

SeaShield™

Underwater Coastal Surveillance Sonar

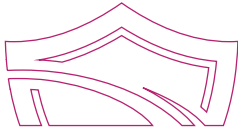
SeaShield™ is a fixed sonar system for very-long-range underwater detection, delivering comprehensive situational awareness of the underwater domain.



Defeating Underwater Threats with Advanced Technologies

SeaShield™ is an Underwater Domain Awareness Fixed Sonar System. The system is a low-frequency, Active and Passive sonar for very-long-range, wide-coverage detection of submarines of all sizes – including midget-submarines, Swimmer Delivery Vehicles (SDV), and large Autonomous Underwater Vehicles (AUV). SeaShield supports automatic detection, tracking and classification, significantly reducing operator workload and enabling continuous operation. The system includes automatic functions based on advanced Artificial Intelligence (AI) algorithms.

DSIT's expertise, leveraging two decades of extensive hands-on experience, has enabled the development of the system's unique Wet End installation design and implementation, ensuring endurance in even the most extreme weather conditions.



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Main Benefits

- Long range and large coverage area enable underwater situational awareness
- Tailor-made solution designed for the underwater arena & customer operational needs
- ASW deterrence
- Reduces ship and aircraft ASW needs
- Supports own-force submarine missions

Main Capabilities

- Active detection and classification based on Doppler, target size, target dynamics, and imagery
- Passive detection and classification based on DEMON, narrowband analysis, and audio
- Optional Upgraded Acoustic Signature Analyzer (UASA) application for establishing acoustic signature database and supporting Passive classification
- User-friendly operator interface with intuitive MMI
- Built-in training simulator
- Range prediction function
- Built in Test (BIT)
- Recording and playback of raw and processed data
- Interface with Combat Management System (CMS)

Main Technical Features

- The system's Wet End comprises a vertical transmit array and two horizontal receive line arrays
- Transmit array – Omni transmission with high source-level
- Transmit pulses – Standard and coded (spread spectrum)
- Transmit power amplifiers – Installed on land; acoustic energy transferred to transmit array via underwater cable
- Receive arrays – Two receive array arms provide up to 240° coverage
- Very narrow receive beams achieved using Adaptive Beamformer (ABF)

Wet End Installation

Wet End installation design and implementation presents a major challenge to survival in worst-case weather conditions such as 15 m waves. Addressing this need, DSIT's advanced technology and design leverages 20 years of experience to ensure high survivability in even the roughest sea conditions.

