Industry-leading specialists in 3D subsea imaging
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Combined with the largest assortment of underwater 3D imaging technology and experienced personnel, Ashtead Technology are industry experts in obtaining forensically accurate point cloud data.

Using either 3D photogrammetry or laser scanning technology, for use by divers or ROVs, we are able to deliver rapid solutions to meet specific project requirements.

Our range of technologies, combined with over 15 years of field-experience and trained personnel provides asset owners with greater information about the integrity of their assets.

Sub-millimeter precision for subsea metrology and true to scale digital reconstructions of underwater assets provide high-quality data, giving you the confidence and assurance to make accurate, informed decisions.

Specialist applications:

• Digital twinning
• Fitness for purpose
• Metrology
• Dimensional verification
• Life extension
• Integrity management
• Repair solutions
Application: Digital twinning

‘Digital twins’ of subsea assets allow volumes of discrete information to be amalgamated into a single digital replica of a physical structure. Digital twins can be created pre- or post-installation and continually updated to reflect its real-life counterpart’s present condition, supporting IRM activities from cradle to grave.

Digital twins can be used to support real-time fitness for purpose analysis, enhance predictive and preventative maintenance, simulate performance under adverse events, identify risk and optimise asset integrity best practices.

Ashtead Technology | Asset Integrity
Application: Fitness for purpose

Many subsea components are designed to degrade over a period of service. Where regular inspection and measurement identifies degradation outside of design expectations, 3D models can be used for detailed analysis.

Ashtead Technology has created hundreds of chain links 3D models in every operating region worldwide, with technology deployed by ROVs, divers, and rope access technicians.
Application: Metrology

3D models are used for a variety of metrology applications, including linear measurements, planar deviations, inclination, and alignment. 3D modelling can be used to complement long-range wireline metrology, delivering ultra-high accuracy between fixed datum points and other features.
Application: Dimensional verification

Repair and replacement activities require a high level of confidence in mating dimensions to avoid assembly issues and wasted vessel time.

When high-accuracy is required, Ashtead-Technology is the most trusted name in the business. In this instance of an FPSO azimuth thruster replacement, the thruster aperture and mating flange were modeled to sub-mm linear and planar deviations to ensure smooth installation of the new thruster.

Scan to watch on: YouTube

Manipulate the model here:
Application: Life extension

When field life extension is contemplated, the suitability of the floating production system for extended operation is usually the deciding factor in commercial viability. Mooring systems are typically designed with corrosion and wear allowances for the original life of field. 3D scanning is routinely used to support detailed fitness-for-purpose assessment, with 3D models available for output into a variety of file types to support Finite Element Analysis or other modes of strength and fatigue assessment.

Scan to watch on: [YouTube]

Manipulate the model here:
Application: Integrity management

Mooring components are subject to extreme static and fatigue loads over long periods of operation. 3D scanning can be used to create high-accuracy replicas of complex component assemblies to monitor condition and track degradation over their operating life.
Application: Repair solutions

Repair of safety-critical infrastructure requires the highest level of technology and experience.

The damage to this wellhead, caused by a dropped object, would have prevented completion of the fully-drilled well, costing in excess of £10 million to re-spud.

This 3D model was used to design and fabricate a subsea repair solution and custom sealing assembly to allow tree installation, saving the well.
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