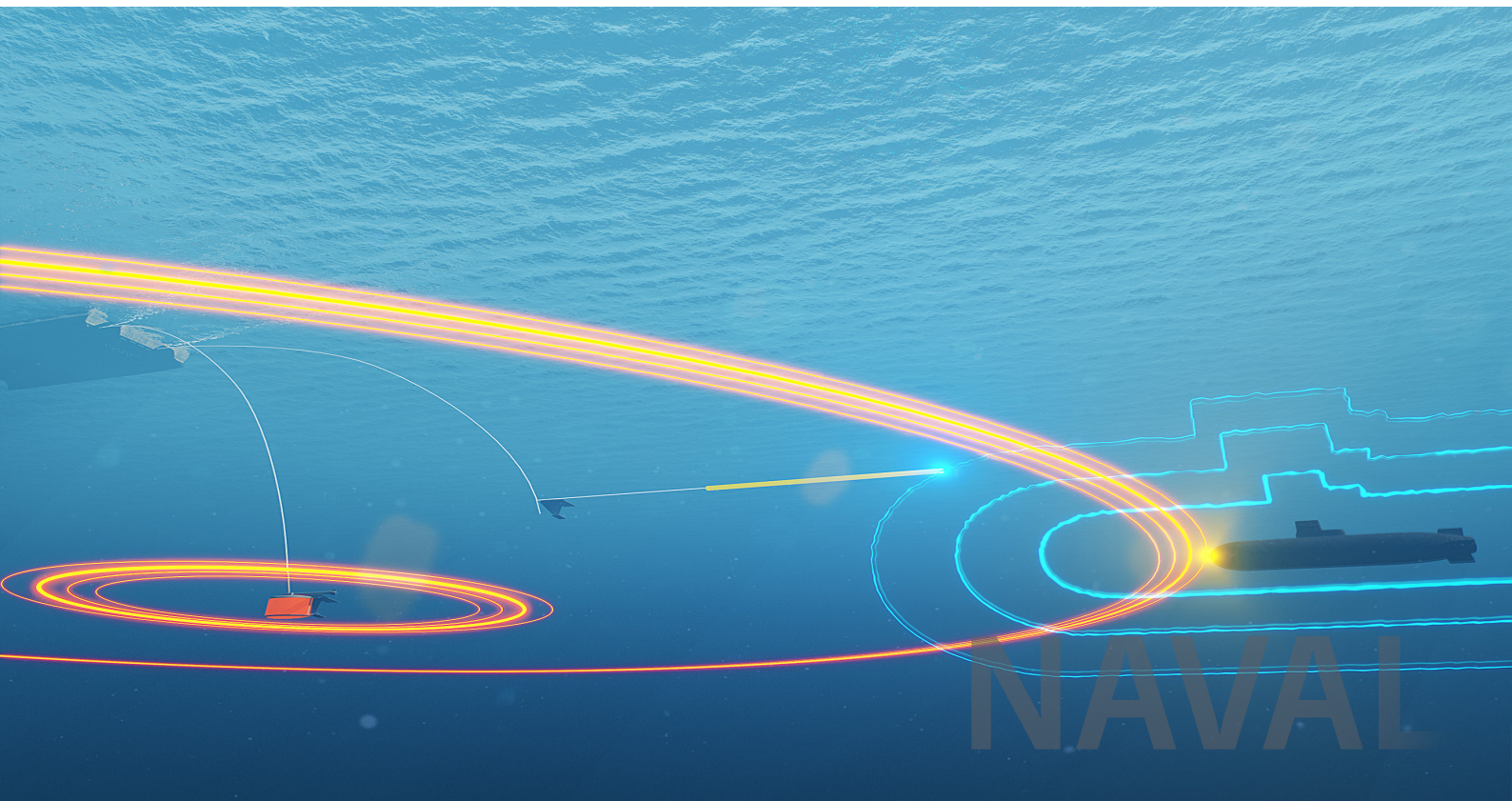


Patria

SONAC DTS

ASW Sonar System



SONAC DTS offers both active and passive modes of operation with two separate wet-end sub-systems, VDS and TAS, that can be used simultaneously. Basic tool for detection is a medium frequency active ASW sonar with superior performance in both shallow and open water conditions, and for different operations. The lightweight design of the system is optimised for detection ranges up to 20km.

This dual-tow sonar system includes real-time signal processing and underwater situational picture. The graphical user interface (GUI) is optimised for combined passive/active operation. The existing Launch and Recovery System (LARS) design for safe handling of the tow bodies can be modified based on the vessel installation requirements or restrictions.

Simulator functionality can be used with the actual sonar operator console or with a stand-alone computer, operates normally onboard whether wet-end systems are in water or on-board, as well as for emulation of external interfaces for integration test and evaluation purposes.

SONAC DTS has been selected onboard Finnish Navy Pohjanmaa-class.



SONAC DTS is an optimal solution for littoral ASW-operations. It could be fitted well onboard frigates, corvette size vessels, patrol boats and unmanned vessels.

Key Features

- Low drag, weight and power consumption to be integrated with various ship classes, including unmanned vessels
- Optimized frequency range for littoral ASW, including omni and sector transmission and enhanced waveforms
- Comprehensive analysis tools for operator, including sophisticated combined active/passive mode targeting functions
- Situational awareness information and symbols including both active and passive mode targets on top of chart (including targets received from CMS)
- Detected targets are sent to CMS

Robustness and Interferences

- Active mode sector transmission and variable waveforms minimize the interference between other ASW ships
- Interference from the noise of own ship is minimised using null-formation
- Both active and passive array DOA are unambiguous

Sonar HMI and Graphical User Interface (GUI)

- Sonar operator HMI consists of GUI and headphones
- GUI combines both active and passive mode surveillance functions to the same multi-function view
- GUI views and windows are e.g.:
 - BIT, diagnostics and instrumentation
 - Active mode parameters and settings (7-11 kHz)
 - Passive mode parameters and settings (0-2.4 kHz and 7-11 kHz)
 - Scalable chart display including active sonar echoes and passive targets in CPPI; targets are tracked and followed automatically
 - Performance prediction display, probability of detection using sound propagation model
 - Audio and target identification toolbox
 - Alarm window for torpedo and sonar warning
 - Combined polar FRAZ and broadband energy display.
 - LOFAR and DEMON tools for passive mode analysis to the selected target.
 - Bearing Time Record (BTR) display for the passive target history
 - Active mode rectangular bearing vs. range (BR) display for the echo presentation, including the doppler indication
 - Control window for both LARS systems (VDS and TAS)