

Decommissioning

Technologies, Case Studies & Solutions
to Challenges in the Middle-East

24 January 2023



About us

We are an integrated subsea technology company.

Established in 1985, Ashtead Technology has grown organically and through strategic acquisitions to become one of the leading providers of **equipment rental solutions**, **advanced underwater technologies** and **integrated support services** to the global offshore energy sector.

Through our three service lines – **Mechanical Solutions**, **Asset Integrity and Survey & Robotics** – we support the installation, **IMR** (inspection, maintenance & repair), and **decommissioning** of offshore energy infrastructure.



Mechanical solutions

We offer a comprehensive service capability for the cutting and removal of renewable energy and oil & gas infrastructure.

Subsea

- Pipeline cutting and removal
- Umbilical, flowlines cutting and removal
- Mooring chain cutting
- Bend stiffener / flexibles cutting
- Wellhead protection structure removal
- Manifold removal
- Infrastructure

Topside

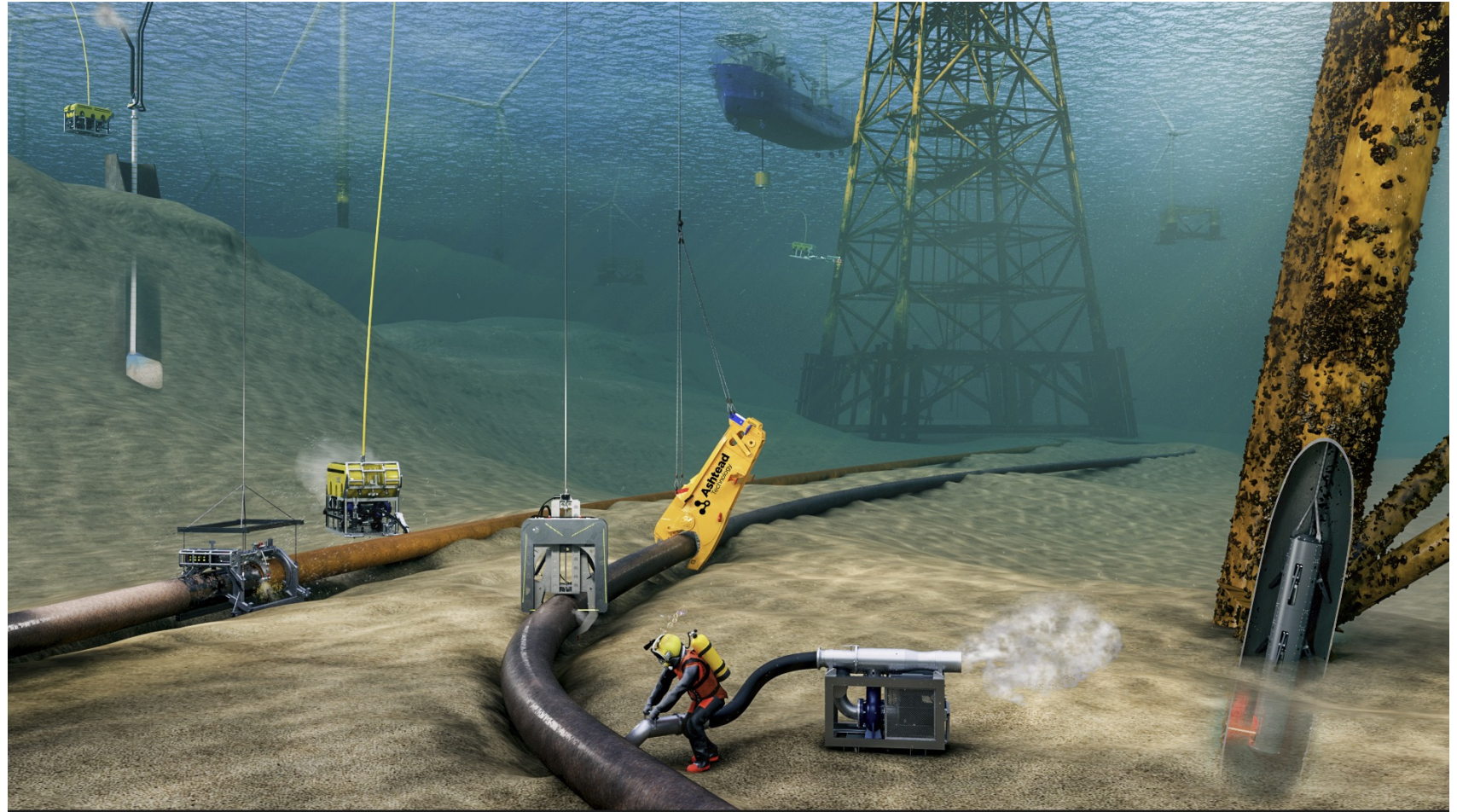
- Module removal
- Conductor removal
- Deck separation
- Pipework removal

Wells

- Conductor recovery, section & pinning
- Abrasive water jet cutting technology

Renewables

- Cable recovery
- Cable cutting
- Weld remediation
- Marine growth removal
- Monopile cleaning
- Soil plug removal
- Dredging systems
- Cleaning, hydraulic/airlift





Ashtead
Technology

Our capabilities

Providing a wide range of in-house designed and third-party equipment and services.

