



# JAMES FISHER AND SONS PLC

Providing innovative solutions to the  
renewable energy market

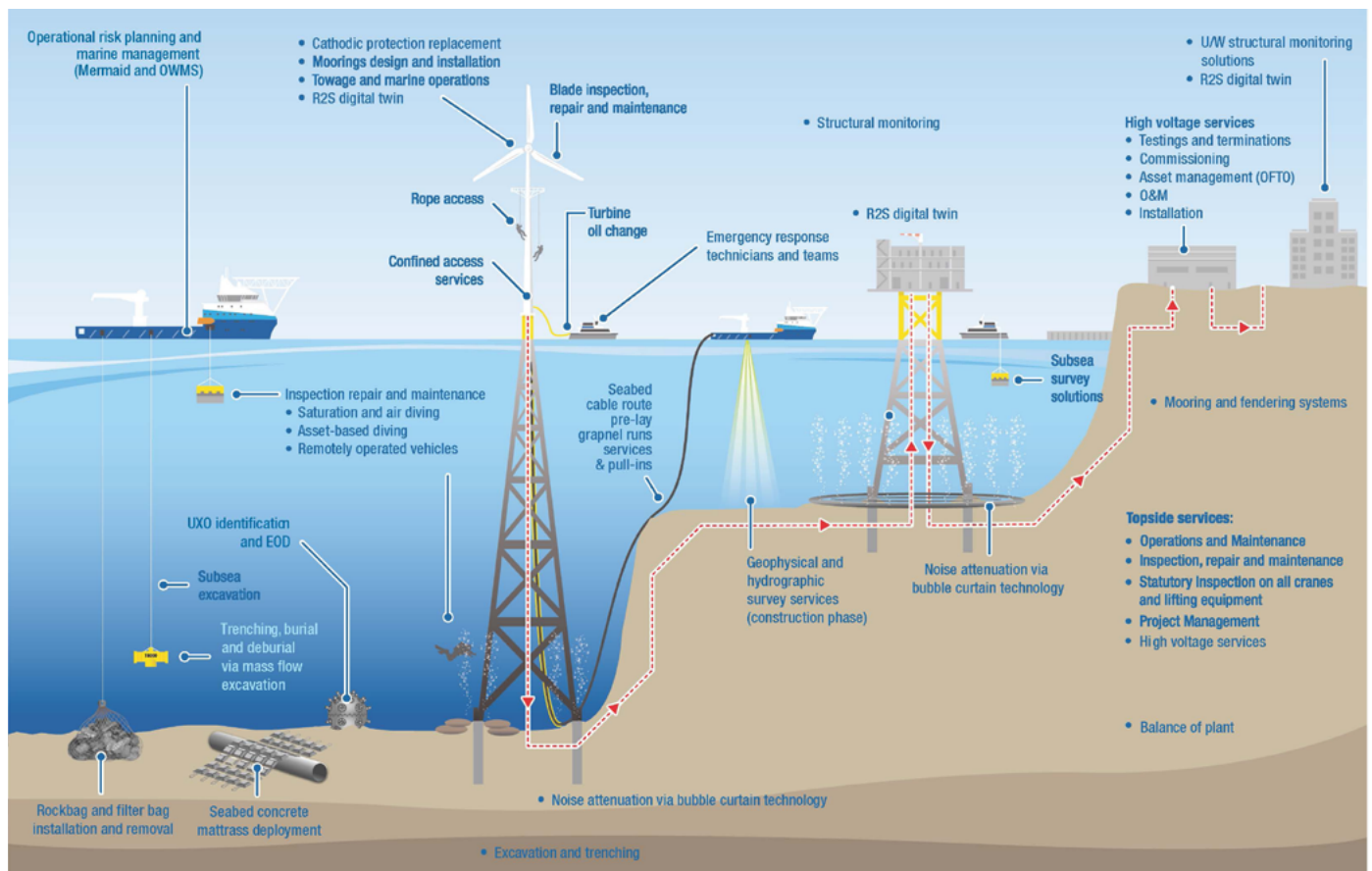


# DELIVERING WORLD-LEADING TECHNOLOGY TO THE ENERGY SECTOR

James Fisher has developed unparalleled operational expertise in the offshore wind industry. We pride ourselves on continuously innovating, creating value, and delivering excellence for our customers. Our highly skilled personnel, innovative culture and extensive experience enable us to support customers operating in some of the most demanding and technically challenging environments.

