

CIRCUIT

ISSUE 16 // SUMMER 2019

MACHINE LEARNING

THE RISE OF ROBOTICS AND AUTONOMOUS SYSTEMS IN OFFSHORE WIND

FEATURES

// INSECT INSPECTOR

BladeBUG's multi-legged inspection robot begins phase two of its development

// LEADING LIGHTS

Meet the Catapult's #RUKGOW19 Event Champions

// 2030 VISION IN ACTION

How the OWGP will contribute to the Sector Deal's supply chain ambition

We work with
Innovate UK

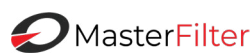


WE ARE AT GLOBAL OFFSHORE WIND 2019

Come and meet the ORE Catapult team and see how we can help your business.

We are hosting ten innovative SMEs on our pavilion – come and find out more about the exciting technologies they're developing!

Come and meet...



CATAPULT
Offshore Renewable Energy

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VISIT US
AT STAND

130

#RUKGOW19



Strategic
Event
Partner

WELCOME



GUEST FOREWORD

Professor David Lane CBE FREng FRSE
Founder, Edinburgh Centre for Robotics
Heriot-Watt University

In industries around the world robots are transforming the workplace, and the UK is playing a leading role in this international revolution.

From Oxbotica and 5AI trialling self-driving cars on UK roads to Open Bionics' muscle-controlled prosthetic arms, advancements are accelerating quickly. Automation has massively transformed the factory floor, made aviation smoother and safer, and is taking people out of hazardous construction and mining environments.

In renewable energy, we are on the cusp of similar change. Drone technology is quickly becoming the go-to method for inspection across the wind industry. Remotely-operated vehicles are providing high-quality survey data and autonomous underwater vehicles, already applied in oil and gas, are being tested commercially around offshore wind installations.

As the sector gears up to reach at least 30GW of installed capacity by 2030, the automation of asset operations and maintenance will be key to making this rapid scale-up cost effective and safe. This requires developments in robot hardware, technologies for sensing and mapping, and compliant interaction, among other areas.

Working with industrial and academic partners, ORE Catapult is gaining traction at the forefront of this revolution for offshore wind, wave and tidal energy. Through partnership and its unique testing facilities, the Catapult already leads in innovative programmes whilst teaming with other leading research initiatives to catalyse change and improve the industry's productivity.

It is not so long since the idea of robots communicating and collaborating to inspect and repair a wind farm was an ambitious pipe dream. Now, the Catapult and its equally ambitious partners are focused on game-changing innovation that will make it a reality.

The UK has the potential to lead the world in robotics technology for offshore renewable energy. The Catapult is playing an important leadership role in creating the ecosystem that will enable UK organisations to capture the value from these developments to the benefit of our economy.

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Lorna Bennet is championing STEM and skills at this year's #RUKGOW19



WE ARE THE CHAMPIONS

Taking place in London on the 25th and 26th June, Global Offshore Wind 2019 is the biggest offshore wind event in the world's largest market. Representing the Catapult are some of our foremost Thought Leaders, and our Event Champions will be focusing on some of the key opportunities and challenges facing our industry today. Here, we meet the Catapult's #RUKGOW19 team and find out the topics they're most passionate about.

Tony Quinn **Strategic Thought Leader**

In his role as Testing & Validation Director, Tony heads a diverse 70-strong team with a broad set of skills, ranging from technical apprentices to professional engineers who are experts in their chosen field. He is a strong advocate of the validation process: equally important to small-scale disruptive innovators as it is to multinational turbine manufacturers in their quest to bring new products to market. Tony is equally passionate about the skills agenda, and is actively involved in ensuring education providers are fully attuned to the new job opportunities presented by our transition to a low-carbon economy.

Tony is leading the Catapult charge at this year's event.

Lorna Bennet **Focus: Building our Modern Workforce**

A Mechanical Engineer in the Catapult's Operational Performance team, Lorna is passionate about skills development and science, technology, engineering and maths (STEM) engagement, leading the Catapult's STEM engagement strategy and engineering intern recruitment in our Glasgow office. In 2018 she won a Royal Academy of Engineering Ingenious Award, receiving a grant enabling the development of a local primary school engagement plan. In collaboration with a number of local and national charities, she has driven community engagement and promoted engineering across the country. This tireless commitment led to Lorna being awarded the 2018 Women's Engineering Society Prize at the IET Young Woman Engineer of the Year Awards in December 2018.

