



# Autonomous Maritime Vessel

## Multi-Mission Intelligence



“Our bespoke rack design enabled the customer to install his equipment into a confined space envelope on board the vessel. The rack had to meet shock & vibration, water & dust ingress and EMC standards so to protect sensitive electronics equipment whilst interfaced to a bespoke set of military equipment.”

**Lee Town,  
BDM**

Our customer is a maritime high-technology enterprise with a global footprint and expertise in the fields of hydroacoustics, sensor engineering and information technology.

The solution is part of an autonomous vessel for the detection and classification of submarines, mines and other surface platforms.



### Requirements & Issues

- ▶ The design and supply of a fully integrated bespoke shock-rated 19" rack enclosure, designed to meet to DEF-STD 00-35, to MIL-STD 461G, EN61010 and IP65
- ▶ Installation space envelope restricted to height 800mm, width 610mm, depth 670mm
- ▶ With restricted space and a fully equipped rack, the operating temperature range must be 0°C to +60°C through a forced air-cooling solution while maintaining the IP65 rating
- ▶ Front access to the equipment is needed for equipment installation and serviceability
- ▶ Interface with military-grade equipment with MIL-STD connection

## The Solution

- ▶ Bespoke designed ruggedised rack enclosure to meet shock and vibration requirements with X-mounts with compliance to DEF-STD 00-35, to MIL-STD 461G, EN61010 and IP65
- ▶ Design of a sliding inner rack to allow rear access to equipment for serviceability to overcome the space constraints
- ▶ High performance forced air-flow design whilst maintaining IP65 water and dust rating
- ▶ Design and manufacture of specialised cabling and connectivity for complex vessel integration designed to meet the standards set
- ▶ Full time project management support to ensure delivery on time and in budget



## The Outcome

- ▶ Bespoke 19" rack enclosure designed specifically to meet a multitude of complex requirements enabling the delivery of an innovative sonar solution
- ▶ A fully shock mounted solution to meet DEF and MIL standards
- ▶ Rack design to specific weight target
- ▶ An integrated fully ruggedised server for primary control system
- ▶ Air flow design enabling IP65 compliance and equipment performance within expected temperature operation range



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