2011 and 2014 on cost reduction and is measured in lifetime costs.

It shows that:

- The lifetime cost of energy from offshore wind has come down from £136/MWh in 2011 to £121/MWh for projects moving to construction between 2012 and 2014 (this is as measured across the longer whole life of a project, not just the 15 years covered by Government strike prices).
- The biggest single contribution to cost reduction has been industry's early adoption of larger turbines. 6MW+ machines are now being rolled out, compared to the 3MW turbines that were standard until recently.

The results closely mirror the competitive result achieved in the Contracts for Difference (CfD) auction, which were announced by DECC on the same day the report was published. The report provides analysis of how and why savings have been realised, and identifies the on-going opportunities and challenges to further cost reduction.

The CRMF report shows that continued innovation and cost reduction depends on the scale of growth planned for the sector. It states that "whilst progress has been made in the face of a reduced deployment outlook, it is not safe to assume that the supply chain will continue to invest in the required technology innovations if the size of the market is not sufficient."

Commenting on the report, Minister for Energy Matthew Hancock said, "The Cost Reduction Monitoring Framework and the CfD auction results are welcome evidence of the progress on cost reduction being made by the offshore wind industry. We've created the right conditions for significant levels of investment and are now seeing costs come down towards the target of £100/MWh – and with the potential to go further still. This strengthens the UK's position as the world leader in offshore wind, and creates an opportunity for new high quality jobs and growing local economies."

Benj Sykes, Co-Chairman of the Offshore Wind Industry Council (OWIC), said: "Our Cost Monitoring work as well as the CfD's strike price announcements demonstrate that the industry is making rapid progress in bringing costs down, ensuring that offshore wind can play a central role in the UK's future energy mix. As an industry we remain committed to continuing our work to drive costs down further in the coming years."

Andrew Jamieson, CEO of ORE Catapult, said "Our CRMF report not only demonstrates excellent progress made in just a few years in making offshore wind a more cost-competitive, sustainable secure source of energy, but also illustrates the technology innovations and efficiencies required to deliver the targeted £100/MWh. Significant challenges lie ahead for the entire industry, and continued progress will require ever greater collaboration between industry, government and academia."

The report makes a number of recommendations on actions required to continue the reduction in costs for offshore wind, including:

- Clarity is needed on the future programme and scale for offshore wind in the UK, so that sufficient investment can be attracted to reduce costs and support industrialisation.
- New technologies for deeper water sites are not being developed quickly enough. More opportunities to demonstrate these technologies should be facilitated.
- Greater collaboration and better monitoring to improve data availability and analysis tools to aid technology innovation are required.
- More focus is required to identify and address the gaps in skills and expertise.
- Industry needs to continue work on standardisation of key components.

The CRMF summary report and the analysis of data gathered by Deloitte and DNV GL can be viewed and downloaded at ***https://ore.catapult.org.uk/crmf***

Knowledge Collaboration Innovation

Tidal EC - Tidal Energy Converter Cost Reduction via Power Take-Off Optimisation

ORE Catapult is the project coordinator of a €1.3million EU FP7 funded project involving seven consortium partners from five European countries.

The two year project, which commenced in September 2014, will conduct vital research and design evaluation activities to determine the optimum design of a tidal energy converter power take-off system and permanent magnet generator - two of the largest and most critical components of any mainstream tidal energy device.

The project proposes to develop an optimised system that will improve reliability, increase power conversion efficiency and facilitate reduction in the cost of tidal power.

Working in collaboration with

Tidal turbine powertrain reliability

ORE Catapult, supported by consultancies Ricardo and DNV GL, is leading a three-stage collaborative industry project aimed at improving the reliability of tidal turbine powertrains by reducing risk at the design phase and aiding design optimisation.

The project will address the reliability issues faced by a tidal turbine powertrain in converting energy to electricity with the aim of increasing the energy output and ultimately driving down the cost of marine energy.

Until now, research into tidal turbine reliability has been segmented and product specific, lacking a systematic and industry wide approach. The project will draw on reliability data and generic lessons learnt from many industries including offshore wind, oil and gas, defence, automotive and rail.

Working in collaboration with

Working in collaboration with

SUSCABLE

New, more reliable electrical connections are needed to meet the growing demand from the UK's offshore renewables networks and smart grids for cables that can deal with larger and more variable current loadings.

A collaborative project between ORE Catapult and GnoSys Global Ltd is supporting the development of a new generation of polymer blend-based power cables to provide greater insulation, improve electrical connection reliability and increase energy to power conversion.

This project will help to improve cable performance in the onshore and offshore renewable energy sector and drive down whole life network costs.

Working in collaboration with

GOAL

ORE Catapult is a consortium partner in a joint industry project which aims to develop reliable industry-wide design guidelines for the design of large leg-pile connections for jacket substructures used in offshore wind applications.

The design guidelines currently available for leg-pile connections for jacket substructures in the offshore wind industry are based on historical testing carried out by the oil and gas industry.

This project will carry out fatigue testing on samples representative of leg-pile connections for jacket substructures in order to develop guidance that is more appropriate for offshore wind applications, ensuring efficient design and reducing risk. The testing also aims to validate the use of Ordinary Portland Cement (OPC), which is used to form the connection between the jacket leg and the pile, as a lower cost alternative to the high strength grouts that are currently being considered.