Ashtead Technology has decades of domain knowledge and experience in delivering innovative, industry-leading mechanical solutions for **construction**, **IMR** and **decommissioning** projects across the offshore energy sector.



Dredging



Subsea cutting



Recovery



ROV tooling



Marine growth removal



Coating removal



Intervention skids



Ancillary equipment



Subsea cutting

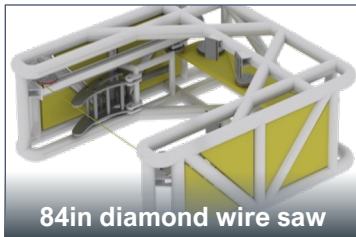
Broad range of proprietary cutting solutions for any operational challenge.

From **mechanical cutting** systems to **cold cutting** solutions, Ashtead Technology offers a range of high-performance tools to cut through the toughest materials in the most challenging subsea environments.

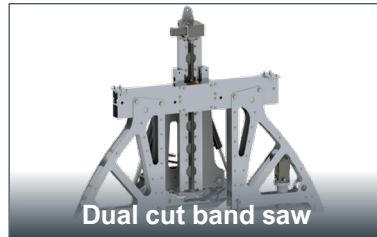
- We are pioneers in Diamond Wire Cutting technology
- **Up to 56"** DWS patented in-house design
- Completed over **2,000** subsea cuts



11-42in diamond wire saw



84in diamond wire saw



Dual cut band saw



Circular chop saw



Internal pile cutter



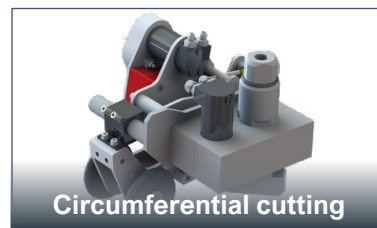
Linear track saw



Abrasive water cutter



Hydraulic shear cutter



Circumferential cutting



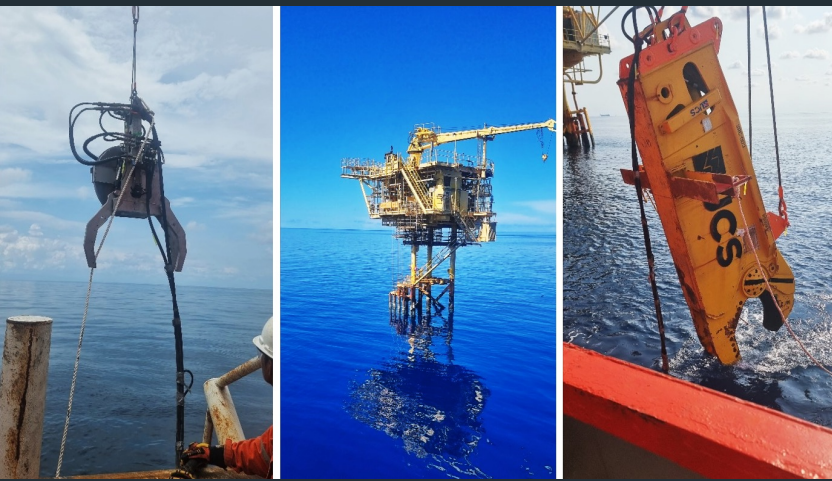
Recovery tools

Secure and safe methods of retrieval.

Ashtead Technology's multi-purpose **subsea grabs** are suitable for the recovery of a wide range of subsea assets. Our grabs have a workload capacity of 1.6 to 98 tonnes and are suitable for removing and dumping a variety of subsea related material, ideal for offshore decommissioning.



Case Study: Decommissioning Subsea Infrastructure Removal



Background >

The scope of the project was to supply equipment for removal of pipelines, debris, subsea structures.

