

Subsea North East Focus (Webinar 1)

26th January 2021

3pm – 5pm



Photo credit: JDR Cable Systems

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Welcome from Neil Gordon



Neil Gordon
CEO
Subsea UK

Neil initially studied business in Aberdeen then trained as a commercial diver spending eight years carrying out numerous diving assignments in the UK and Norwegian waters involving new construction projects, pipeline surveys, welding and inspection. He has over 25 years' management experience in director and business development roles, combined with over 15 years in the subsea industry.

Prior to joining Subsea UK, he spent four years managing the National Hyperbaric Centre which included project-managing saturation diving operations and hyperbaric weld trials. He more recently developed the subsea safety training and consultancy aspect of the business, where he regularly lectured to subsea engineers and delivered a range of training courses both in the UK and overseas.

He has experience working in India, Middle-east, Africa and Brazil and has worked with the Oil and Gas Producers diving operations sub-committee on client representative training and competency for subsea projects. He was also an active member of the IMCA diving safety, medical, technical and training committee.

How to make a robot suitable for un-crewed offshore operations



Mike Jones
CEO
SMD
(Chair of the
North East
Executive
Group)

As we look to the oceans to provide green energy for our planet, we need to consider how we access them efficiently. For years our solution has been to put a person on site using a boat. And as projects increased in complexity we put more persons on site and a bigger boat. But with an eye on cost, efficiency and with much of the work site below the waves, un-crewed vessels with intervention robots are becoming reality. Up to now offshore intervention robots have required regular maintenance to keep them running. So how do you construct a robot that does not require this? One that you can rely on to operate without an onsite crew for a long period? In this presentation SMD will share some of its thinking and developments that support long duration un-crewed offshore robotic operations.

Michael studied Mechanical Engineering at the University of Nottingham, and is a Chartered Engineer. He started his career as a graduate engineer at BP Engineering in 1990, and has worked for SMD for over 27 years in a number of roles including design engineer, project manager, managing director and was appointed CEO in November 2017.

He became a director of SMD in 2004 when SMD had a staff of 40 people and a turnover of approximately £10m and was dependent on its main market of subsea cable and pipeline trenching vehicles in telecoms and oil & gas. As part of the leadership he helped reposition the company by extending its product range into workclass ROVs and also diversified its markets into offshore renewables and seabed mining. He was then part of a management buy-out team (as Managing Director - Trenching, Mining & Renewables), which grew the company to £93m turnover and 350 staff when it was sold to CRRC Times Electric in 2015. Between 2015 and 2017 he established a subsidiary of SMD in China, recruiting a team of 40 engineers and other disciplines and setting up a facility in Shanghai.

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Michael has recently been appointed Chairman of Subsea NE which is regional representative body aligned to Subsea UK and NOF Energy, having been part of its ExCom since 2017. He has also been a member of the CBI's North East Regional Council since 2016.

The North East's Energy Strategy, and how the North East LEP is supporting the Offshore sectors



Andrew Clark
*Programme Lead
North East Local
Enterprise
Partnership (LEP)*

Andrew is Programme Lead for the energy sector with the North East Local Enterprise Partnership (LEP), working to leveraging the region's energy strengths to attract investment and create more and better jobs. He works across public, private and academic sector partners, and with local and national government, facilitating collaboration and leading creation of a coordinated energy strategy for the region.

His role includes shaping a pipeline of strategic regional energy projects to support through delivery. His main programmes of work are around commercialising opportunities for regional energy projects, supporting the offshore energy and subsea technology sector, and championing the North East's energy innovation and demonstration capabilities.

Andrew has extensive programme leadership experience, having created and delivered energy and low carbon programmes nationally and internationally in a number of different sectors. He is a chartered environmentalist and a member of the energy institute, as well as being a published journal author.

Blyth Upper Estuary – Opportunities for Offshore Energy Focused Companies

Port of Blyth has established itself as a major UK offshore energy hub together with "Energy Central" partners around the Blyth Estuary and with a particular focus on subsea activities.

Significant opportunities exist for collaboration, inward investment and site development particularly on the Upper Estuary:

- Bates Clean Energy Terminal
- o Major site remediation and port infrastructure development underway inc heavy lift quay
- o Unique opportunity for zero carbon mine water heating of buildings
- o Clean energy port operations with electric heavy lift crane being purchased and options for shore power under consideration
- o Access to Offshore Renewable Energy Catapult for testing, innovation collaboration etc.



Andy Williamson
*Business Development
Manager
Port of Blyth*

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- o Site already accommodates significant offshore energy focused supply chain with opportunities for collaboration and inward investment
- o In particular cable & hose reel handling and storage expertise available from port and supply chain
- o Unique Wind Turbine Training Facility operated by the Port's in house training division providing a wide range of industrial, port and offshore energy focused apprenticeships, courses etc.
- Northumberland Energy Park
- o Nationally significant 165Ha development site
- o First phase site remediation and heavy lift deep water quay development well underway
- o Access to renewable energy sources inc NorthseaLink interconnector with Norway importing hydroelectricity
- o Access to Battleship Wharf terminal with a further 4 heavy lift berths
- o Ideal for offshore energy focused manufacturing facilities
- Battleship Wharf offshore energy decommissioning facility
- o 2.5 ha site fully licensed
- o Port handling, demolition, decommissioning and waste disposal expertise all in place
- o Site fully operational decommissioning oil and gas subsea and offshore wind assets

Andy studied Politics and Economics at Newcastle and holds an MBA from Lancaster University Management School. He started his career in the electrical switchgear industry and has over twenty years' experience in the offshore wind and subsea industry having held senior roles in business development, external affairs and major project development in both the public and private sectors. Andy has been instrumental in transforming the strategic direction of Blyth – both with the ORE Catapult and more recently in attracting offshore and subsea supply chain investment to the Port which now accounts for 80% of its business. A Japanese speaker, he was previously Head of Business Development for Marubeni Corporation's Energy and Machinery division in London and Tokyo, and is passionate about promoting local expertise globally and developing opportunities for STEM.

