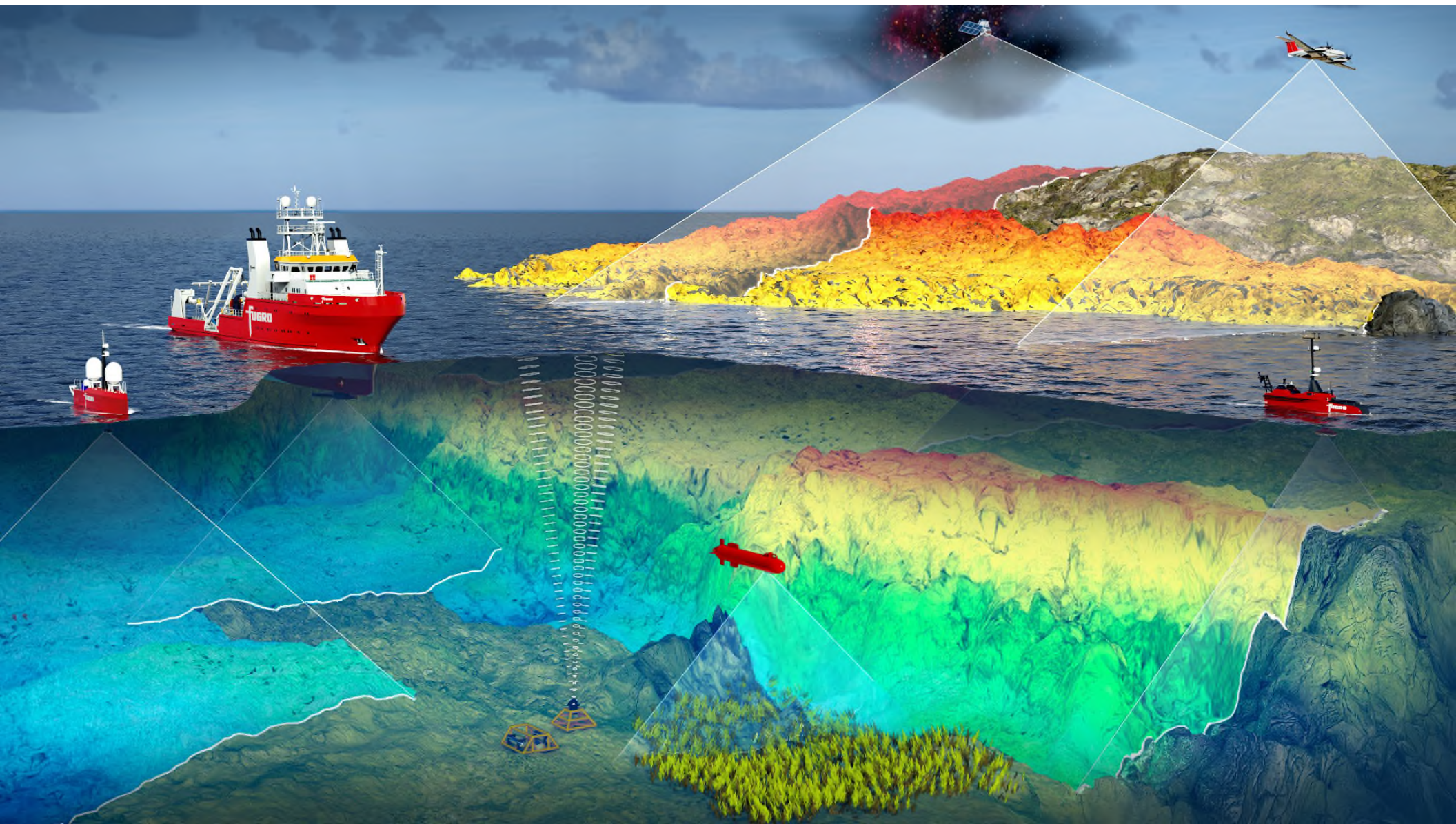




Improving Offshore Safety Through Remote Operations

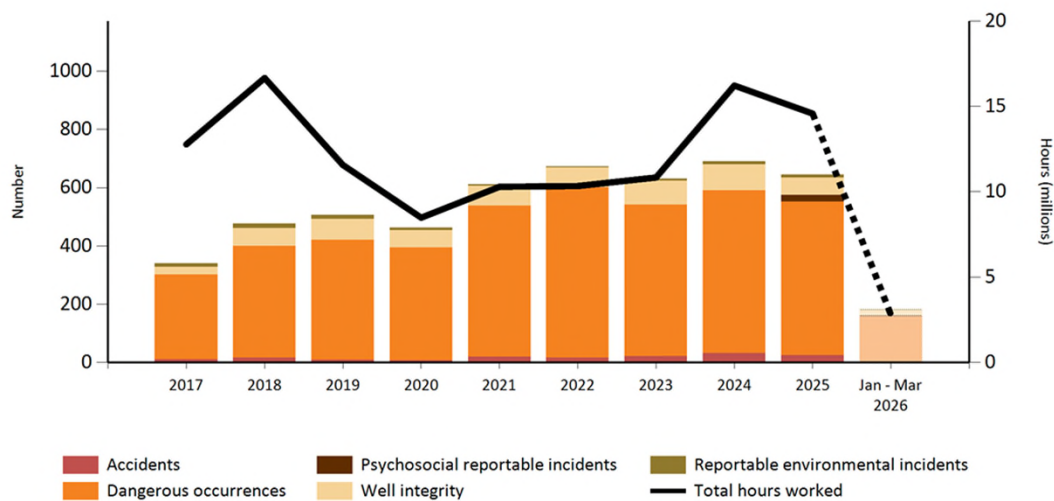
DrillSafe

Ben Fell 3rd June 2026

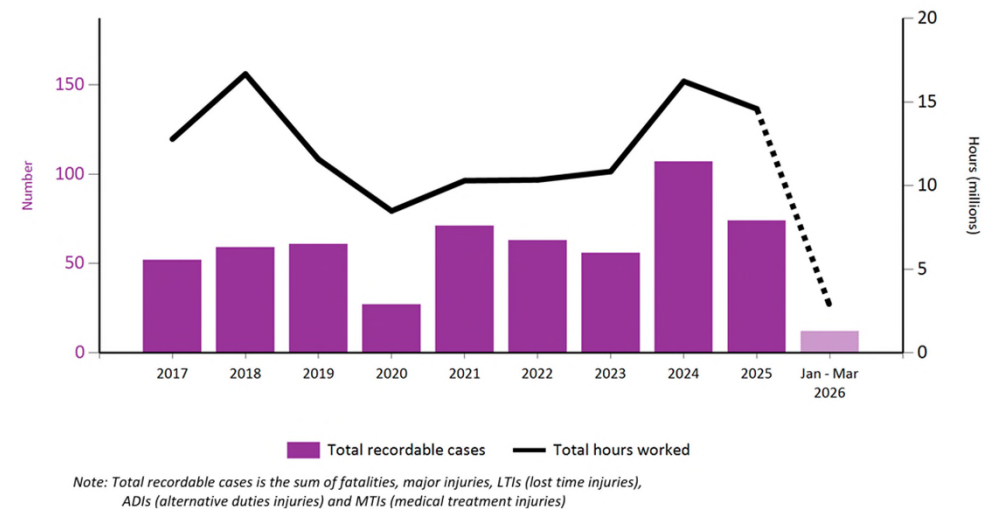


Incidents vs Hours Worked

Notifiable incidents



Injuries - Total recordable cases (TRCs)



“

Uncrewed Surface Vessel Spread

Blue Essence



USV Data Acquisition

Surface Hydrographic

Gondola Mounted Sensors



Capability & Use Case

Gondola mounted sensors including MBES, SBES, SBP, USBL, SVP.
Large seabed mapping
Live data transmission and QA
High risk areas, ports, nearshore infrastructure