Lorna is championing the importance of STEM and skills at this year's event.



Image 

Representatives from the Catapult get down to business at last year's Global Offshore Wind conference

// Visit us at Stand 130 in the Exhibition Hall at #RUKGOW19

Gavin Smart

Focus: Markets for Growth

The Catapult's Head of Insights is passionate about renewables and leads a dedicated team of analysts who are responsible for developing and maintaining the Catapult's economic modelling and generating insights from the organisation's projects. The team's work is frequently fed in to national and regional policymakers and is vital in informing the Catapult's business strategy. The team has delivered a number of studies with particular focus on finance, economics, innovation and policy, including the seminal marine energy report Tidal Stream and Wave Energy: Cost Reduction and Industrial Benefit, and Macroeconomic Benefits of Floating Wind in the UK.

Gavin is championing the development of new market opportunities for offshore wind.

Ravneet Kaur

Focus: Future Energy Systems

Innovation Manager Ravneet leads our search for the future technologies that can drive economic growth. She is responsible for helping high-growth-potential SMEs break into offshore renewables and flourish, working with them to identify and win grants and investment, access testing services, and bring their new technologies to commercialisation. She is currently leading the enterprise and academic engagement for the £6m European Regional Development Fund-backed eGrid project.

A passionate STEM ambassador and skills development advocate, Ravneet acts as the North-East Local Enterprise Partnership's Enterprise Advisor, providing industrial careers advice to local secondary schools and promoting STEM careers among students.

Tony Fong

Focus: Sparking Future Technologies

Tony is the Catapult's Engineering Manager, focusing on Balance of Plant and Robotics and Autonomous Systems for improving wind farm operations and maintenance activities. Tony works on the technical delivery of projects ranging from bespoke test rig design through to the development of validation methodologies for Unmanned Aerial Systems (UAS) in offshore wind. His engagement with the supply chain, end-users and regulators is helping to shape the future of robotics and autonomous systems in the industry as a member of the British Standards Institute UAS Working Group.

Tony will focus on Balance of Plant and Robotics and Autonomous Systems for improving wind farm operations and maintenance activities.

Image >

Andrew Macdonald,
the Catapult's Senior
Innovation Manager



THE INDUSTRY'S 2030 VISION IN ACTION

The Catapult's Senior Innovation Manager **Andrew Macdonald** looks at how the OWGP, which launches formally at #RUKGOW19, will contribute to delivering the Sector Deal's ambitious 2030 vision for the UK supply chain.

The announcement of the Sector Deal earlier this year was a watershed moment for offshore wind. In throwing its weight behind the expansion of the industry, the Government is expecting it to provide at least a third of the UK's electricity by 2030. To deliver on the Deal means quadrupling capacity to at least 30GW and boosting local content to 60%, creating thousands of jobs and huge opportunities for the UK supply chain.

Despite our status as a world leader in offshore wind, there can be no doubt that the industry must bulk up for the challenge ahead. Agreeing the Sector Deal took considerable preparation, careful negotiation, and no little perspiration – but the hard work starts here.

Wrapped up within the Deal is the Offshore Wind Growth Partnership (OWGP), a major 10-year development programme that will implement the Sector Deal's vision for the supply chain. Delivered by the Catapult, the OWGP's objective is to deliver increased productivity and competitiveness for UK businesses that will boost UK content both at home and in export markets. Up to £100m will be invested by Offshore Wind Industry Council members, the supply chain, and regional collaborations.

The OWGP will engage in four key areas of activity to achieve its aims. The first is building stronger links between offshore wind developers

and the supply chain – for example, working more closely together to understand requirements and procurement timescales, ultimately leading to increased UK content in new projects.

Second, building on the Catapult's Fit For Offshore Renewables (F4OR) pilot programme, the business competitiveness strand will deliver expert-led reviews, training, business improvement programmes and product demonstrations, supporting specialist delivery partners to boost their export capability.

Third, attracting companies with proven technology from other sectors will kickstart the development of new supply chain capacity. The OWGP will deliver strategic capability analysis and support packages to firms from other sectors to promote diversification.

