

Naval Support Vessel – CCTV Upgrade

Overview

Paragon Security was commissioned to provide design proposals for a full CCTV system upgrade for a Naval Support Vessel - delivering a modern, high-resolution IP solution while overcoming the unique operational and environmental challenges of a working vessel.

Vessel Profile

The ship's duties involve supporting training operations and transporting military personnel and equipment around the world. It undertakes specialist duties including carrying specialist craft. The vessel is equipped with several operations and briefing rooms. She employs a crew of some 16 personnel and is able to accommodate up to 72 troops as well as Fast Interceptor Craft (FIC).



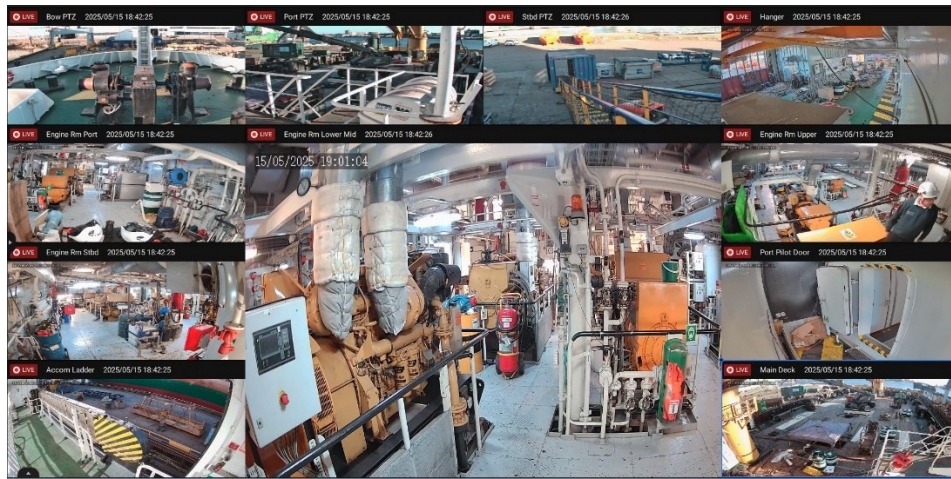
Scope

The vessel operators were looking to replace their existing CCTV systems since it comprised a combination of two separate systems which they want to bring into one solution.

An on-board survey was undertaken where two systems were observed. The system in use would only support 8 cameras (3 of these are in the engine room).

Key stakeholders were interviewed to establish the requirements:

- Eight cameras were present on the vessel, 3 of which are pan and tilt
- All new cameras must have day/night function
- Additional cameras were required to cover the gangway access port and starboard and extra camera in engine room
- A network video recorder was required to enable recording and playback facility
- The new system was required to be a self-contained system with no internet connection but networked on the vessel so the cameras could be viewed on certain other computers, but not essential.
- Option to utilise the existing cabling if possible



The Challenge

The vessel's owners required a CCTV upgrade that addressed several critical constraints:

- Replacement of an outdated analogue CCTV system with a modern, high-resolution IP-based solution
- Minimal disruption to ship operations and crew
- Reuse of the existing coaxial cable infrastructure to avoid the cost, time, and risk associated with installing new CAT6 cabling
- Provision of rugged, marine-grade cameras capable of operating in harsh environmental conditions, including wash/wipe functionality

These requirements demanded a carefully engineered, vessel-specific solution rather than a standard off-the-shelf CCTV system.

The Solution

Following an extensive survey, Paragon Security delivered a fully bespoke CCTV design tailored to the vessel's operational and environmental requirements. This included detailed system drawings with layout plans showing camera views, schematics, equipment schedule, data sheets and engineering documentation demonstrating how each requirement would be met.



Key elements of the solution included:

Advanced IP-over-Coax Transmission

Paragon implemented innovative transmission technology enabling high-definition IP CCTV video to be carried over the vessel's existing coaxial cabling. The solution supports bandwidths of up to 200 Mbps, allowing multi-camera matrix views at CCTV workstations.

Bespoke Mechanical Engineering

Custom stainless-steel adaptor plates were designed and manufactured to allow the new IP cameras to be mounted onto existing camera brackets. This significantly reduced engineering work, avoided hot works and minimised installation time.

Project Outcome

The system designed by Paragon was successfully installed without operational disruption and was completed to the full satisfaction of the client.

Key Value Delivered

- Minimal vessel downtime
- Reduced installation cost and risk
- Future-proof, high-resolution IP surveillance system
- Marine PTZ and fixed cameras with wash/wipe facility
- Demonstration of expertise in the design of CCTV in Naval marine applications

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