Environmental capacity

Depth >50 m

Max. Speed 4 ~ Knots
Hs 2.4 m

Communications

UHF, Over the horizon Iridium & VSAT

Radio Range 6/8 km

4g

Remote Control

Overview

Configurable gondola c/w topside situational awareness for persistent monitoring

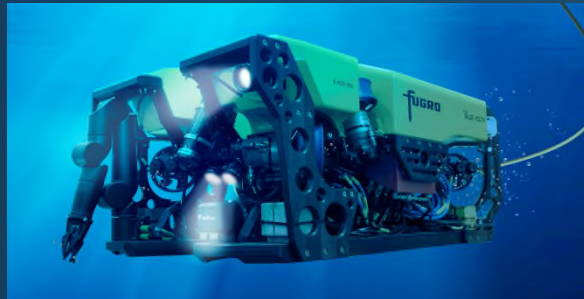
Topside

Realtime

Automated

Subsea Tethered

Blue Volta® Lite eROV



Capability & Use Case

High resolution subsea data in real time
MBES, photogrammetry, high fidelity, still, video
Light intervention with Reach Remote manipulator
High risk deep water with real time decision making

Environmental capacity

Depth 1000m

Max. Speed 1.5 ~ Knots
Thrust 60 ~ kgf

Specification

Topside Power 4380-480VAC 50/60Hz

Standard Umbilical 300m

Payload 50kg

Electric Power System

Overview

Real time data acquisition & light intervention, highly configurable, multi purpose electric vehicle

Topside

Realtime

Automated

Subsea Untethered

Construction Class



Capability & Use Case

Long range and large volume data acquisition
Ultra deepwater data acquisition
Automated data acquisition
Real time topside surveillance, post acquisition subsea

