



Defence

Submarine floating dock load monitoring system

Client Landcorp

Location Henderson, Western Australia

Value \$800,000

Duration July 2010

Project Overview

In June 2010, Collins Class submarine, HMAS Farncomb became the first vessel to be lifted out of the water at the new Common User Facility (CUF) at Henderson, WA using the new floating dock and Self Propelled Modular Transport (SPMT) system.

To ensure that the load of the submarine is evenly distributed during 'the lift', SAGE Automation was engaged to design, construct, install and commission a unique, submerged wireless monitoring system that would provide real-time visibility to the operator on the quayside.

The system comprises 34 load cells that are distributed into the 17 cradles that support the hull of the vessel. This information is displayed on a small, hand-held, tablet PC as a graph that provides immediate visual representation of the distributed load. Pre-set alarms are automatically triggered should any of the loads approach a critical level.



Project Requirements

- The networking of 34 individual load cells along the 70 metre bed of the floating dock
- An uninterrupted, submergible, reliable wireless link to feed real-time data to the operator
- Clear and concise displaying of information enabling instantaneous decision making

Project Highlights

- Using Commercial off the shelf (COTS) solutions in a Defence Application
- The system is the first of it's kind in the world
- A unique application for SAGE
- A great example of SAGE's commitment to be part of the Australian Defence Industry

Project Challenges

- Submerged, wireless connection
- To provide clear, concise visualisation of what is happening

Capabilities Demonstrated

- Complex electrical design
- Compliance to marine standards and conditions
- On-site installation

This system guarantees safe removal of the submarine from the water, critical to its successful docking

Customer comments

"Wednesday 9 June was a significant day for ASC, and especially ASC West, with the safe docking of HMAS FARNCOMB at the West Australian Submarine Support Facility, Henderson WA. This is the first docking at our new facility and is the result of many years of planning and hard work by personnel across a number of organisations, including the RAN, DMO, LandCorp, AMC Management, Tutt Bryant, SAGE Automation, Technica Engineering, Rolls Royce Marine Australia and the contractors who designed and constructed the facility."

Craig Vandeppeer General Manager WA, Landcorp

