



CHALLENGE: i-Tech was seeking a small subsea wireless camera to mount on an intervention tool to complete a project for their client, Woodside. The camera would support removal of an internal plug and make the inside of the tool visible during actuation.

The i-Tech team needed to ensure during operations, that progress was being made as planned, to minimise cost, risk and time. Without visibility, there would be no way of knowing if the plug had been grasped by the tool or had been successfully unscrewed. After removal, other tools were to be inserted, and a gauge to be installed to measure pressure where the plug had been.

A normal tooling camera could have been used but would have required a cable for data transfer between the camera and the ROV, causing a snagging hazard and limiting the movement of the ROV. If the cable had become snagged, the ROV would need to be recovered to replace it, adding additional time and cost to the project.

TECHNICAL SOLUTION:

Support to this task was provided by Viewtooth®, a subsea wireless video camera.

Viewtooth® supports any subsea application where a multi perspective view increases precision and accuracy and therefore reliability and safety of ROV operations on a complex task. A wireless solution allows for flexible positioning of cameras, in places where a vehicle is unable to go, and can remove the need for additional ancillary vehicles in underwater operations.

Compact and portable, Viewtooth® is easily operated, and can be quickly integrated with leading cameras for applications down to 4000m. For this application the Viewtooth® incorporated a Bowtech L3C-650-L pencil camera.



BENEFITS:

- Viewtooth® streamed live video from inside the tool while it was operational, providing additional accuracy and improved efficiency.
- i-Tech Engineers knew that cabling would be a hazard in the conditions where the job was located. Viewtooth transmits data and imagery wirelessly, removing the need for a cable between the ROV and camera and eliminating any downtime needed to repair damaged cables.
- Removed need for second ROV, which would add cost and complexity to the task.
- Immediate visual recognition of any issues during the task. In this case, the camera showed that the plug was not captured by the tool. The tool could be repositioned and the task reattempted straight away.

“The camera system was a very valuable asset as it allowed us to see what the tool was doing inside the guide. At one point while the tool was removing the threaded plug, the camera showed that we hadn’t fully got hold of it which if the camera wasn’t there the operator would have not been aware”.

James Christie, ROV Vessel Project Manager, i-Tech - a Divi-

Viewtooth® applications:

- Hot stab or intervention operations where "right-first-time" is critical
- Spill and containment operations as the wireless video signal is not interrupted by the presence of contaminants in the water
- Cost effective 360° view for subsea construction, e.g. landing of manifolds or BOPs
- Troubleshooting support for remote inspection or monitoring applications
- ROV safety, preventing or solving entanglement issues with the vehicle umbilicals.



Industries: offshore, survey, decommissioning, scientific research, diving and security.

PROJECT TECHNICAL SPECIFICATION

Function	Subsea camera with digital wireless communications
Range in sea water	3m (7m available)
Depth Rating	350m
Data Rate	78 kbps (156kbps available)
Power Supply	24V DC
Endurance	8h
Dimensions	690mm x 170mm
Mass	Master modem: 12.6 Kg , Slave modem 16.1 Kg
Antenna	Internal (External available)
ROV Interface	Ethernet
Camera specification	High Resolution Colour 650 TVL, 10 Bit Digital Processing, 6 High Intensity LEDs, 50° Diagonal Angle of View, 4,000 or 6,000 Metre Rated Titanium Housing
Operating Temp. Range	0-40°C
Storage Temp. Range	-10-50°C
Additional features	PTZ function - 360° pan rotation, 90° tilt and 3x digital zoom



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