Environmental capacity

Depth Payload specific

Endurance 21 days
Payload 7.1m x 2Te

Specification

Topside Power 380 - 500 VAC, 3-ph 50/60Hz

Standard Umbilical 300m to 4000m

Payload 400kg

Hydraulic Power System

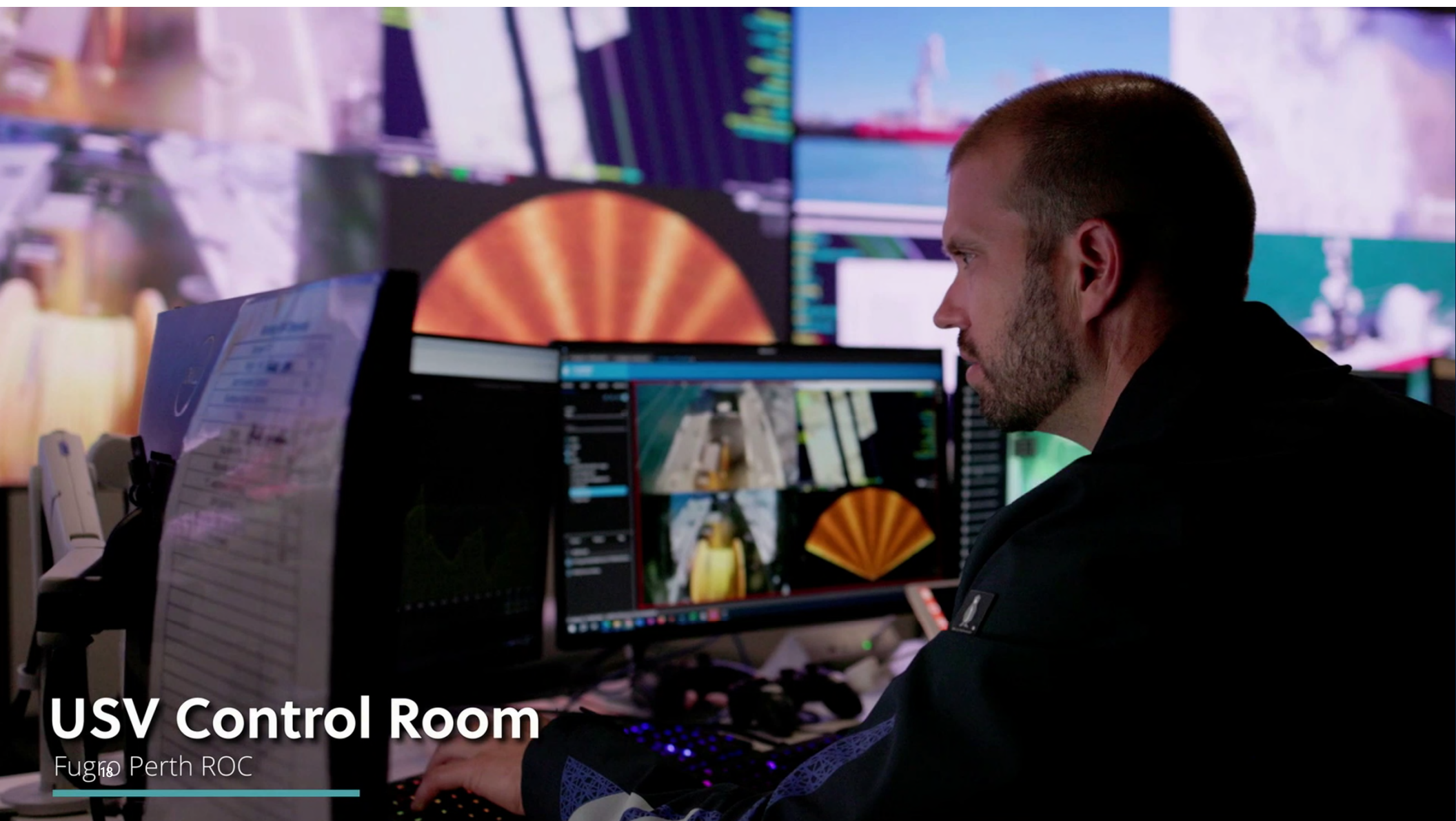
Overview

Long range automated or deepwater data acquisition

Topside

Realtime

Automated



USV Control Room

Fugro Perth ROC

Technology Case Studies

IMR Operations

Fugro's Perth remote operations center built.



Alluvion building
Perth

2018

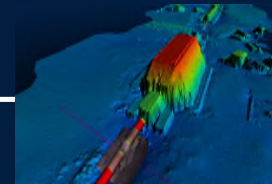
Remote Operations of WROV.



