

ICS - Integrated Communication & Surveillance System for Submarines



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HENSOLDT Optronics and ELTA have teamed to offer an innovative Integrated Communication & Surveillance System (ICS) for submarine Information Surveillance and Reconnaissance (ISR) missions. The ICS is a fully integrated system combining HENSOLDT's Optical Surveillance Optronics Mast OMS150 together with ELTA's SIGINT and SATCOM payloads.

The ICS performs optical surveillance, radar warning and detection and monitoring of GPS, voice and other communicating transmissions between ships, land or airborne platforms. The data gathered in real time can provide the submarine crew vital information regarding the enemy's exact location and current situation. The system processes the data from the advanced sensors onboard to classify and generate actionable intelligence. It is equipped with a SATCOM system to enable the data to be securely relayed to a remote command. The system is cyber protected and can seamlessly integrate with a vessel's CMS (Combat Management System) providing system status, situation awareness picture, call-to-action commands, events logger, displays and storage of classified threats, and more.

The ICS houses all the sensors within a single uniquely engineered mast to minimize impact on the submarine's stealth signature – a substantial advantage in comparison to installing it over multiple masts. It is a completely sealed system, protecting the sensors and equipment when operating both submerged and on the surface.

The ICS includes the following sensors and systems:

C-ESM System for HF/V/UHF

Intercept, analyze, identify, and monitor communication networks and datalinks in dense and complex communication environments.

- Frequency coverage: 1.5-3,000 MHz
- Voice & Data processing

Laser COM

Point-to-point laser LOS communication with data rates up to 5 GBytes.

R-ESM System

Advance system for interception and analysis of Low Probability of Intercept (LPI) emitters in dense electromagnetic environments.

- Frequency coverage: 2-18 GHz
- Wide instantaneous frequency coverage for 360°

Optronic System

Optical surveillance with HDTV, SWIR, LLTV and MWIR capabilities.

AESA SATCOM System

SATCOM On-the-Move (SOTM) based on electronic steering phased array technology.

- Operating in the Ku-band frequency using Geostationary Satellites
- Complies with ITU-R 524-9

Key Features

- High data rate laser communication and robust optical surveillance
- System fully integrated on HENSOLDT's OMS existing mast systems
- Automatic threat alerts
- Generates covert real-time ISR situation awareness picture
- Wide instantaneous frequency coverage with 360° DF
- Operates in complex and dense environments