

The background image shows two workers in bright orange safety suits and white helmets standing on a metal platform, looking out at several large offshore wind turbines. The sky is filled with white clouds, and the water is dark blue. A semi-transparent blue diagonal band runs across the image from the top left to the bottom right.

DRIVING THE OFFSHORE RENEWABLES INDUSTRY

Installing the future

ACTEON

www.acteon.com



INDUSTRIALISATION OPTIMISATION COST EFFICIENCY FLOATING FUTURE

LEAN DELIVERY

Acteon is embracing the marine green energy future. We have been there from the beginning through our hydraulic piledriving solutions and have expanded to provide comprehensive services ranging from early-stage geo-services through to integrity management and decommissioning.

WHY WORK WITH US?

Acteon drives down costs by optimising design and installation activities, and improving scheduling and resource utilisation. We support the development of large structures in deep water, including floating installations, and provide baseline environmental surveys.

Lowering the levelised cost of energy (LCoE)

Our engineering solutions and factory approach to construction and installation help to optimise capital and operating expenditure for a lower life-cycle LCoE. Whether projects are for foundations, towing and mooring, or cable configuration, our ability to work from the engineering phase all the way to logistics and installation enables us to bring significant economies of scale and cost efficiencies to the most complex projects. Our solutions are designed to optimise asset integrity, constructability and facilities management, and our innovative installation methods help to increase efficiencies and reduce project footprints and costs.

Lean delivery for a floating future

Offshore wind is moving into deeper waters where turbines need floating foundations. When it comes to mooring and anchoring solutions, our staff have considerable experience of dealing with complex logistics, moving drilling rigs and performing multiple projects simultaneously. We can leverage this practical experience to manage floating wind projects with hundreds of mooring lines efficiently.

Our solutions span the complete life cycle from site investigation to coupled mooring and cable analysis and design, equipment provision, marine operations, maintenance and repair.

MORE THAN 2500 OFFSHORE WIND TURBINE FOUNDATIONS INSTALLED IN THE LAST 10 YEARS

Comprehensive global experience, delivered locally

We have been involved in more than half of all the offshore renewable projects worldwide through our surveying, foundation installation, engineering and cable laying activities. This experience, accrued over more than 25 years and in all regions and water depths, helps us to understand the challenges and deliver cost-effective solutions that enhance long-term project outcomes.

We support projects throughout their life cycles by providing services ranging from geophysical and geotechnical surveys, design and specialist engineering services, and operations and asset integrity management through to decommissioning.

These global services are delivered through local bases to help our customers to meet their local content commitments while providing logistical proximity and efficiency.

We can engineer and install most foundation types, regardless of whether they are fixed, floating, driven, drilled, suction-embedded, jacket or monopile.