Blue Shadow USV

Blue Shadow USV

2017



Subsea pipeline asset

Inspection and survey operations completed remotely

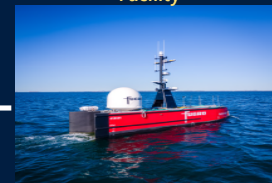
2019



ROC at Telstra Landing Facility

Gnangara Remote Operations Centre Opened

2021



Blue Essence USV

eROV & Blue Essence USV commence in APAC

2022



Perth ROC at
Telstra Exchange

SpAARC Remote Operations Centre

2025



KL ROC

KL Remote Operations Centre

2026

USV & eROV Operations



Remote Operations the foundation of USV Technology

Camera Technology



**Camblock
(UHD Stills)**



Fixed Lens Camera



10x Zoom Camera



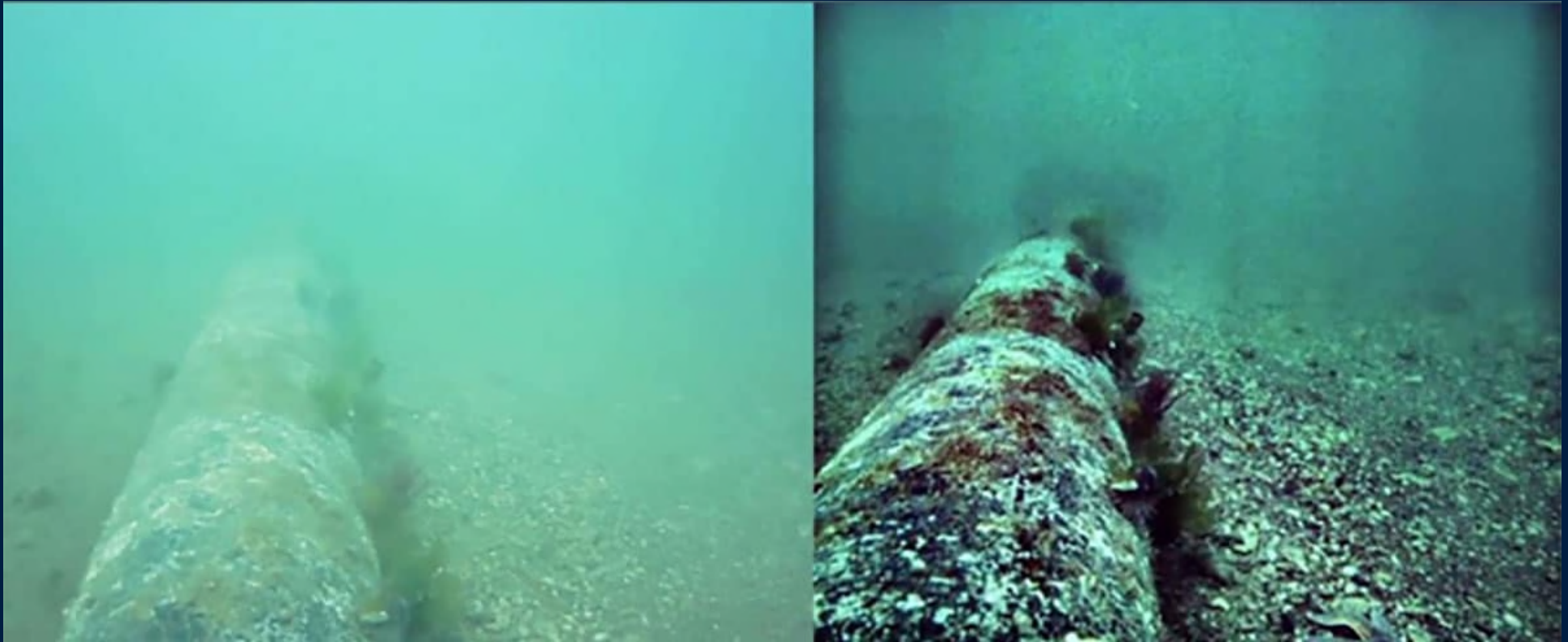
**i2S - Orphie Camera
(High turbidity)**