Working in collaboration with

Offshore Piling Noise Mitigation Feasibility Study

Quiet Pile Ltd has developed a novel design concept intended to mitigate noise caused by offshore piling operations. The concept deviates from the majority of systems currently in use or in development in that it reduces the sound at source by damping pile vibrations.

A feasibility study has been commissioned involving Osbit Power and ORE Catapult to determine the feasibility and proving of the technology.

Catapult report identifies measures to bolster marine energy sector funding

A recent report *Financing solutions for wave and tidal energy,* published by ORE Catapult, found that urgent action is needed to bolster the UK's wave and tidal industries and get investors back in play.

The report highlights that this strategically important market could cumulatively be worth around £76bn to the UK economy by 2050. But funding for first arrays and technology proving has become less certain as investors have been either unwilling to invest, or have been pulling out of the market due to a lack of clarity on future investment return and timing. More investment from both the public and private sectors is needed to get the first tidal arrays to financial close, and drive the wave industry along the path to commercial readiness.

ORE Catapult outlined five targeted actions to accelerate commercialisation of wave and tidal energy technologies and de-risk investment into the marine energy sector. These include: standardisation in the approach to developing technologies; a potential role for Government in underwriting debt finance; greater coordination of due diligence for both projects and technologies; and greater alignment between private and public sector investors of the ways in which we assess technologies. The full report is available on our website **https://ore.catapult.org.uk**.

Aquamarine Power's Oyster 800 wave energy converter in operation

Wind turbine ROV climbs new heights

An innovative Remotely Operated Vehicle (ROV) for use on wind turbine towers has been successfully trialled at ORE Catapult's National Renewable Energy Centre using the 27m high wind turbine training tower.

Newcastle-based Invisotech, providers of inspection and analytical solutions for high-value assets, has developed and successfully trialled the ROV at a series of field trials around the UK, and most recently at the Blyth-based facility. This particular ROV was fitted with a Non-Destructive Testing (NDT) probe and high-definition video equipment to carry out detailed remote inspections of weld seams providing interpretive analysis in terms of potential maintenance requirements.

By integrating these technologies it is predicted that it will reduce the overall operation and maintenance (O&M) costs associated with these procedures, especially as it can be utilised when the turbine is still operating, delivering a safer, more efficient and cost effective inspection process for high-value assets.

Invisotech trials ROV at Blyth

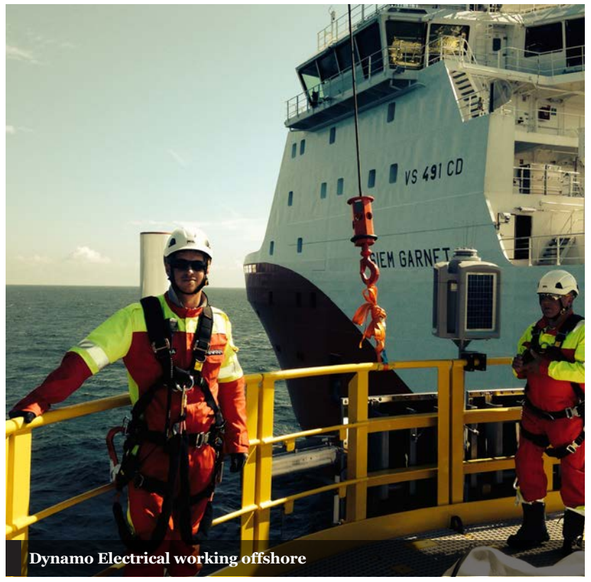
EMEC site in Orkney

ORE Catapult, EMEC and AFRC join forces to improve marine component reliability

Three of the UK's leading technology innovation, research and testing centres are working together on a joint project to test and analyse components in wave and tidal devices, to better understand issues around component reliability, improve performance and ultimately reduce the cost of marine energy.

ORE Catapult is working with the European Marine Energy Centre (EMEC) and the University of Strathclyde's Advanced Forming Research Centre (AFRC), part of the High Value Manufacturing (HVM) Catapult, to build a database identifying the common failure mechanisms of components.

EMEC will undertake a 'forensic analysis' of a variety of components that have failed to some degree across a range of wave and tidal energy devices, with AFRC providing support around component testing. The resulting report will be made available to support the sector in engineering design choices around components and materials.



Dynamo Electrical working offshore

EUROPEAN UNION
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European Regional Development Fund 2007-13

Offshore skills training is key to north east companies' success

More than 200 small businesses, and 199 technicians, in the North East have benefited from a European Regional Development Funded project (ERDF) related to offshore wind and marine training, delivered by ORE Catapult.

Over the past two years, the project, delivered at the National Renewable Energy Centre in Blyth, has been delivering health and safety and technical training in a range of disciplines such as working at height and rescue training, non-destructive testing, blade inspection and repair and IRATA rope access for north east companies in order to help them access crucial supply chain opportunities and diversify their business into the offshore renewable energy sector.

The project was established as a result of an identified skills shortage in being able to appropriately service the offshore wind and marine sector and carry out crucial operations and maintenance (O&M) and installation procedures.

One of the project's success stories is Cramlington-based Dynamo Electrical. As a result of receiving working at height, confined spaces and other offshore renewable energy-relevant courses such as MIST and BOSIET, the company has been able to transfer some of their electrical testing and certification skills, and more than triple its workforce to 38 members of staff. They have also successfully won a substantial asset management contract as a result of the direct support received.

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