Leveraging the strengths of our diverse capabilities from our regional base in the US, we're able to provide fully integrated solutions for each phase of your offshore wind farm project, from construction to maintenance.

## OFFSHORE WIND CAPABILITIES





## INSTALLATION AND CONSTRUCTION

- Big bubble curtains
- Controlled flow excavation
- Subsea tooling
- Cable services
- High voltage safety services including safe systems of work



## OPERATIONS AND MAINTENANCE

- Controlled flow excavation
- Cable services
- High voltage safety services including safe systems of work
- Cable guardian
- Balance of plant operations, maintenance and asset management services
- Control centre 24/7
- Blade inspection and repair
- Asset information services
- Crew welfare and safety equipment
- Marine products and services



## WARRANTY INSPECTION

- Blade inspection and repair



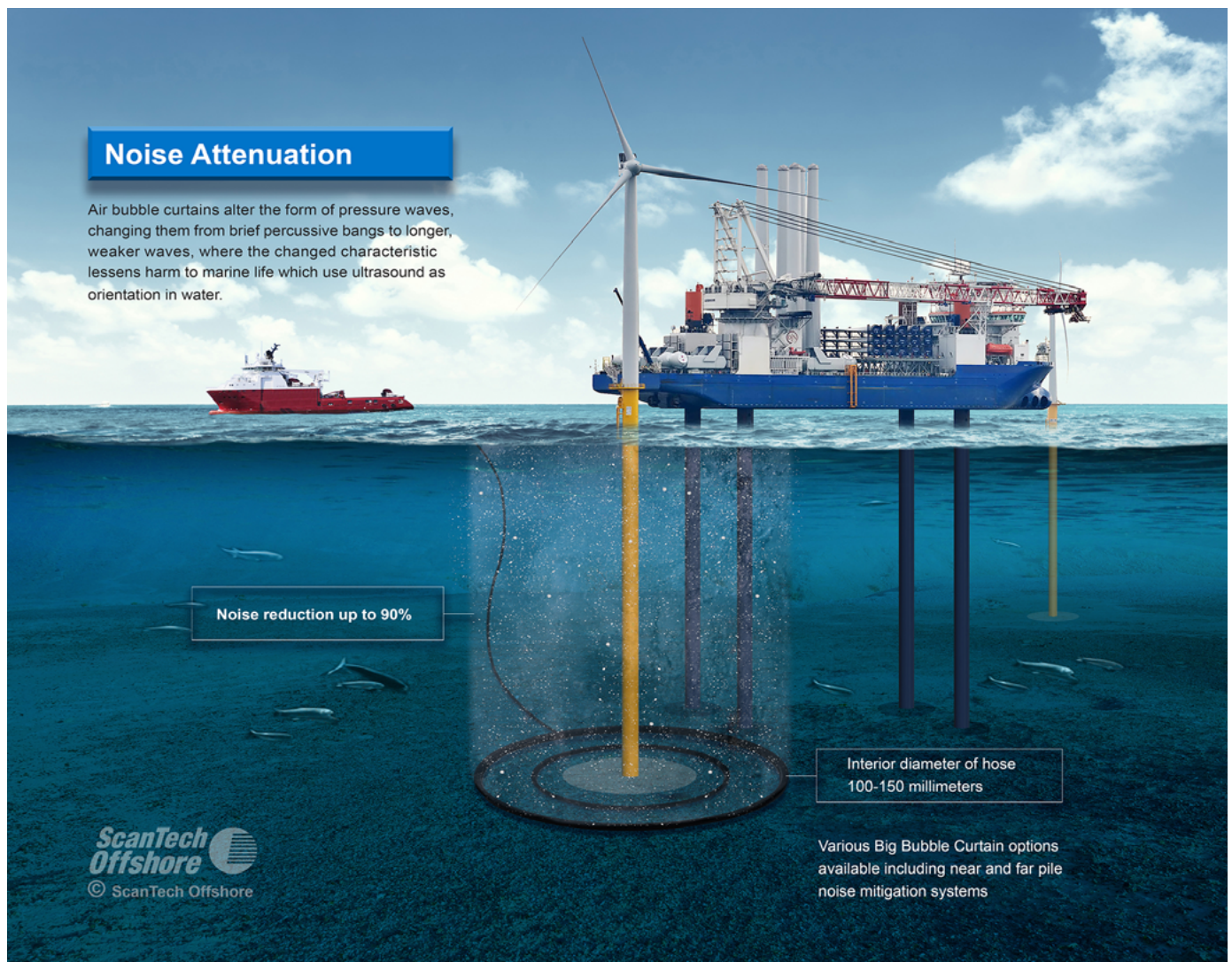
# INSTALLATION AND CONSTRUCTION

## BIG BUBBLE CURTAINS

Through the diversity of our solutions, we support customers from the beginning of their offshore wind projects. Harnessing the combined strength of our specialist teams, we're there for our customers from the very start, allowing for the seamless execution of all projects.

The big bubble curtain (BBC) was developed as a compressed air system for sound absorption in water and especially protects porpoises and seals which use ultrasound as orientation in water. Ordinary construction noises travel much more easily underwater, and sound levels can be five times higher than in open air. This can be enough to harm and even kill sea life. However, air bubbles resonate in response to sound, absorbing the energy. When formed into a curtain they reflect the sound, effectively keeping it within the curtailed area.

A ship is typically fitted with a set of air compressors provided by ScanTech Offshore, part of James Fisher and Sons plc, to deliver compressed air to a flexible tube with special nozzle openings.





## THE ST3100 AIR COMPRESSOR

The world's first and only air compressors designed specifically for big bubble curtain projects. The ST3100 air compressors utilise a Caterpillar engine and ScanTech Offshore's original radiator technology, providing the air required to create a bubble curtain that reduces noise by up to 90 percent.

Big bubble curtain (BBC) projects come with a range of challenges. Firstly, to deliver the volume of air required for a project the operator typically needs to install many air compressors which take up a large footprint on a vessel (20 – 30 air compressors can typically be required).

However, the ST3100 can deliver more than double the output compared to traditional solutions, whilst taking up half the footprint. This is achieved through the ST3100's ability to not only be stackable but to stack whilst maintaining a more comfortable temperature between units for personnel to operate. When stacked the footprint savings are much greater providing up to 3-4 times more compressed air on the same footprint as some of the alternative solutions available in the market.



For further information on our ST3100 air compressor, visit:



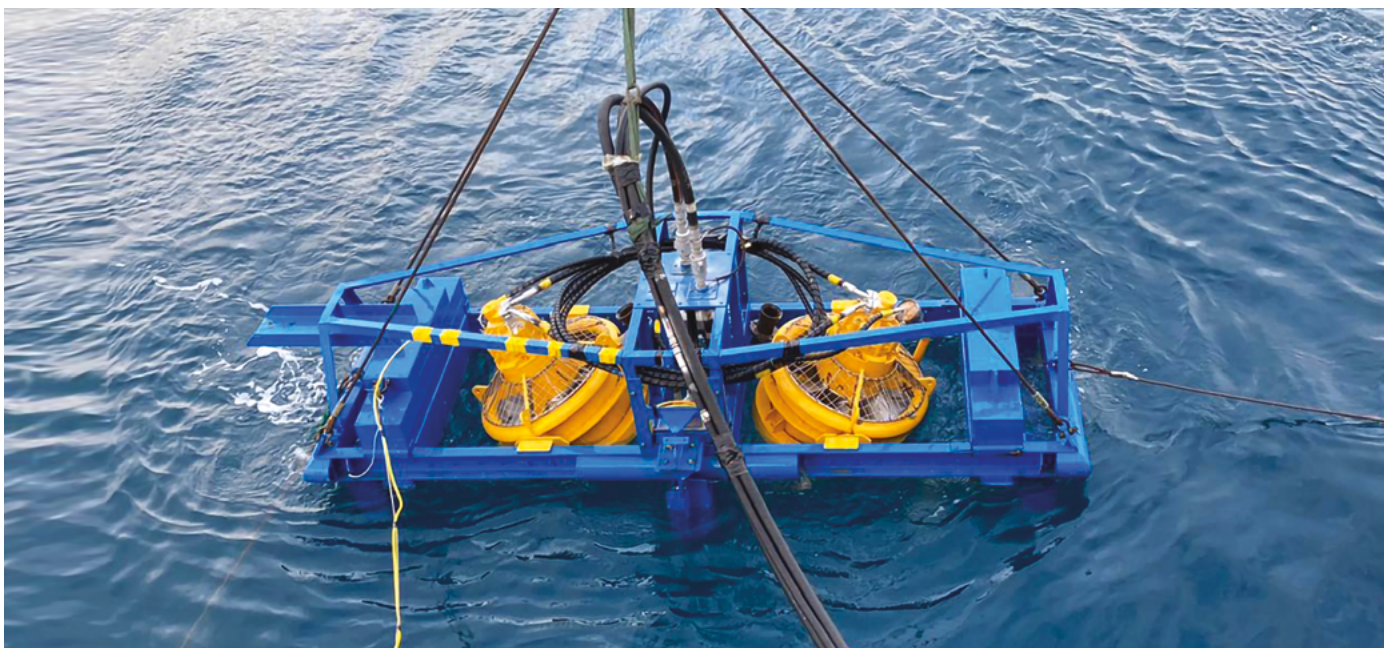
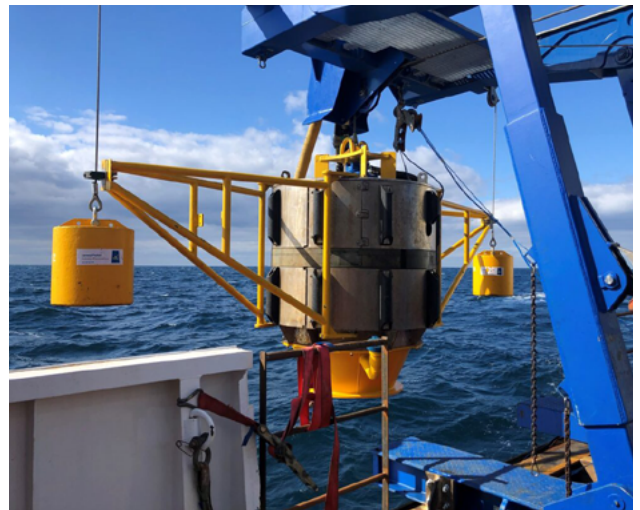
## CONTROLLED FLOW EXCAVATION

James Fisher is the leading provider of controlled flow excavation services worldwide, delivering innovative solutions to its global customer base.

The controlled flow excavation (CFE) team has over 60 years of combined experience in the subsea excavation sector and is responsible for the successful completion of more than 600 projects in 57 countries. We are committed to delivering quality services and maintaining our position as the market leader in CFE.

### Our installation and construction services include:

- Pipeline and cable trenching and backfilling
- Pre-sweeping preparation
- Free-span rectification
- Seabed preparation (pre-installation of jackets, monopiles)
- Sand wave pre-sweeping
- Turbine approach excavations
- Nearshore HDD support excavations
- Export and inter-array cable trenching and natural backfilling
- Cable joint and loop excavations
- De-burial of UXOs
- Port entry sweeping and channel deepening



For further information on our CFE offering, visit:



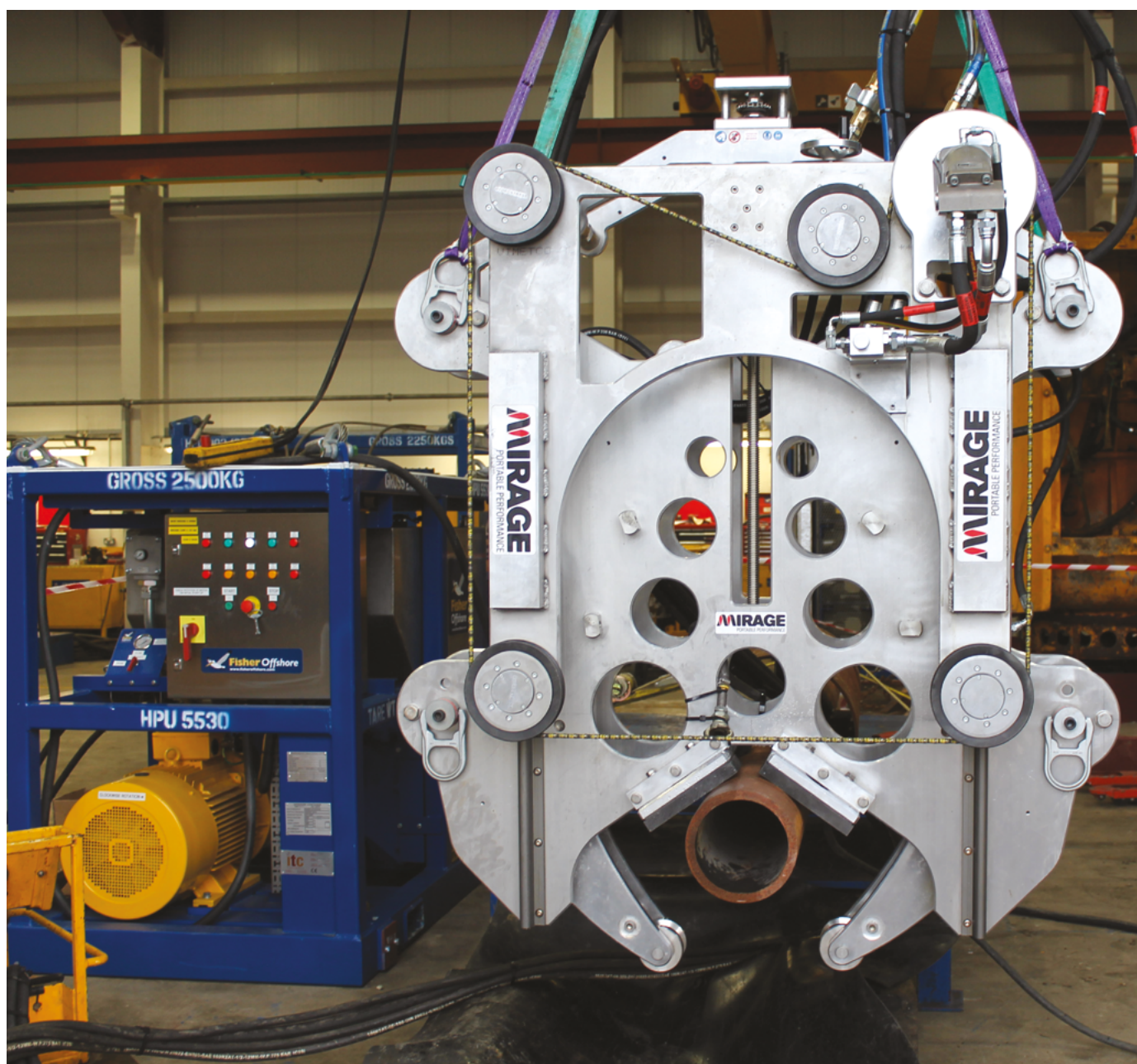


## SUBSEA TOOLING

We offer a wide selection of subsea tooling available for rapid delivery for a range of applications to efficiently facilitate critical offshore projects. Supported by experienced project management and engineering teams, James Fisher ensures smooth project execution using the best equipment for the job.

### Our range of subsea equipment:

- Cutting equipment
- Recovery equipment
- Subsea drills



For further information on our subsea tooling, visit:



## CABLE SERVICES

James Fisher provides comprehensive and trusted offshore wind farm solutions across the renewable asset lifecycle. We are dedicated to the technical and operational aspects of construction, installation, specialist operation and maintenance for fixed and floating assets.

We are a trusted global solutions partner, setting and delivering industry best practice through highly skilled people and innovative technology, with safety and quality at the heart of everything we do.

We provide high voltage engineering expertise to deliver cost savings and reduce asset downtime.

### Our services include:

- Termination and testing
- Fault and emergency response
- Testing

For further information  
on our cable services, visit:



## HIGH VOLTAGE SAFETY SERVICES INCLUDING SAFE SYSTEMS OF WORK

James Fisher's comprehensive offering provides unparalleled expertise and innovation in the offshore wind construction industry. Our unique value lies in our proven track record, extensive reach, and commitment to safety and excellence.

