

MOBILE SEISMIC RACK

OIL & GAS EXPLORATION

“ We strongly believe that this collaboration with Captec will enable us to provide ruggedised servers that can survive the types of harsh environments and extreme conditions experienced in this application. ”

Senior Technical Lead

A leading designer and manufacturer of fibre optic-based specialised instrumentation, utilising bespoke technologies to deliver real time, mobile measurement systems. Its solutions are deployed in a wide diversity of locations, including in hostile environments, for seismic and exploration applications.



REQUIREMENTS & ISSUES

- Design and development of custom 3U and 1U servers, integrated into a 5U ruggedised case with the customer's 1U specialised instrumentation for mobile transportation
- The ruggedised case, computers and instrumentation had to be able to withstand heavy shock and vibration caused by transportation in vehicles
- Customer required all cables to be situated at the front of the ruggedised case for ease of usage, serviceability and protection from heat
- The solution had to be capable of withstanding a wide temperature for global deployment, vehicle transportation and exposure to varying climactic conditions
- Shock and vibration performance certification to customer stipulated levels was crucial to validating reliability
- The 3U server required integrated board assembly to support customer functionality demands

THE SOLUTION

- ▶ Captec's specialists took total ownership of the project, designing and integrating its own 3U and 1U server, and the customer's 1U specialist instrumentation, into a 5U ruggedised case
- ▶ Ruggedised case engineered internally for improved housing and storage, and bespoke metalwork undertaken to protect computers and instrumentation from shock and vibration
- ▶ Rerouted all cables from the rear to the front of the case to improve serviceability and usage, while a bespoke cable guard protects wires from overheating
- ▶ Engineered thermal management created a wide operating temperature range
- ▶ Captec managed the entire shock and vibration compliance process from start to successful completion, including in-house pre-testing for speed and complete assurance
- ▶ Integration of third party cards at board-level saved the customer time and resource



THE OUTCOME

- ▶ Customer benefits from an expert supplier that took holistic project ownership, including design, BOM management, obsolescence control, compliance, modifications and integration
- ▶ A ruggedised, fully mobile solution that can be easily transported to plug and play in any location
- ▶ Assurance that the entire unit is able to withstand the environmental challenges of a range of locations, including wide temperatures and heavy shock and vibration
- ▶ Projected business forecast for further installations

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