Finally, supporting new innovations in areas like robotics, automation, advanced manufacturing



Image 

Burbo Bank Offshore Wind Farm
(image credit: Ørsted)

// The OWGP will deliver increased productivity and competitiveness for businesses, boosting UK content at home and in export markets.

and new materials through feasibility studies, testing and demonstration will all help bring future technologies to commercialisation.

The Growth Partnership is a national programme, but its work with local enterprise partnerships (LEPs), councils and development agencies will be key in supporting the eight regional industrial clusters defined by the Sector Deal. The OWGP will work with industry champions, academia and LEPs to analyse their individual strengths – and identify gaps that require strengthening.

The roadshows that were a key component of the Whitmarsh Supply Chain Review in 2018 were invaluable in identifying the growth opportunities within the supply chain, and they allowed the industry to identify what support might be required by businesses in different regions. For example, the review identified that investment in appropriate training and skills development was essential to support the growth of the supply chain across all

regions. It was recommended that industry should develop a people and skills requirements plan with support from regional academia and training bodies to provide the necessary skills. For a showcase of what a cluster can aspire to, look no further than those in East Anglia and the Humber. There, the Operations & Maintenance Centre of Excellence and the University of Hull's Project Aura are integral parts of the thriving O&M supply chain.

The biggest prize for the OWGP is increasing the domestic spend of UK projects – that means more local manufacturing gained through a more competitive supply chain, but also a new generation of products and services that can improve the productivity of offshore wind farms. By helping to develop strong offshore wind clusters – replicating successes such as Siemens' blade facility in Hull, and Vestas on the Isle of Wight – we can give our supply chain a leg up – and in doing so create jobs and provide a massive boost for the economy.

The UK's hard-won experience in offshore wind is already going global as the world embraces the technology – and the OWGP will help innovative, ambitious supply chain companies develop world-class products and services which will build a flourishing export market. Its activities will be right at the heart of that growth: creating the collaborations that drive our low-carbon future.



THE ROBOTIC OPPORTUNITY

The benefits of spearheading robotics and autonomous systems in offshore wind extend far beyond increased safety and productivity. The Catapult's Operational Performance Director Chris Hill presents the vision for how the technology can boost coastal communities and the UK manufacturing sector.

Offshore wind has been one of the UK's stand out industrial successes of recent years. We've positioned ourselves as a world leader in offshore renewable energy development and the Government's new Offshore Wind Sector Deal, announced last month, sets out the roadmap for at least another ten years of rapid expansion.

The UK already enjoys a competitive advantage in operating offshore wind farms, where we have the largest installed capacity in the world. The industry's ambition under the Deal is to triple wind power generation in the next decade, so that at least a third of the UK's electricity needs are met through offshore wind energy generation. Further commitments are to increase UK supply chain content in offshore wind farms to sixty per cent and bring about a five-fold increase in exports.

This means that, by 2030, UK wind farms will increase spend on operations and maintenance from around £600 million per year today to approximately £2 billion per year by 2030. In Europe, the USA and China similar dramatic increases are expected as installed capacity grows.

The economic opportunities to capitalise on the global expansion of offshore wind, and to further cement in UK's world-leading position in operating offshore renewable energy plant, are vast, not just

for the existing offshore wind supply chain, but for businesses in other sectors too.

This is where I see robotics and autonomous systems technologies playing a vital role. They provide the UK with an unparalleled opportunity: we can leverage our competitive advantage in operating offshore wind plant with our world-leading robotics and autonomous systems sector to develop solutions for a global market.

It sounds like an ambitious goal, but one I believe is achievable by embracing new technologies. At present, a large part of the cost of operating and maintaining an offshore wind farm comes from unplanned inspection and repair missions. These are often carried out by technicians offshore and can be severely impacted by adverse weather conditions. With wind farms being built ever further out to sea, to profit from higher wind speeds, the financial and safety implications of such working practices can only mount.

