

Welaptega 3Dimensional Modelling (3DM)[®]

3DM[®]



3DM[®] is part of the Welaptega **Subsea Intelligence Suite**[™] also comprising mooring Chain Measurement (CMS)[®], Rope Measurement (RMS)[®] and 3Dimensional Video (3DV)[®]. This unique toolset gives you the information you need to protect the integrity of your subsea infrastructure.

The Business Problem

Underwater asset failure can compromise production, cost money, impact the environment and hurt your reputation.

Well-maintained underwater assets are key to a productive offshore facility, whether it's a drilling rig, floating production system or any other offshore installation.

If a subsea component is damaged or deteriorating, you need to know. But it isn't always easy to see assets that are hidden underwater. This can make an offshore operation vulnerable to potentially serious and expensive problems.

The Business Solution

Generate 3D models of underwater assets to identify problems and make the best possible decisions.

Welaptega 3DM[®] is a state-of-the-art visualization system for inspecting and measuring subsea assets such as umbilical riser bases, pipelines, mooring lines and wellheads.

3DM[®] produces up-close, high-resolution stereoscopic models that can be manipulated and measured to assess the extent of a problem and make repairs on a subsea component.

www.welaptega.com

Gathering subsea intelligence that matters.

The Technical Solution

Build geometrically accurate 3D models of subsea assets.

Welaptega 3DM[®] generates accurate 3D models of underwater components. High-resolution digital images are processed using advanced photogrammetric software. 3DM[®] automatically processes multiple, consecutive overlapping images to create 3D models which are geometrically and dimensionally accurate.

The three-dimensional images are scalar models which give unprecedented detail of surface materials condition. This enables engineers to characterize the effects of deteriorative mechanisms, for example: wear, corrosion and pitting.

An accuracy of >0.1mm is easily achievable with 3DM[®]. It also enables users to make direct measurements, calculate areas and volumes, and conduct a full array of dimensional analyses (e.g. cross sections, min-max analyses). This makes 3DM[®] suitable for design, planning and remediation.

Welaptega 3DM[®] specifications

Deployment requirements

- Work-class ROV with 7-function manipulator

System components

- Camera deployment frame
- High-resolution digital stills cameras
- Dimmable high-intensity LED lights
- Tungsten halide arc lights
- Acoustic range finder
- Topside control PC

Surface preparation

- The area to be modelled must be cleaned of marine growth so that surfaces are visible. Cleaning is achieved with high pressure water, grit or rotary brushes.
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