Camblock

Ultra High Resolution Stills



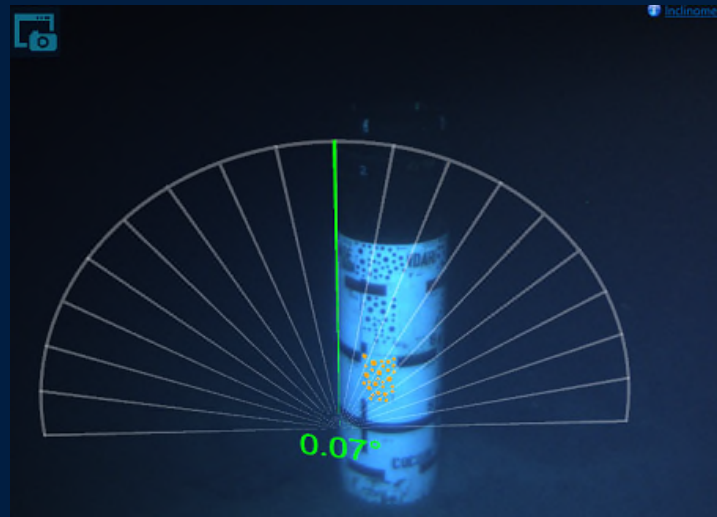
Orphie Camera



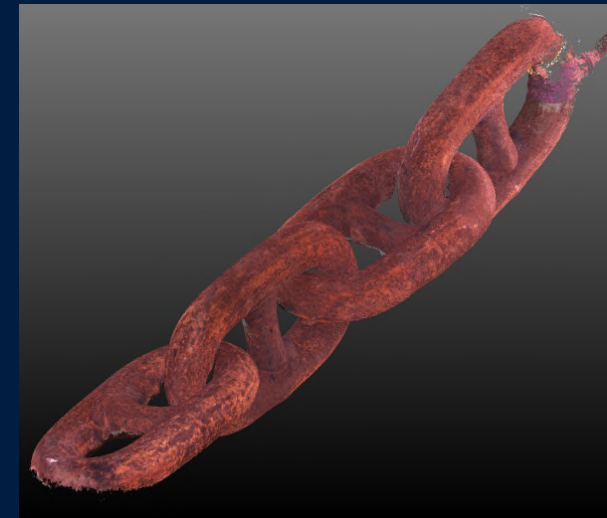
Stereo Cameras



Stereo Camera Spread