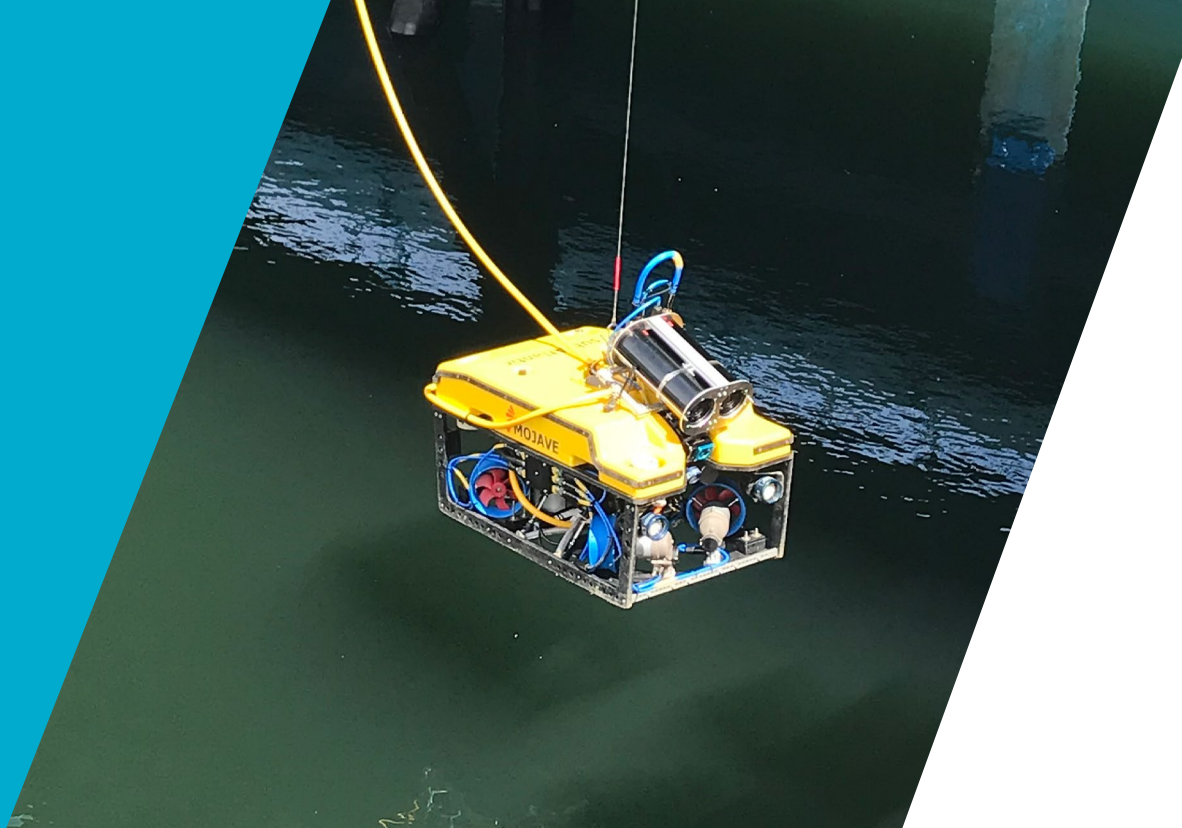



Image 
Rovco's game-changing remotely-operated vehicle
undergoes testing at the National Renewable Energy Centre

// Developing robotics technology for offshore wind can create a thriving supply chain and UK economic benefit.

At the same time, we know that autonomous systems are potentially capable of fulfilling most offshore maintenance tasks, but they are yet to be demonstrated in a full-scale deployment in the UK. ORE Catapult is working with industry to change that and we expect to be launching fully automated missions using unmanned vessels, drones, and wall-climbing and blade-crawling robots in the not too distant future.

The end-game, one that I can foresee playing out within 10 to 15 years, is that routine inspection and maintenance tasks on offshore wind farms will be mostly conducted by autonomous platforms working with human operators located onshore. The robots will be able to 'feel' surfaces through electronic skins, listen to fractures and cracks using acoustic sensors, and see using hyper-spectral imaging. Data processors and analysts ashore will be able to gain insight from the data gathered by the autonomous systems to better plan and predict operations and maintenance activities.

Our vision for industry growth will be best served by big industry and small innovators from multiple sectors coming together to tackle technology challenges. I firmly believe that the robotics and autonomous systems drive will result in upskilling and job creation. The systems we have under development will not be able to work alone, even according to the most futuristic predictions. They are firmly designed to work with humans, who can programme, maintain and supervise them, intervening in tasks that are too complex or require a finer judgement than that of a robot.