### Our services include:

- Development services
- Governance services
- Operational services





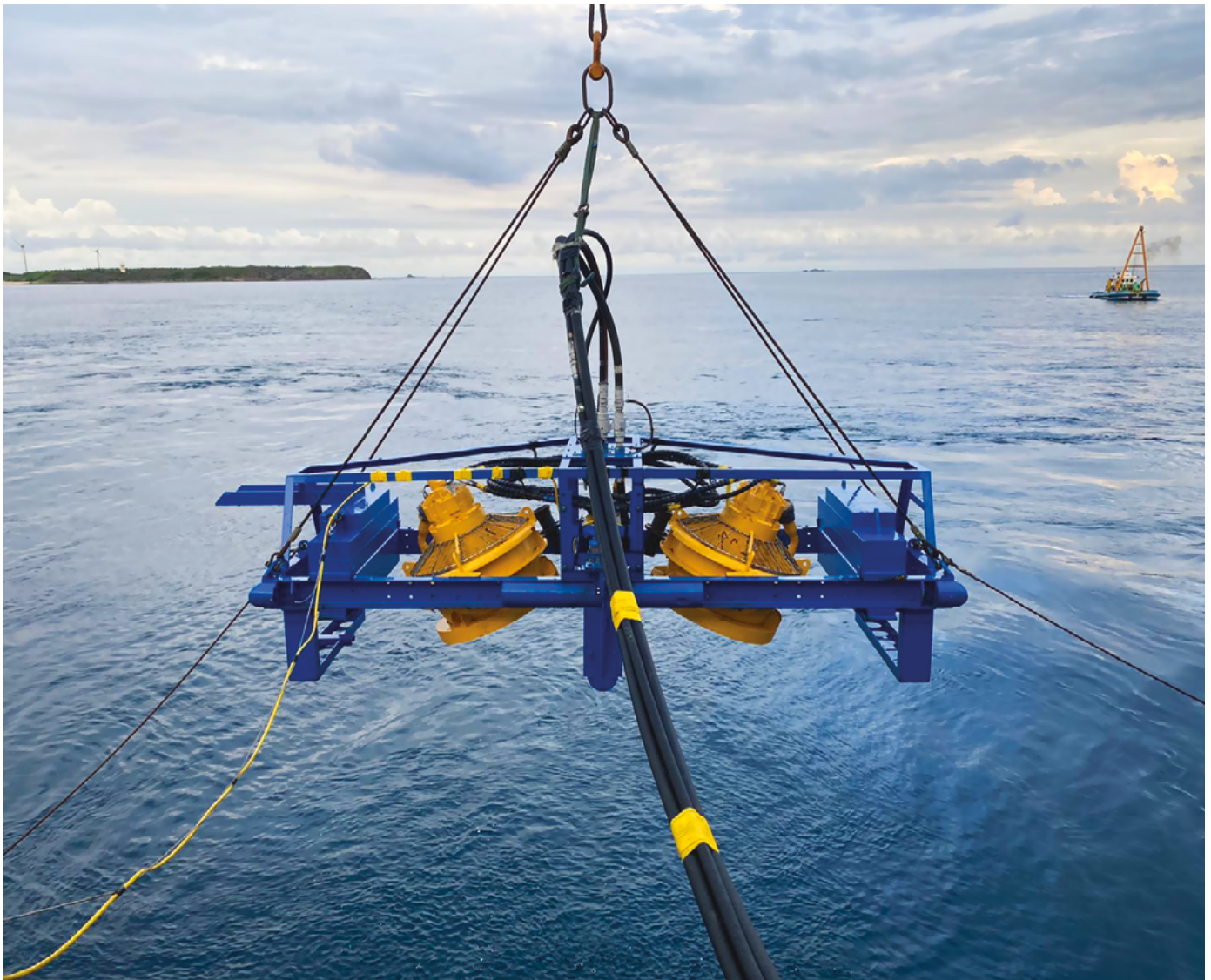
# OPERATIONS AND MAINTENANCE

## CONTROLLED FLOW EXCAVATION

Our controlled flow excavation service expands across the installation and construction phase through to operations and maintenance. We provide our customers with expert knowledge and support throughout the project's duration.

### Our services include:

- Rock dump dispersal
- Decommissioning and abandonment work
- De-burial of subsea assets to allow for IRM activities
- Natural backfilling of subsea assets post IRM activities
- Sand wave pre-sweeping
- Remedial trenching of exposed subsea assets and infrastructure



## **CABLE SERVICES / HIGH VOLTAGE SAFETY SERVICES INCLUDING SAFE SYSTEMS OF WORK**

For more information on our services see page 8.

### **CABLE GUARDIAN**

Our comprehensive cable guardian package supports emergency response planning, strategic spares management and continuous cable monitoring and reactive solutions, in particular fault location and repair.

