

# SOCILSUB SAES

## Cylindrical Array Sonar for Submarines

SOCILSUB - The cost-effective solution against the obsolescence. The upgrade and update of any Cylindrical Array Sonar on board submarines is possible by using the last generation of electronic and processing.

SOCILSUB is a passive Cylindrical Array Sonar (CAS), based on the more powerful electronics today, allowing the incorporation of new and advanced signal processing algorithms to improve the sonar directivity, detection range and audio quality, keeping the same cylindrical array in the bow of the submarine in order to save money and decrease the complexity of the system installation on board.

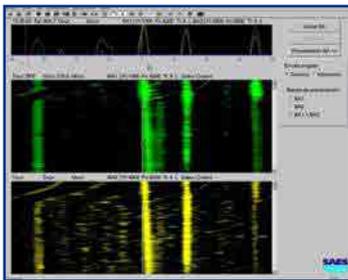
SOCILSUB can be integrated in any Combat System.



## FUNCTIONALITIES

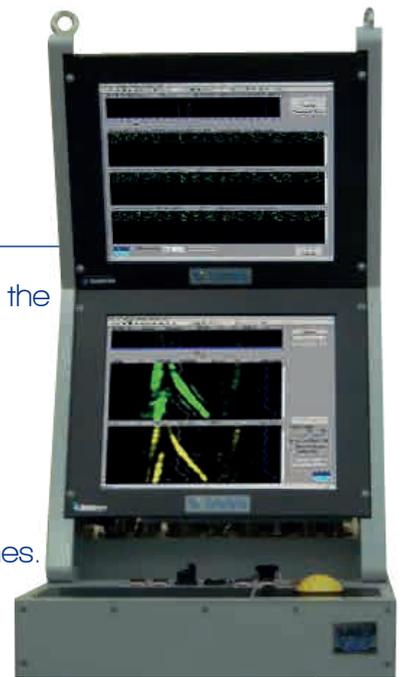
Analysis	Detect & Tracking	Detection
Broadband (BB) Narrowband (NB) DEMON LOFAR Vernier Audio Channel Classification	Automatic Target Tracking Automatic Target Detection BB/NB in automatic and predictive mode	Broadband (BB) Narrowband (NB) DEMON Transient Intercept

- BB contact signal recording and playback for training.
- Wet End test by audio, video and BITE.
- Hydrophone cancellation.
- Audio with automatic and manual tracking beams.
- Integrated with the Navigation system.
- On board training capability.
- Open Architecture & COTS.
- Commercial Standars.
- Low life cycle cost.
- User friendly and easy to integrate.



### Acoustic Capabilities

- **Broadband (BB):** beams to be monitoring in 2 sub-bands selected by the operator with High Resolution Processing (HRP) designed by SAES, elevation beamforming, Automatic Gain Control, Integration Time and notes written in the waterfalls.
- **Narrowband (NB):** high resolution beams, multi-LOFAR, Integration Time and Events selected by operator.
- **Tracking:** BB and NB automatic and predictive with multi-frequency lines.
- **LOFAR Analysis:** different bands with resolution less than 1 Hz.
- **DEMON Analysis:** adapted modulation band.
- **Magnified Zoom Analysis:** using the central frequency and the bandwidth to display the analysis. Resolution better than 0,1 Hz.
- **Audio:** two outputs associated to any automatic tracking and one additional for recording or external analysis. Audio bearing can be fixed by operator.



SOCILSUB is in service on board the Spanish submarines.