That means reskilling our experienced technicians so that their work moves largely onshore, where they can use their expertise for remote deployment of the robotic systems. In order to harness the wealth of data that we expect from the autonomous systems, we'll also need to recruit and train up digital and data engineers, digital tech developers and analysts.

With much of our operations clustered on UK coastlines, this is good news for coastal communities. If

the UK invests wisely now in these future technologies, we could see many former fishing villages and ports, like Grimsby at the heart of an industry sporting highly-skilled jobs, increased exports and strengthened supply chains.

It's clear that innovative new products and services will play a vital role in the further development of the UK's offshore wind industry, but so too will building on our existing competitive advantage and creating a strong, indigenous supply chain. I am in no doubt that these dual initiatives of supporting the development of new products and services, or repurposing existing technologies, and supporting these companies to expand and grow, creating new jobs and exporting around the world, will be the holy grail to UK offshore wind success.

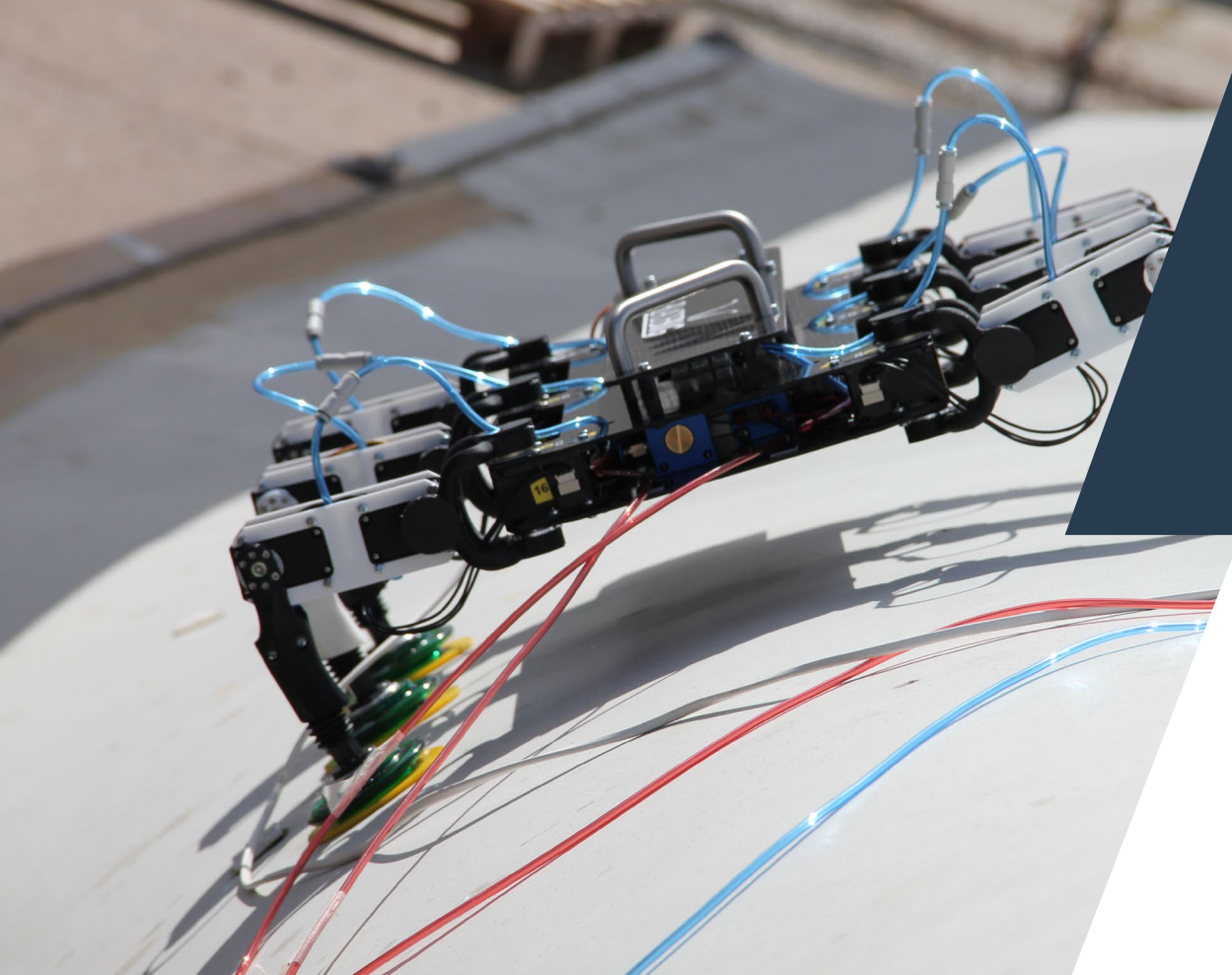


Image
BladeBUG's robotic inspection crawler undergoes testing at the National Renewable Energy Centre in Blyth

CAUGHT THE BUG

The Catapult is extending its partnership with London innovator BladeBUG Limited as part of a new two-year project funded by Innovate UK.

The multi-legged blade inspection, maintenance and repair robot BladeBUG completed the first phase of its development and testing earlier this year at the Catapult's National Renewable Energy Centre. The second phase of the project is now underway, and within two years we expect to see the robot take its first walk along a working wind turbine blade and acquire a variety of new abilities.

The BladeBUG robot's mechanical abilities will be developed to a new level of sophistication, enabling the robot to walk across, and navigate on and around, the constantly-changing shape of a wind turbine blade.

By the end of the project, the robot will also be equipped to scan, map and conduct non-destructive testing of blade surfaces, as well as making repairs to surface defects and eroded edges. A human-machine interface will allow technicians to control and supervise the robot remotely: a crucial step in reducing human exposure to the offshore environment.

The concept of a crawling blade inspector took a number of years to come to fruition. "I was working as a designer and then lead engineer for a wind blade manufacturing project," says Chris Cieslak, the innovator behind the system.

