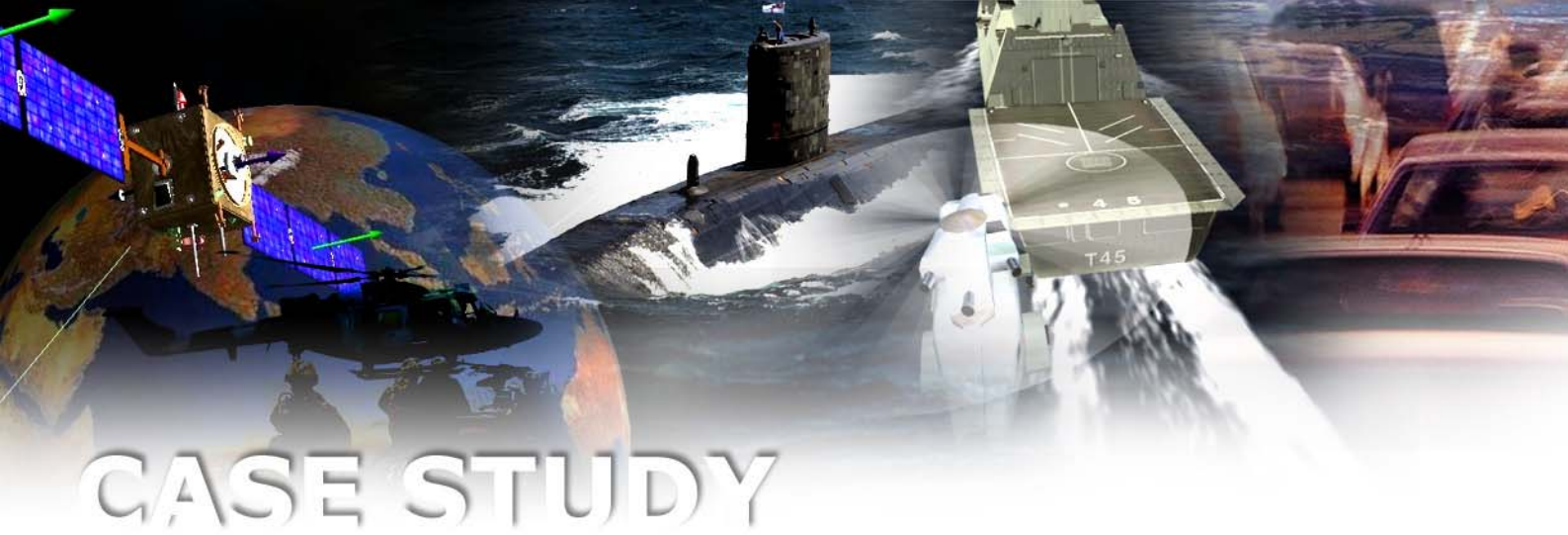


CASE STUDY

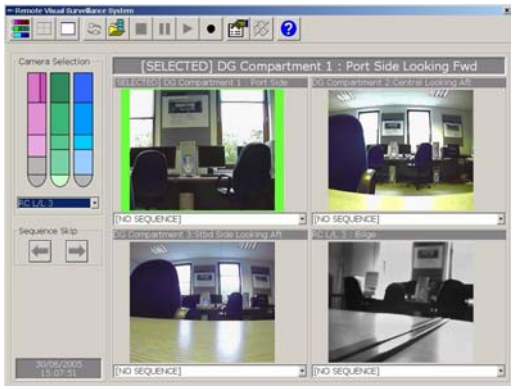
Computerised Information System (CIS)

SEA and L3 Communications (Henschel) developed the Computerised Information System (CIS) technical solution for the Astute Class Submarines, based on previous products and experiences on Naval Platforms and Military applications.

SEA was responsible for the development and production of the Remote Visual Surveillance System (RVSS); a bespoke SEA application designed specifically for the Astute CIS.

The CIS provides the environment for IT systems and services on the Astute platform. It comprises a local area network, with servers, storage, printers, workstations and laptops; along with standalone workstations for connection to other networks when alongside. Applications consist of a mixture of COTS packages to provide, for example, office productivity; and third party software that provide specialised functionality such as engineering and stores management or condition monitoring. The emphasis in the design is on the use of COTS hardware and software along with open standards. The aim was to provide a solution that is both cost-effective and flexible for future enhancement.

The RVSS is a CCTV system for the aft areas of the submarine. A mixture of digital and analogue video cameras is networked. A bespoke application enables the users to observe, capture and replay the video streams. Human Factors considerations are particularly important, as the principal viewing station is part of the Centralised Control Console in the Manoeuvring Room. Here the monitor is physically distant from the user and interaction is constrained to only a tracker-ball device.



Example shows how video streams can be viewed

Encryption for boat 1-3, this is a combination of both Flagstone Enhanced and Flagstone Baseline, combined with HP Protect Tool Authentication Services (security keys provided by CESG). SEA has become subject matter experts regarding encryption using Flagstones, tasks included:

Laptop encryption for Boat 1-3

UMMS and MIMIC upgrade for Boat1-3 (engineering maintenance and monitoring application)

Secret trilogy view on to secret workstation

Purchase of hardware and software on behalf of Henschel, under ITAR

SMIM design based on CIS in order to allow seamless transfer of data from ships PMS to secure MIMIC and onwards to VMMS.