Access to world-leading technology

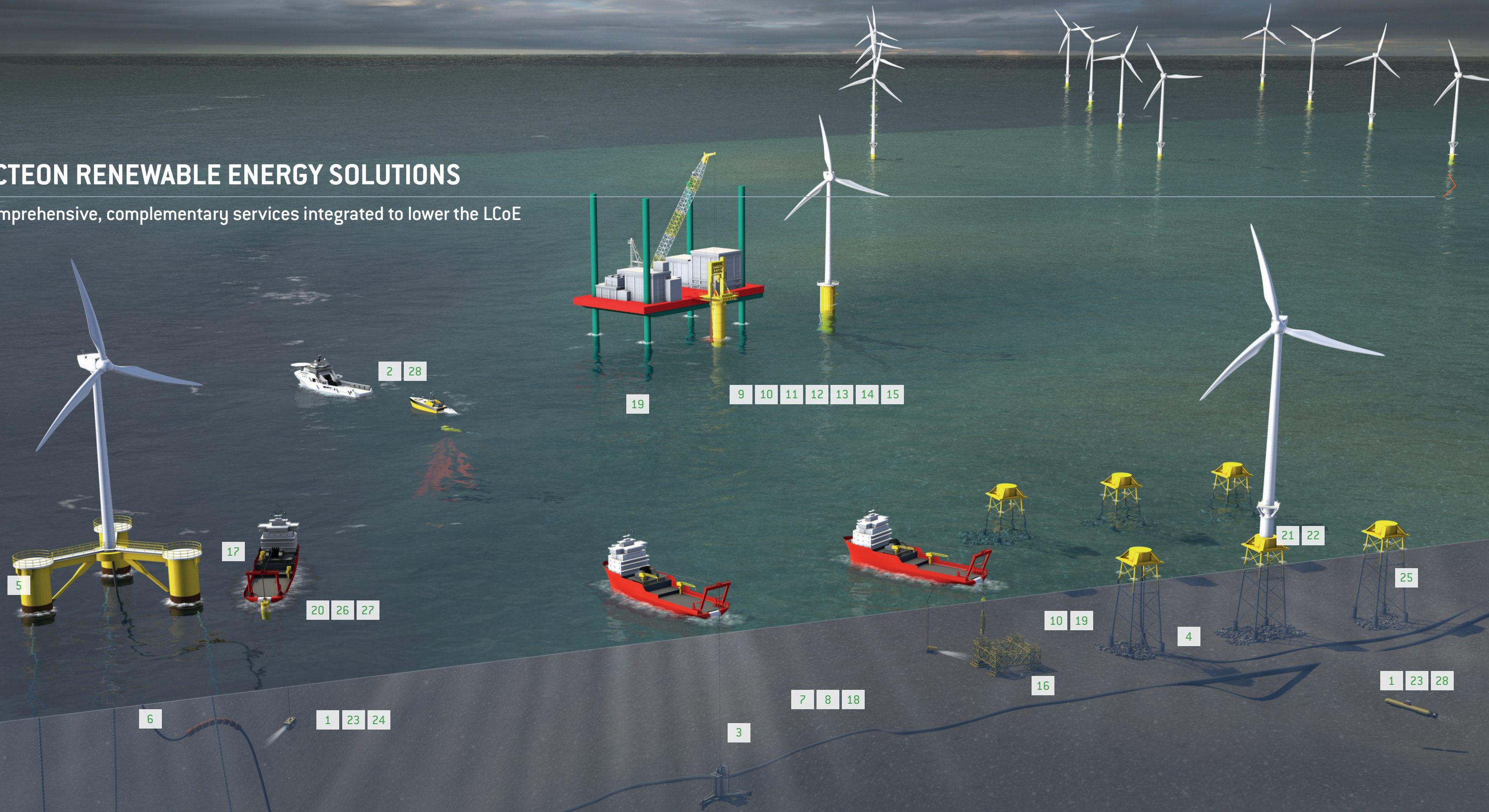
We offer world-leading technology and an extensive equipment inventory, for example, a range of mooring chains and anchors and hydraulic hammer hardware, including the world's most powerful hammer at a 4400-kJ rating. Our unique deepwater hammer system enables us to work in ultradeep waters; its modular design makes transport, assembly and maintenance easier.

Limiting noise is an important factor in offshore construction. Our piledriving solutions feature industry-leading noise mitigation technology to minimise the effects of construction noise on marine ecosystems.

For floating wind turbines, our proprietary anchor designs and experience with all anchor types enable us to provide cost efficiency while ensuring reliability. Working with our supply chain and logistics providers, our engineers develop cost- and time-efficient procurement and logistic solutions to provide industrialised solutions for your development.

ACTEON RENEWABLE ENERGY SOLUTIONS

Comprehensive, complementary services integrated to lower the LCoE



Site characterisation

- 1/ ROV and AUV surveys
- 2/ Geotechnical and geophysical surveys
- 3/ Geotechnical consultancy

Engineering

- 4/ Foundation design
- 5/ Mooring and anchor system design
- 6/ Global performance analysis
- 7/ High-voltage cable specification, design and integrity
- 8/ Pre-construction and route surveys
- 9/ Installation engineering
- 10/ Logistics and cost analysis

Installation

- 11/ Pile hammers
- 12/ Pile drills
- 13/ Pile cleaning
- 14/ Pile grouting
- 15/ Lifting and handling equipment
- 16/ Piling templates
- 17/ Floating platform towing and installation
- 18/ Cable installation
- 19/ Surveying and positioning
- 20/ Prelay mooring installation

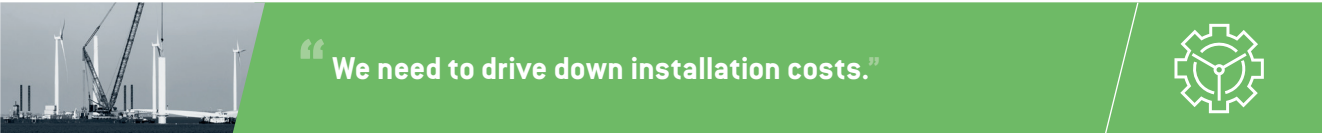
Operations

- 21/ Asset integrity and digital twins
- 22/ Structural monitoring
- 23/ ROV and AUV surveys
- 24/ Mooring and cable inspection, maintenance and repair

Decommissioning

- 25/ Sectioning and recovery
- 26/ Mooring line disconnection
- 27/ Towing
- 28/ Final site surveys

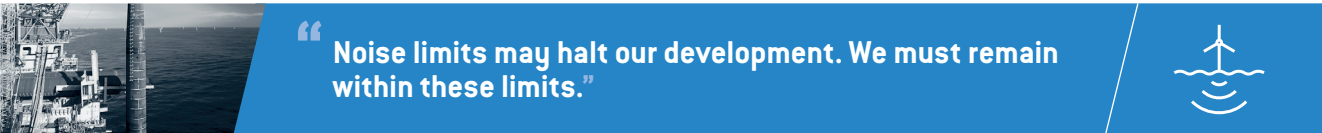
SOLUTIONS FOR FIXED AND FLOATING INFRASTRUCTURE



Acteon solution

Getting Acteon foundation experts involved early can help to reduce costs through optimising designs, reviewing constructability and identifying issues.