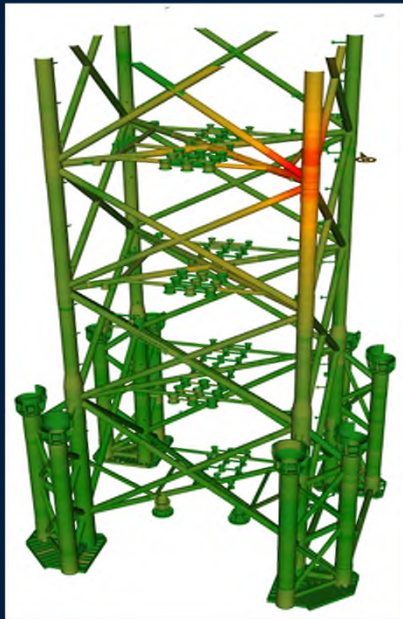


Quickvision Positioning



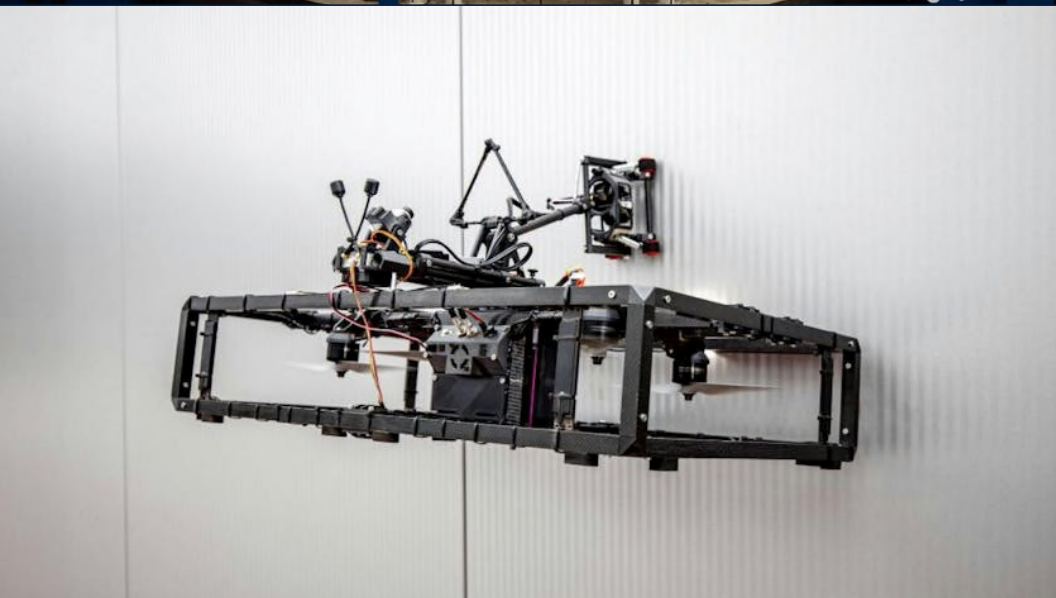
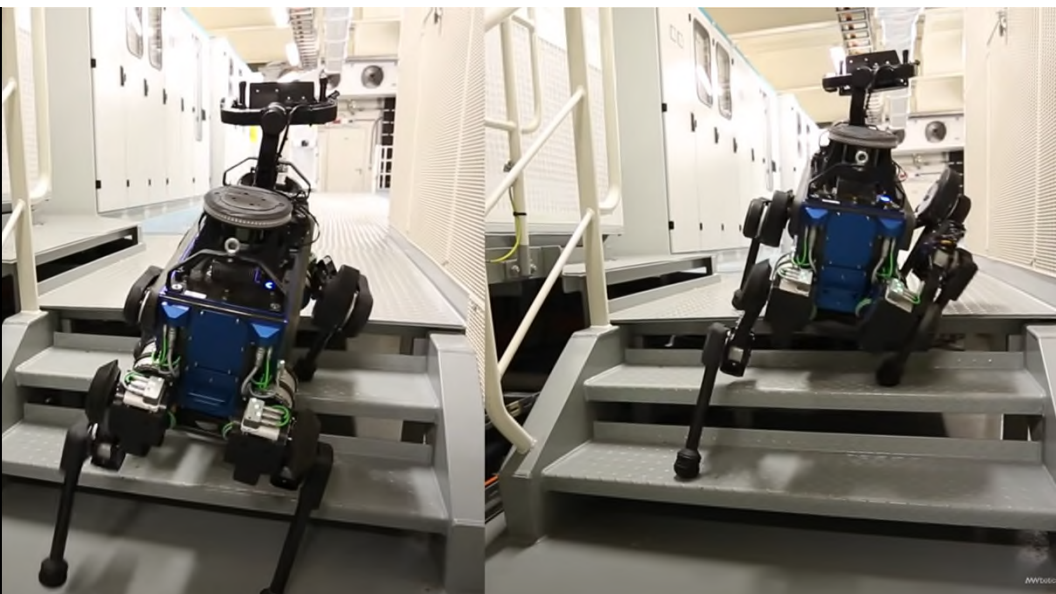
Photogrammetry Chain Measurements