#### **Our services include:**

- Cable risk planning
- Fault repairs
- Fault readiness

## **BALANCE OF PLANT, OPERATIONS AND MAINTENANCE, AND ASSET MANAGEMENT SERVICES**

Our comprehensive range of in-house subsea and topside capabilities ensures the safe, timely and cost-effective delivery of complex projects.

#### **Our services include:**

- Balance of plant
- Operations management services
- Balance of plant and subsea services

## **CONTROL CENTRE 24/7**

Our high voltage control centre is manned 365 days a year, providing HV control and system surveillance services.

#### **Our services include:**

- 24/7 SCADA surveillance
- 24/7 remote switching (up to 400kV)
- Alarm and fault monitoring
- Marine coordination (OWMS)
- TSO interface
- Operation and maintenance coordination
- Local regional grid interface management and points of control
- Project management and feasibility studies
- Reporting and data analysis
- Commissioning support
- Emergency switching
- Reactive power set point changes
- Equipment releases under transmission status certificate process
- Safety – co-ordinator duties as per the Record of Inter System Safety Precautions process

## **BLADE INSPECTION AND REPAIR**

For more information on our services see page 15.

For further information about how we can support your offshore wind project requirements, visit:





## SUBSEA IRM

James Fisher's specialist dive teams have extensive experience and are trusted to install, inspect, and repair the world's critical infrastructure at depth, including confined spaces, nearshore, and subsea.

**With a fleet of vessels and specialist equipment, our subsea air and diving services include:**

- Provision of portable SRP, surface air and mixed gas diving services
- Portable saturation diving spreads
- Portable HRF to support saturation spreads
- Annual inspection, maintenance and repair surveys
- Spool piece installation
- Riser and J-tube installation
- Scour protection inspection
- Marine growth and debris inspection
- Free-span rectification
- ROV services



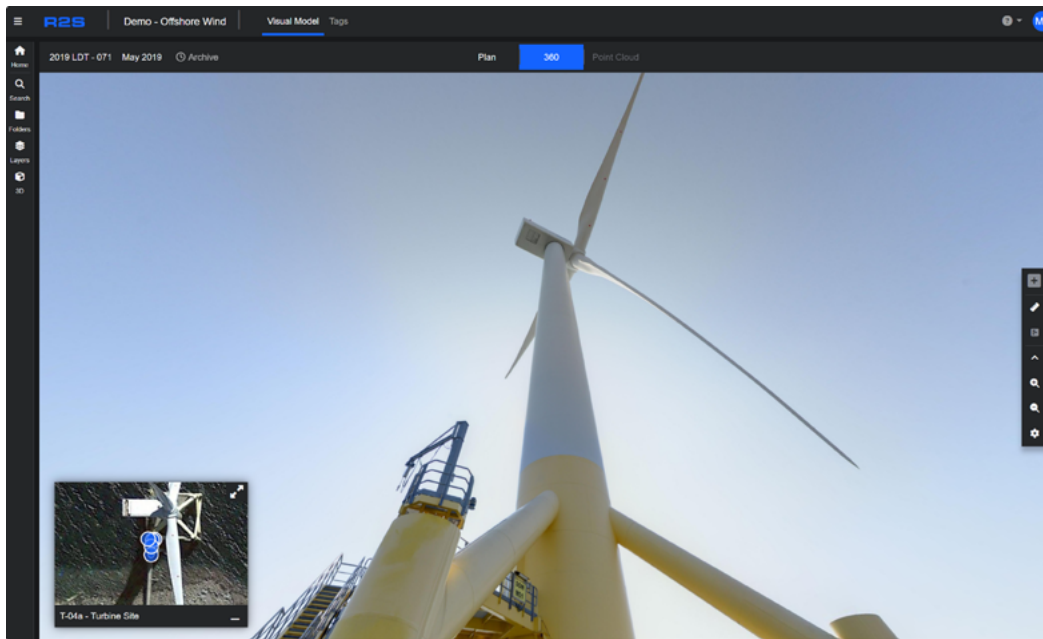
For further information and case studies, visit:

## ASSET INFORMATION SERVICES

James Fisher is committed to delivering cutting-edge solutions to meet the evolving needs of the energy industry.