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Steven Rossiter
Group CTO
Tekmar Group plc

Delivering Engineering Analysis Workloads at Scale

Subsea engineering requires numerous analysis streams. They require use of finite-element solvers (FEA), computational fluid dynamics solvers (CFD) or more industry specific packages such as OrcaFlex. One issue that engineering businesses face when executing these is that the simulations require large computing power. Typically, this capacity is provided by servers that are managed by internal IT departments. This can lead to a number of issues, for example; demand for the capacity can be very “lumpy” and keeping servers available to only respond to peak demand is inefficient, adding extra capacity is a multi-week procurement and commissioning process and storing a large and ever-growing number of simulation files with appropriate back-ups is expensive. These limitations often constrain what can be delivered by engineers within reasonable project timescales and cause conservative assumptions to be made which lead to increased costs to the project.

AgileDat, the software, data and cloud division of Tekmar Group has developed a cloud-based platform that gives engineers the ability to use both on-site servers and cloud servers with a consistent interface. With this flexibility the compute capacity can be matched to the demands of the project with additional servers added for a few hours at a time to deliver peak demand. All the simulation files and associated data are held in a highly-secure cloud storage system with practically infinite capacity. Access to the platform is managed by secure keys and end-to-end encryption is available for sensitive files. Because the system is cloud-hosted there is no need to connect to VPNs or use remote desktop connections to manage and inspect the data. The platform also provides a way to pass data from one solver to another on separate servers or machine to ensure efficiency and traceability.

Steven Rossiter is Chief Technology Officer at Tekmar Group plc.

The group companies work together to provide technology and services to the global offshore energy markets.

His role includes responsibility for establishing and maintaining group-wide ICT systems, including business intelligence and collaboration. He leads the software and data part of Tekmar Group & AgileDat, which architects and builds cloud-based systems for managing data and processing in engineering businesses. Prior to this, Steve founded and served as Managing Director of AgileTek Engineering Limited, which became a wholly-owned subsidiary of Tekmar Group plc upon the IPO in 2018.

Steven is still responsible for the strategic direction of the consulting part of Tekmar Group, as well as group-wide R&D initiatives.



James Young
CTO
JDR

Power cable technologies for the next generation of offshore wind

JDR Cable Systems Ltd, part of the TFKable Group, is a pioneer in the development and supply of subsea cable and umbilicals products and services to the offshore energy sector. From the companies origins in the supply of cables and umbilicals to the Oil and Gas sector JDR has now taken a lead role in the supply of subsea cable technology for Offshore Wind, delivered from its North East manufacturing facility in Hartlepool and its service base in Newcastle.

This webinar will chart the recent progress that has been made in deployment of cable technologies such as 66 kV array cables and dynamic cables for floating offshore wind. JDR's collaboration with supply-chain partners across the North-East has underpinned the development and deployment of these world-leading cable technologies and innovations.

As our transition towards a low carbon and net zero carbon emission economy accelerates, and with the scale of offshore wind infrastructure currently being planned around the world, the next generation of offshore wind cables will need to deliver more power, transmit over greater distances further from shore, and do so in deeper waters. The webinar will discuss what these future cable requirements could be to meet the scale of the growth projected for the offshore energy sector. This presents an exciting opportunity for North East companies with a strong pedigree in offshore oil and gas, and in particular floating dynamic installations, if they can successfully innovate, optimise, collaborate and then proliferate their leading technical solutions on a global scale.

James Young is Chief Technology Officer of JDR Cable Systems Ltd, a leading provider of subsea umbilical and power cable products and services for the offshore energy sector. JDR operates from their manufacturing facilities in Hartlepool and Littleport and from their service bases located in Newcastle and Houston, US.

James has over 25 years of experience in the design, manufacture and installation of cables and umbilicals for subsea applications. He joined JDR in 2000 as senior design engineer for new product development and was appointed Chief Technology Officer in 2016 after a series of technical and management roles within the business. Prior to JDR, James worked for BICC Supertension and Subsea Cables, Erith and Dowty Precision Handling where he started his career working on the design of capstan drum and linear cable engines. Whilst at BICC James designed and developed HV AC and DC cables from 66 kV to 400 kV.

James joined JDR's Board of Directors following the acquisition of JDR by the TFKable Group in 2017, serves as Compliance Officer and is a member of JDR Executive Management Team. He has a degree in mechanical engineering, is a Chartered Engineer and has an MBA from Cranfield. He is currently the industry co-chair of the Offshore Wind Innovation Hub – Technical Advisory Group.

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