A seed was planted when Cieslak spotted an opportunity in the costly, time-consuming, and dangerous rope-access techniques used for inspections and maintenance. "I knew there must be a better, safer, more proactive way to inspect and maintain the blades once they were out at sea," he said.

The Catapult's engineering team will support on BladeBUG's mechanical, sensory and software development. Offshore wind owner/operator EDF Renewables will observe and feed its requirements into the project at each stage of development, ensuring that the technology has a clear route to market by the project's close.

For Cieslak, the focus is on bringing the game-changing crawler to commercialisation. "The pace of development will accelerate very quickly over the coming two years," he said, "with the crucial input and support we are getting from the industry."

Image >

Thales' Halcyon unmanned surface vessel, a key part of the MIMRee project



FUTURE O&M STARTS HERE

Fully-autonomous inspection and repair missions are on the horizon as an ambitious research programme gets underway.

A £4m collaborative project is developing an end-to-end robotic inspection and repair system that could save the average offshore wind farm £26 million over the course of its lifetime.

The Multi-Platform Inspection, Maintenance and Repair in Extreme Environments (MIMRee) project is the first in the UK to envisage a fully-autonomous, end-to-end deployment of robotic systems at offshore wind farms.

Eight industry and academic partners will bring existing and new innovations to the table. Thales' Halcyon autonomous vessel will lead missions, transporting the robotic crew to wind turbines and scanning them on approach. Drones developed by the universities of Bristol and Manchester will conduct more detailed aerial inspections while the blades continue to turn, before deploying a robot repairer to the surface to remedy defects.

The Royal College of Art leads on developing the repair capabilities of the blade crawler, designing and adapting a robotic arm based on an existing prototype. High-tech innovators Wootzano, meanwhile, bring in the latest nanobiotechnology expertise which will allow the robot to feel surface defects through an electronic skin.

Pulling this diversity of devices into a cohesive team capable of independent planning and collaboration will be the project's core challenge. Former NASA mission planner Dr Sara Bernardini of Royal Holloway, University of London, will lead on the artificial intelligence behind the MIMRee system and creation of the interface for remote supervision and control by onshore technicians.

"The MIMRee project is proof of concept," says Tony Fong, who leads the Catapult's engineering team. "We want to show that a fully automated deployment is not only possible as a feat of technology, but also that it can drive improvements in safety, operational performance and costs.