The R2S digital twin application is tailored to address the complexities of renewable energy assets and provides a holistic view of assets, to facilitate meticulous planning and efficient execution of asset management projects.

By seamlessly integrating engineering and project data with reality data, this application empowers teams to optimise operations, enhance productivity, and drive success in the rapidly expanding US renewables market.



Watch our R2S video here:



## CREW WELFARE AND SAFETY EQUIPMENT

We offer a comprehensive range of equipment that is designed to secure the safety of your personnel whether in transfer or on the job. From bespoke gas detection packages to the world's first marine defibrillator, we have the solutions you need to keep your people safe.

**Keep your vessels compliant and your crew safe with:**

- **The Triple-C portable gas detector with 3 years of no calibration, no charging and no additional cost**
- **Fixed gas detection systems**
- **The Always Be Calibrated A-B-C TM system - gas detection calibration equipment**
- **FastCalGas - calibration gas supply**
- **Lifeforce and Lifeline automated external defibrillator (AED)**



For further information on our equipment, visit:





## MARINE PRODUCTS AND SERVICES

James Fisher supplies high-quality marine products and services, meeting the needs of the global offshore renewables industry.

We are a major global supplier of premium marine products and services. With strategic global bases, our team delivers local expertise and support, providing a flexible and rapid response to customer requirements.

### Protecting your people and assets

Our key global bases ensure high marine product stock availability to support regional customers, and our in-house technicians provide expert inspection and maintenance services.

With the scale and flexibility to support the offshore renewables industry, James Fisher provides marine products and services to suit your fendering, mooring, deck and quayside needs.



For further information on our marine products and services, visit:



## FENDERS

Renowned as the world's leading supplier of premium Yokohama pneumatic fenders, we provide a wide range of fenders to protect people and assets, as well as inspection and maintenance services to ensure ongoing high safety standards.

Our fenders are highly prized for their high performance and simple deployment and installation, making them highly flexible to suit your offshore project requirements. In addition to purchase options, we can provide Yokohama pneumatic fenders on short or long-term hire to suit your project requirements, delivering flexibility and cost-effectiveness.

### Floating fenders

- Yokohama pneumatic fenders for sale or hire
- Foam floating fenders

### Vessel fenders

- US Polyfoam F-series fenders
- Cylindrical fenders
- D-type fixed fenders
- W fenders
- Lightweight closed cell foam fixed fenders





## DECK AND MOORING EQUIPMENT

Our comprehensive range of deck and mooring products ensure the safe operation of vessels during critical operations.

- **Marine rope, including MEG4 (certified to DNV-GL)**
- **Deck bollards**
- **Chocks:**
  - Deck mounted
  - Bulwark
- **Chain and fittings:**
  - Stud link anchor chain
  - Galvanised mooring chain
  - Self-coloured mooring chain
  - Open link anchor chain
  - Sinkers
- **Buoys**
- **Marine hooks - Sea Catch, Pelican, and RAM**
- **Fairleads**
- **SPM and emergency towing**
  - SMIT brackets
  - Chain stoppers
- **Anchors:**
  - High holding power anchors
  - Offshore anchors
  - Stockless anchors

### Quayside equipment

James Fisher provides a range of quayside equipment for port and terminal applications, including bespoke fender solutions designed by our in-house technical team.

- **A wide range of fixed quayside fenders, including bespoke design services**
- **Quayside bollards**
- **Horn cleats**
- **Marine rope**
- **Ladders**

# WARRANTY AND INSPECTION

### BLADE INSPECTION AND REPAIR

James Fisher work around the clock to maximise the potential of your wind turbines, offering specialised services within the warranty and inspection phase of your project.

#### Our services include:

- **Quality assurance**
- **Inspection, maintenance, testing and repair**
- **Life extension and upgrades**



**James Fisher and Sons plc**  
Pioneering Sustainably



For **big bubble curtain solutions**, please contact:

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For **control flow excavation services**, please contact:

E: [info@fisheroffshore.com](mailto:info@fisheroffshore.com)

T: +44 (0) 01651 873 932

For information **offshore wind farm solutions**, please contact:

E: [jfrenewables@james-fisher.com](mailto:jfrenewables@james-fisher.com)

For **asset information services**, please contact:

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For **marine products and services**, please contact:

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For **subsea construction and IRM services**, please contact:

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