



Vessel Visual Twins for a Maritime Services Contractor

Marine Visualisation | Case Study





Project Overview

Reality capture of selected vessels across all decks enabling remotely accessible visual twins in the ZynQ platform for teams and contractors

Assets:

- 4 Diving Support Vessels**
- 1 Construction Support Vessel**
- 1 Daughter Craft**

Proposed Solution:

Full asset data acquisition + visual twin

A combination of 360 photography, simultaneous localisation and mapping (SLAM) and laser scanning were used for data acquisition.

Complete Fleet Visibility on any Device

How a global offshore contractor transformed asset management across their fleet of vessels using the ZynQ visual twin platform.

The Challenge

To deliver visual twins of the vessels ahead of peak project season.

A global offshore contractor operating a fleet of four diving support vessels (DSVs) and one construction support vessel (CSV) needed a smarter way to manage planning, maintenance and collaboration across its assets.

With teams distributed across locations and vessels frequently on active deployment, coordinating inspections, back deck layouts, port turnarounds and third-party communications was time-consuming, costly and heavily dependent on physical access to each vessel.



The marine digital twin market is projected to grow from

\$0.59 billion in 2025
to \$2.40 billion by 2032,
- a CAGR of 23.2%,

This growth is driven by increasing demand for vessel monitoring, maintenance, and efficiency improvements in shipbuilding and port operations.

Source: MarketsandMarkets

The Solution

Each vessel was captured using a combination of high-resolution 360° photography and point cloud scanning, utilising both a NavVis VLX and a Leica Geosystems laser scanner.

The resulting data was integrated into the ZynQ visual twin platform, producing a navigable, true-to-life digital representation of each vessel accessible remotely at any time. The full capture project was completed on a one-week capture, one-week build cycle per vessel - delivered live to the client ahead of their operational deadline.

By adopting ZynQ, the client was able to:

- Reduce travel to the vessels
- Reduce PoB
- Improve project execution and planning
- Improve cost control
- Improve safety and reduce the risk of potential incidents
- Contextualise and centralise siloed asset data in one trusted platform
- Collaborate with external stakeholders and vendors through easy access to the visual data
- New crew members familiarised ahead of mobilisation
- Enhance back deck planning by visualising and positioning equipment for operational loadouts (e.g. ROV and wireline), including temporary and permanent layout changes



The Outcome

The client has fully incorporated ZynQ into their operational workflows, recognising the value of visual intelligence as a practical, day-to-day tool not just a one-off deliverable.

With all vessels captured and live on the ZynQ visual twin platform ahead of peak season, the fleet entered its busiest period with a level of operational visibility that simply wasn't possible before - and a platform the team can rely on across every deck and discipline.

Remote technology providers report

operational cost savings of between 35% and 80%

compared to manual methods when conducting offshore inspections.

Source: BSEE/DNV study

The Results

The visual twins are now embedded in the offshore contractor's daily operations, delivering measurable benefits across the fleet.

What happened in year one:

- ✓ **132 active users across the fleet**, spanning internal project teams and third-party stakeholder organisations, removing the need for repeated physical visits and on-site inspections
- ✓ Over **43,500** platform interactions recorded across 6 vessels, reflecting sustained daily engagement from crews, engineers and project managers
- ✓ Platform adoption increased by over **900% within the first six months**, as teams rapidly integrated visual twin access into their planning and operational workflows
- ✓ Access extended across multiple organisations, consolidating remote collaboration between the primary contractor and specialist subcontractor teams into a single environment

Improve Performance and Profitability Through Asset Visualisation

Utilising asset visualisation significantly enhances the effectiveness of operational planning.

By providing a comprehensive visual representation of your assets, it allows for more precise identification of project needs, facilitates better risk assessment, and improves the coordination of resources and tasks.

This visual approach ensures that all aspects of your procedures are clearly understood, leading to more informed decision-making and efficient execution.



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