"Within two years, we expect to stage a demonstration of the system and start to map out a route to commercial use at UK offshore wind farms."

Find out more at ore.catapult.org.uk/mimree

PROJECT SNAPSHOTS

Latest collaborative research projects

Rovco

Bristol-based SME Rovco's pioneering technology creates real-time 3D imagery of subsea environments, helping wind farm owner/operators improve safety, quickly identify issues and cut inspection costs by 80%. Support from the Catapult helped Rovco secure grants worth almost £1.5m and two rounds of private investment to develop its system and artificial intelligence integration, and the product was tested at the National Renewable Energy Centre. In 2019, Global Marine Group purchased 13.8% of the business and will deploy its technology on its fleet of 21 vessels. With an estimated export revenue of £20m per year, Rovco's robotics expertise has put it in line to become the world leader in subsea surveying, and it plans to create 70 high-skilled jobs in manufacturing: a winning innovation backed by the Catapult that has the potential to create tangible economic benefit.

Safeguard Nautica

Building on Safeguard Nautica's existing unmanned surface vessel (USV) concepts, the Unmanned Surface Vessels for Rapid Environmental Assessment in Challenging Inland Waterways and Tidal Environments project is creating two new integrated systems for environmental monitoring and surveys. During the project, multiple demonstrations will be carried out at a variety of sites, including a tidal energy project off the Isle of Wight, showcasing the versatility of the USVs for environmental and site characterisation campaigns. Adaptable payloads will be selected to feed back accurate, bankable data in turbulent, high-current waters.

The Catapult will carry out design work on the new masts, and our hydrodynamic modelling team will be analysing the data gathered to create high-value outputs for end-user clients. We'll also be helping Safeguard Nautica to commercialise its USVs and better understand their applications in offshore renewables.

Bibby Hydromap

An innovative unmanned surface vessel with autonomous features, Bibby Hydromap's DriX was designed to provide high-quality, near-real time survey data even in rough seas. The system conducted the first-ever unmanned survey at an operational offshore wind farm in the UK, demonstrating its ability to slash bathymetry survey times.

To showcase DriX's capability and benefits to industry, the Catapult's National Renewable Energy Centre staged a demonstration day. With the question around autonomous vessels becoming ever-more relevant, the day gave owner/operators and supply chain companies an opportunity to explore the gains that can be made through deploying autonomous vessels. Bibby's system was put through its paces in a live trial, where it performed an unmanned survey of our National Offshore Anemometry Hub. Seeing is believing – and the industry figures in attendance can now be under no illusion that the safety, time and cost benefits of using unmanned vessels for subsea and bathymetry surveys are beyond doubt.

WASP

With vessels accounting for as much as 20% of an offshore wind farm's operating costs, autonomous ships have the potential to make a step-change reduction in LCoE – and bring numerous health and safety benefits – over their manned counterparts.

The Catapult is part of the Windfarm Autonomous Surface Support Vessels Project (WASP), a collaborative study of the technical, regulatory, and societal issues of integrating autonomous ships and existing manned shipping operations.

With an increasing number of sectors embracing autonomous systems to carry out jobs considered dangerous or monotonous, the work is paving the way for the industry to drive down costs while simultaneously improving performance.

Cyberhawk

Drone technology is quickly becoming the go-to method for inspection across the wind industry. The Catapult invited companies including Cyberhawk, one of the leading service providers in this emerging technology area, to perform representative commercial tests on the 7MW Levenmouth Demonstration Turbine before analysing the results.

After identifying an industry baseline for a quality inspection, we brought together wind farm owner/operators and inspection providers to identify the key challenges facing the industry, opening a positive feedback loop establishing both expectations for customers and standards for service providers to aim for. With the technology's potential to cut inspection costs by almost 40%, the benefits of this collaborative industry exercise are crystal clear.

Image >

ASV Global's C-Worker 7 autonomous surface vessel, a key part of the WASP project



iFROG

InnoTec UK, an SME based in Cambridge, is developing iFROG, an amphibious, multi-purpose climbing robot for inspecting welds and repairing foundations both above and below the water line. The technology's eponymous two-year research programme will seek to apply a robotic solution to what is an extremely challenging issue for the sector: the internal and external corrosion of monopiles and unexpected buildup of hydrogen sulfide (HS₂) gas in the structures' confined internal areas.

