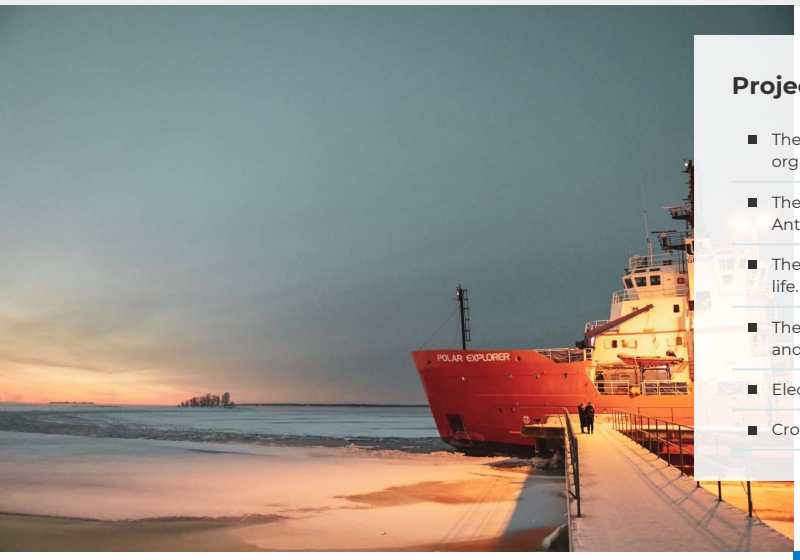
CONTROL UPGRADE OF A SHIP PORT & STARBOARD STERN SCHOTTEL THRUSTERS

"Boldly go where no one has gone before" - *Captain James T. Kirk*

Industry
Maritime

Sector
Logistics

Segment
Propulsion Systems



Project

- The client is a premier maritime solutions provider to governments, businesses and organisations across the world.
- The client's vessel, the Aurora Australis, was the main supply ship for the Australian Antarctic Division.
- The vessel needed some updates to improve reliability and extend its useful service life.
- The client identified that one opportunity was to upgrade the control of the Port and Starboard Stern Schottel Thrusters.
- Electrical equipment and works had to be certified by Lloyds Maritime Register.
- Cromarty Automation was awarded the project to complete the works.

Solution

The aim was to upgrade the existing Stern Thrusters Digital DC Converters in a cost effective, compliant way, minimising operational impact. This was achieved by:

- Retaining as much of the existing drive cubicles, motor wiring, cooling fan, main switch and supply fuses.
- Using Lloyds approved flexible cables.
- Installing additional I/O to monitor motor temperature and 3 phase power.
- Manufacturing new auxiliary equipment panels.
- Removing unnecessary equipment from the existing panel door and install a remote-control panel for the drive.
- Performing standard DC Drive startup and commissioning procedures.
- Re-commissioning all existing inputs, outputs and references.
- Document and commission installation suitable for Lloyds certification.

Outcome

Firstly operability was improved; one button now started the drives, reliable indication of drive speed was provided, additional emergency stops and fault indication were fitted to the bridge, harmonic distortion and voltage spikes were reduced on the electrical system and low speed feedback encoders fitted, allowing parameter editing and monitoring of operational variables. Intelligent design reduced manual handling requirements when changing major components and installing contemporary electrical components meant spares were now readily available. Future changes could also be easily made via a local HMI or laptop.