

Smart 3D Underwater Vision

Build confidence in your Subsea Environment



ORCA Hub's Smart 3D Underwater Vision system will provide real-time motion estimation and 3D reconstruction of subsea structures, even in poor and hazy visibility.

The developed system will allow divers and robotic platforms to capture live 3D models of their environment that can be used for inspection, further planning of intervention or autonomous behaviour. The incorporated deep learning-based algorithms will support underwater inspection tasks such as object recognition and finding defects in underwater structures.

Benefits

- Real-time processing will provide instant operator feedback and enable on-the-spot decision making
- No in-situ calibration requirements will reduce operational time
- Smart stereo camera sensor with an integrated processing unit will provide a compact and complete unit for easy integration with chosen platform
- Image enhancement software will provide optimum data capture and high quality video clarity to support decision making with confidence
- Optional hardware and software modules will allow an adaptable system that will meet the exact needs of the user

Possible Applications

- Create new ways of performing underwater missions such as ship hull inspections, which could be carried out by building 3D representations to be compared to known models to find defects and estimate the amount of marine growth
- Navigate subsea structures and carry out inspection and monitoring of subsea assets with clear vision even in poor and hazy visibility





ORCA HUB
Offshore Robotics for Certification of Assets

Remote Safety and Integrity

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