The technology has the potential to redefine the possibilities for foundation inspection and monitoring, which in turn could enable improved methodologies for assessing structural integrity and even offer innovative repair solutions. As well as taking technicians out of dangerous environments and making huge strides in the field of robotics, iFROG could save wind farm operators around £4m per turbine over a wind farm's 25-year lifecycle.



Image ^

Catapult engineers prepare an unmanned aerial vehicle for trials at the National Renewable Energy Centre

NEWS ROUNDUP

Latest news and developments



Image

A Nova Innovation tidal turbine leaves Shetland for servicing in May 2019

ELEMENT Project Brings Artificial Intelligence to Tidal

The Catapult is part of a consortium that has won a major new European project, ELEMENT, that will use artificial intelligence (AI) to improve tidal turbine performance and accelerate the commercialisation of tidal energy.

The project will incorporate state-of-the-art AI technology from the wind sector into tidal turbines to deliver an adaptive control system that improves performance, slashing the lifetime cost of energy by 17% and driving tidal towards commercial reality.

Edinburgh-based tidal game changers Nova Innovation lead the project, heading up a consortium of 11 industrial, academic and research partners from across Europe.

"Reliable tidal energy generation is now a reality," said Simon Forrest, CEO of Nova Innovation. "It is no longer a matter of 'if', but 'when' the technology becomes mainstream.

"The sector has taken great strides forward in recent years and our drive is now to reduce costs to compete with conventional generation."

More Data Experts Needed in Offshore Wind, Says Catapult Report

New research commissioned by the Catapult has highlighted the advantages to the UK offshore wind sector of investing in in-house data expertise to realise the benefits of the fourth industrial revolution.

The recommendation came from a report summarising the findings from the Catapult's five Data Pilots projects, commissioned by The Crown Estate, in which we worked with industrial partners in the offshore wind sector to solve operational challenges by using modern digital techniques.

The aim was to build an evidence base underlining the importance of embracing data and digital innovations to help lower the cost of offshore wind energy and accelerate the transition to a low carbon economy.

"For global technology firms, data and technological innovation are the raw materials that drive their businesses," said Dr Conaill Soraghan, the Catapult's Data & Digitalisation Team Leader. "Offshore renewable organisations must follow their lead or risk being left behind in the fourth industrial revolution."

Synaptec and Catapult Partner to Tackle Cable Fault Costs

The Catapult has partnered with Synaptec in a project to reduce the cost of subsea cable failures and associated monitoring systems.

The Glasgow-based firm's Refase technology – a remote fault detection system that can reduce the time it takes to identify faulty cables from days to milliseconds – will be installed at our 7MW Levenmouth Demonstration Turbine for a 12-month trial. The project will aim to reduce costs by automating cable fault response and developing long-term prognostic capabilities. Operations and maintenance costs are expected to fall thanks to increased power quality and dynamic line rating data streamed from up to 50 locations per system.

The Catapult also recently introduced Synaptec to Foresight Williams EIS Fund, which subsequently invested £2m in the Scottish company. The funding will be used to scale-up production, grow international sales, and exploit future data analytics opportunities.



Image

The Catapult's 15MW Powertrain Test Facility

New Funding Links Scots Businesses with Academic Expertise

A new Energy Technology Partnership initiative is kick-starting offshore wind technology development in Scotland by linking companies with leading academic expertise.

Funded by Scottish Enterprise and Highlands and Islands Enterprise, the Knowledge Exchange Network will help early-stage innovators by connecting them with the nation's foremost academics and researchers. The programme will take successful applicants from feasibility studies through to modelling and testing and validation.

Argyll-based Renewable Parts, which helps the industry cut costs by refurbishing old spare parts from wind turbines, is one of the first companies to benefit from the scheme.

The Catapult's Alex Loudon is leading Wind Business Development for the ETP. "Some of the ideas we have taken through the ETP have started out as sketches or almost back-garden experiments," he said. "Where you start from is not important – we're looking for ingenious ideas that can tackle some of the industry's key technology challenges."



Image

The Catapult's recent Data Pilots report highlighted the need for more data expertise in offshore wind

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ENGAGE WITH US