Solution >

A full supply of equipment and personnel were mobilized for the campaign including 42" & 22"DWS, Dual Cut Band Saw, MSD4500 Shear cutters, 6m/12m Pipe Recovery Tools, Subsea grabs and auxiliary equipment

Benefits & value >

A total of **224 cuts** were successfully carried out using an adaptable range of tooling solutions for the completion of the project

Below is the number of cuts carried out by each tool on the project:

- Shear – **101** – utilised for cutting 10" x 15mm WT conductors with and without 1" concrete coating and 16" OD x 15mm WT conductors
- DWS – **90** - utilised for cutting 10" x 15mm WT conductors and 16" x 12.5mm WT conductors
- Circular Chop Saw – **33** 6" x 12.5mm WT steel pipe and 10" x 15mm WT conductors
- Subsea Grab – **3.Tonne** of debris removed from the seabed



Case Study: Decommissioning Decommissioning of subsea assets



Background >

Ashtead Technology's Mechanical Solutions specialists were tasked with removing ageing subsea assets as part of platform decommissioning works on the UKCS.

Solution >

Following consultation with the customer, a tailor-made package was created for this work scope.

The package comprised of diamond wire saws in 11in, 22in and 42in size configurations, two hydraulic shears in MSD-2000 and MSD-4000 specifications, and both 8in and 12in dredges, with a host of ancillary equipment to ensure reliable and effective project performance.



Benefits & value >

- With 15 different cutting locations included in the scope, this diverse package was tailored to the customer's exact requirements. Ashtead Technology's team of technicians worked alongside the customer, ensuring personnel continuity through staggered crew changes which also improved operational safety.
- This methodology allowed the site to be quickly prepared for work, effective action to be taken during the work scope, and the safe removal of equipment from the area of operations following project completion.



Case Study: Decommissioning Leadon towhead and bundle Cutting



Background >

Leadon towhead disconnect required severance of a 51" OD bundle along with a mud mat cutting solution to allow for ultimate structure recovery

Solution >

A newly designed and built Mechanical Solutions DWS size was provided to cut the bundles, using our advanced wire technology and tooling improvements including the patented in-house design cut feed system. Furthermore, a bespoke solution was designed for the mud mat cutting, which required the build of a bespoke 6m linear cutter to be used with the abrasive water jet cutting system

Benefits & value >

- Successful completion of the campaign with cutting times of around 90mins for the DWS, and successful completion of mud mat cutting and removal



Project highlights

Below is a selection of projects supporting a range of customers and applications

Subsea cleaning

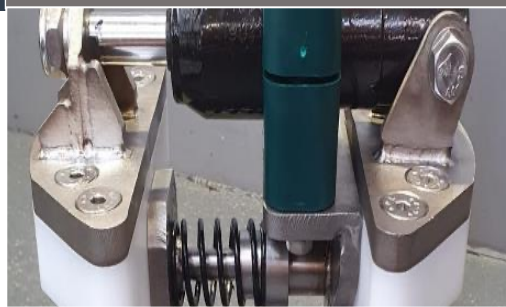


A customer's asset was discovered to have substantial build up of hard and soft marine growth during IMR work

Subsea cleaning tool with polymer rods and brass chain flail heads utilised, providing a rapid and reliable remedy to problem

DEEPOCEAN

Custom tooling



A troublesome gasket was identified as requiring replacement during subsea maintenance

Ashtead Technology worked with the customer to design a cost-effective solution for removing the non-standard 4in gasket & replacing it with one better-suited to the asset



CHRYSAOR

Cutting services



A cutting method was designed to allow for 36" OD grouted conductor sleeves to be removed from 30" OD conductors whilst retaining the structural integrity of the conductors.

Use of the Circumferential Track Saw was recommended for the circumferential cutting operations and the Linear Track Saw to carry out the linear cuts.



MAERSK

Tooling modification



A bespoke shear cutter blade was developed to effectively seal a J-tube riser to prevent internals dropping out after cutting

The shear cutter was also modified with a counter balanced weight on one end to allow it to be deployed vertically

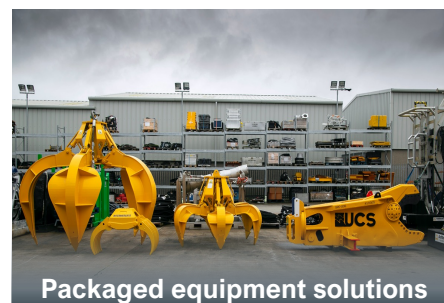


MARINE
CONTRACTORS

Value added services

Custom engineered solutions to solve our customers' project challenges across the offshore energy sector.

We provide innovation combined with field proven technologies & methodologies to help our customers' increase reliability and efficiency whilst driving down risk and cost in subsea and marine operations.



Future Technologies Development's