Cathodic Protection



CP acquisition along pipeline as part of a pipeline survey campaign

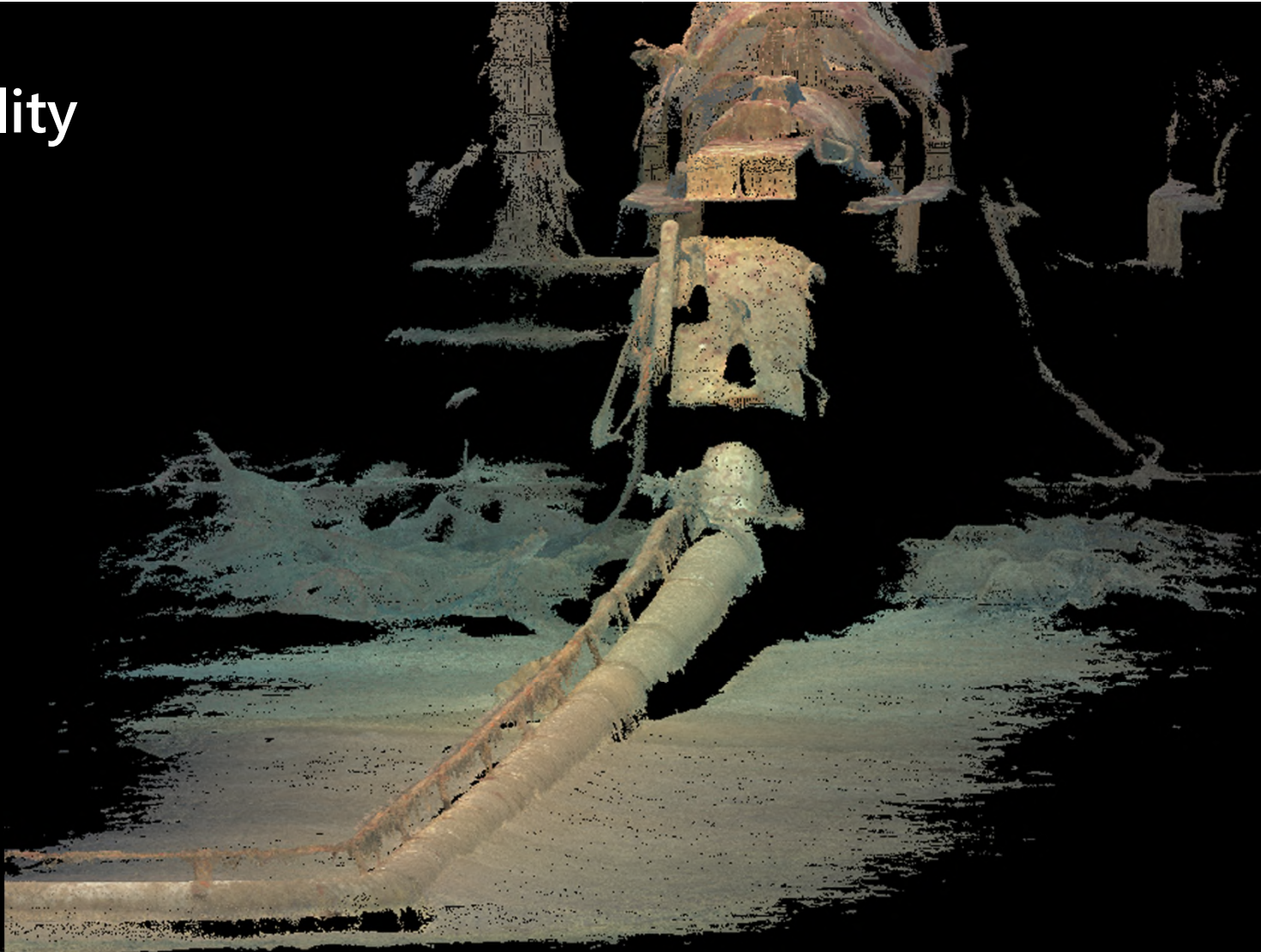




Why Remote Operations

Client, Operator, Personnel

Quality



Environment



High Personnel Risk Areas



"12hr shift still brings with it fatigue whether offshore or in P-ROC. I personally feel I manage my time off in P-ROC better than when offshore especially with **eating habits and physical wellbeing** plus being able to spend time with family/friends".

- *Principal Hydrographic Surveyor* -

" Healthy work-life balance, **Flexibility in family emergency**, Easier to fill in personal, Never miss family as you meet them everyday, Enjoy food from any continent with **Uber Eats**"

- *Senior Inspection Engineer* -

"I enjoy working at the PROC because I can lock in for 12 hours of work and then come home to **my family, my dog and my own bed.**"

- *Senior Inspection Engineer* -

"I have missed out on a lot of personal events such as **my kid's birthdays or school achievements** due to been miles away on a boat offshore, but being at PROC I have been able to be home for many life events"

- *USV Supervisor* -



Fugro USV Operations

Delivering our sustainability and environmental goals



Operations

Total 756 days of USV operations



Personnel

970,000 offshore personnel-hours saved



Environment

6,123 Te of MGO
20,000 Te of CO₂-e



Streamline Delivery

Data delivered to meet client specific



Unlocking **Insights**
from **Geo-data**