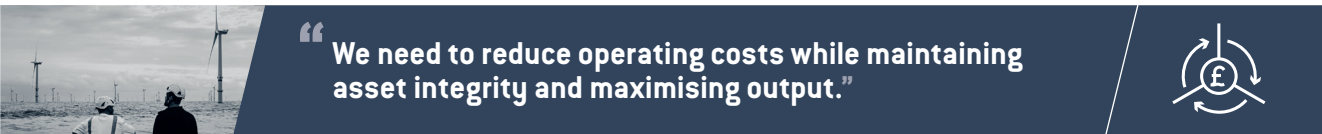
Proof point. For example, optimising monopile designs to hammer properties and geotechnical conditions can engineer out some of the installation noise, thereby enabling more efficient driving and thus reducing installation time. Optimised designs also use less steel.



Acteon solution

The MENCK noise reduction unit has become an integral part of the hammer during operations. By precisely influencing the force-generation characteristics of the single impact during piledriving, the unit reduces the noise-generating attributes of the impact while ensuring continuous drivability for the pile.

Proof point. MENCK’s patented topside noise reduction skirt can reduce above water sound energy emission around a pile up to 65% – important for those projects close to noise sensitive areas.



Acteon solution

Acteon asset monitoring systems provide real-time data, thus enabling remote asset performance monitoring and, thereby, reducing operating costs.

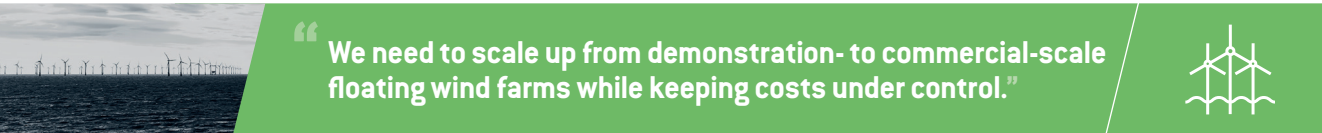
Proof point. Acteon has designed and installed market-leading monitoring instrumentation on offshore wind turbine foundations. This integrated digital solution includes high-quality structural and corrosion monitoring.



Acteon solution

Acteon has worked on the most complex offshore projects involving the heaviest equipment in water depths to 2800 m. Its extensive towing and mooring record extends from the quayside to remote offshore locations, and from shallow to ultradeep water.

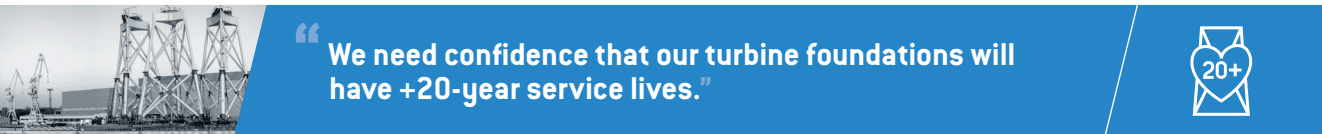
Proof point. Acteon has towed and moored hundreds of floating assets ranging from experimental wave energy convertors to immense floating production, storage and offloading vessels.



Acteon solution

Experienced Acteon engineers can perform coupled analyses of floating assets that account for hydrodynamic and aerodynamic loading to provide complex projects with optimised designs that help to reduce costs. Because Acteon activities are not tied to specific vessels, we are free to propose creative, fit-for-purpose, cost-effective installation solutions.

Proof point. Acteon has a record of delivering disruptive back-deck solutions that create value by driving vessel optimisation and reducing dependence on heavy-lift vessels.



Acteon solution

Acteon’s deep domain experience in mooring integrity and corrosion protection systems enables it to solve existing problems and to future-proof your assets.

Proof point. Whether it is corrosion prevention for fixed jackets or mooring changeouts for large floating assets, Acteon has provided and installed the tools to ensure the integrity of many ageing assets worldwide.

DO YOU HAVE A QUESTION? Contact us at info@acteon.com

ACTEON

INSIGHT



INFRASTRUCTURE



MARINE ENERGY AND INFRASTRUCTURE SERVICES

www.acteon.com