

DE-RISKING FIRST-USE LBL SOLUTIONS ON FLNG PROJECT



PROJECT OVERVIEW

A major subsea contractor required specialist support survey work on the development of an FLNG (floating liquefied natural gas) project off the East coast of Africa.

THE CHALLENGE

The project involved accurate subsea positioning in ultra-deepwater – and wanted to achieve vessel time savings using new technologies; sparse LBL (long baseline) for ROV positioning.

The choice of the sparse LBL system and its use on the project was UTEC's (the lead brand for Acteon's Geo-Services segment) responsibility and UTEC had the flexibility of choosing a technology provider with the system best suited to optimise the project. The chosen system was iXblue's Canopus and Ramses. Although the system had been presented to the industry during trials and demonstrations, it had never been deployed on an actual large commercial project within the energy industry, and UTEC would be the first user of the system. This presented significant risks: failure of the system to deliver would result in delays and extra costs for the customer.

CUSTOMER GOAL

The customer wanted accurate subsea positioning to support their installation of manifolds, flexible pipelines and umbilicals with the associated pre- and post-installation surveys. They also wanted to use new technologies to achieve vessel time savings that could be repeated on future larger projects, whilst minimising the number of the offshore survey team required.

OUR SOLUTION AND ITS COMMERCIAL BENEFITS TO THE PROJECT

Market leading services and integrated solutions

- Sparse LBL was used, which is a method that combines INS (inertial navigation system) with acoustic ranges to seabed transponders to position ROV's to similar or better accuracy than conventional LBL while using fewer transponders.
- The experienced teams of UTEC surveyors operated the specialist positioning system in conjunction with other survey and positioning equipment to provide the positioning accuracies needed for the efficient installation of the projects' structures, pipelines and umbilicals.
- By undertaking a detailed risk assessment and implementing mitigation measures, UTEC was able to successfully be the first user of the Canopus and Ramses positioning system.

Work at scale with a proven track record for delivery

- UTEC has 15 years of experience providing positioning and survey support for hundreds of pipeline and structural installation projects around the world and has developed industry-leading knowledge and capabilities in subsea positioning systems.
- UTEC provided experienced offshore survey teams for the duration of the project – maintaining the standard even as the project extended past its original end date and crew changes were severely impacted by COVID-19 travel restrictions.
- As this was the first time that Canopus and Ramses were being deployed, UTEC ensured that all field personnel received training in the system and had the opportunity to specify changes necessary for operational efficiency.

Optimise the project to increase commercial value

- Sparse positioning meaning fewer transponders to be deployed and recovered resulted in vessel time savings.
- Efficient power management in the Canopus transponders enabled them to operate three to four times longer than alternative transponders saving further vessel time by not needing to replace any exhausted units.
- UTEC evaluated the available sparse LBL positioning solutions and selected the system with the clear technical and commercial advantages, including the longer battery life, backed up with proactive support. This combination achieved the most cost-effective solution for the customer.
- Predicted time and cost savings were achieved, and a wealth of experience, to be used on future projects, was gained by all parties.

Combine digital technology and data to enhance our expertise

- A satcom link was established between onshore technology specialists and the actual Ramses units fitted to the ROVs, enabling the onshore support team to directly configure and operate the system, providing flexibility if the offshore personnel encountered problems. Although the offshore personnel did not need this support, it was proved operational and now provides an option for reducing the number of offshore personnel needed on future projects.

