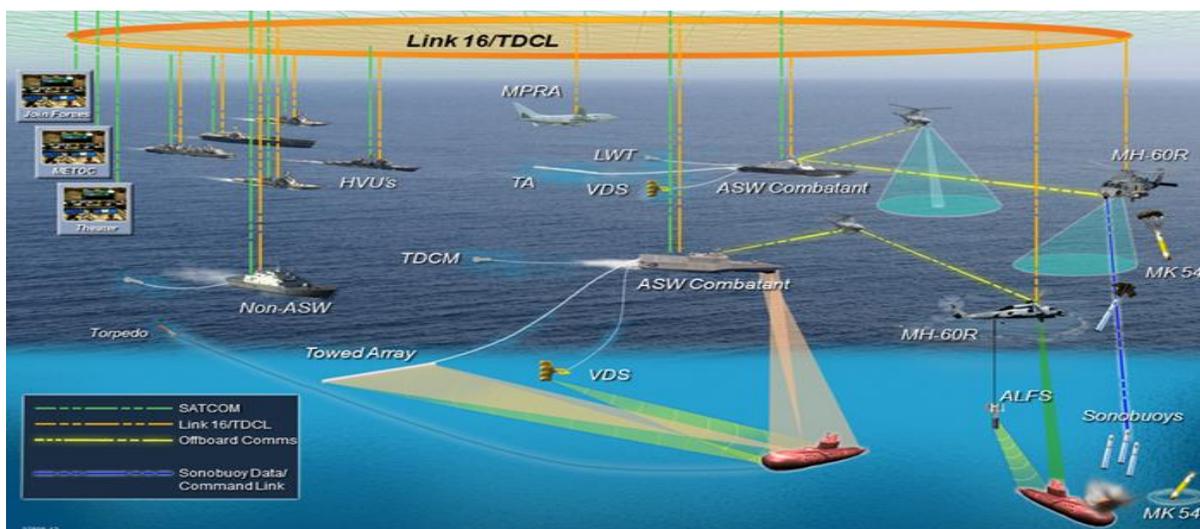


MAI Awarded \$3M Rapid Innovation Fund (RIF) for Cooperative Sonar Engagement for Theater ASW (C-SET)

MAI, in coordination with partners [In-Depth Engineering Corp](#) (IEC) and [L3Harris](#), is pleased to announce the award of a Department of Defense Rapid Innovation Fund (RIF) for the development of a Cooperative Sonar Engagement capability for Theater ASW (C-SET). C-SET delivers networked mission planning and communication capability to optimize cooperative use of Anti-Submarine Warfare (ASW) assets, optimizing placement of receive sensors and platforms capable of active emissions for bistatic active sonar. This capability leverages both existing Advanced Processing and Capability (AxB) sonar builds and Undersea Warfare Decision Support System (USW-DSS) architecture, and an at-sea demo utilizing Program Executive Office Integrated Warfare Systems (PEO-IWS) 5A sponsor resources is anticipated within the 2-year RIF period.

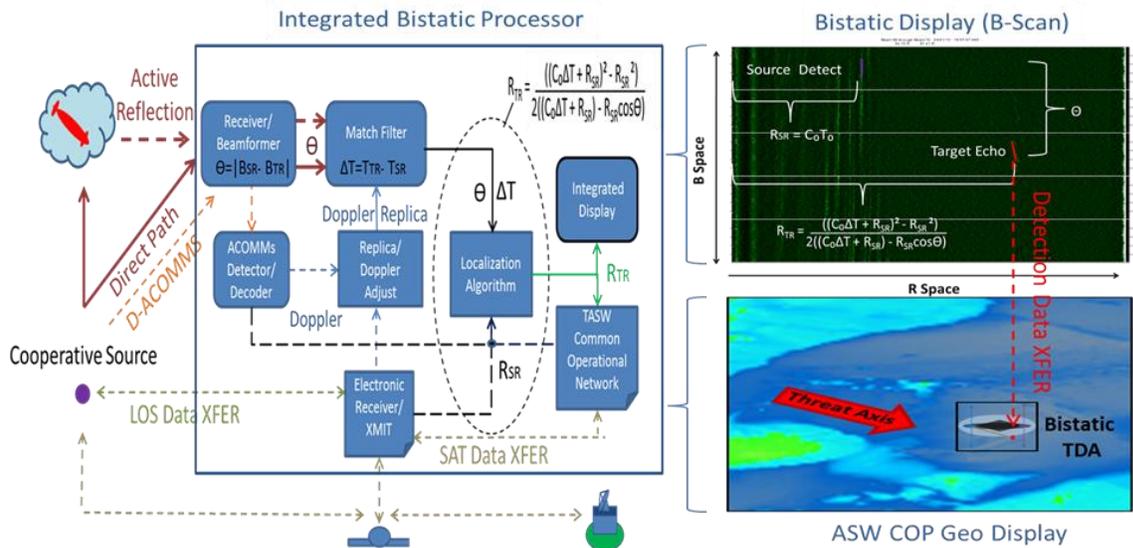
Integration of C-SET into Common AxB sonar systems (e.g., AN/SQQ-89, AN/BQQ-10) and Theater-level planning tools (AN/UYQ-100, NAUTICA) will allow the Theater ASW Commander the capability to use ASW assets synergistically; enabling a team of sensors to experience as much as a 50% increase in sonar coverage over single-ship (monostatic) sonar capability. Additionally, this includes opening active operations, traditionally an overt ASW prosecution mode, to the possibility of not only covert reception by multiple sensors but also mitigation of interference by unnecessary sources.

The Cooperative use of multiple sonars refines localization of undersea threats and enables advanced kill tactics and optimization of Theater ASW forces in complex cooperative sonar engagements. Further the matured capability is directly transferrable to High Velocity USW Outcomes for new surface platforms (Future Frigate, Large Surface Combatant, Large Unmanned Surface Vehicle) and undersea platforms (Orca, Snakehead, Razorback, Knifefish) identified in the Chief of Naval Operations' Design 2.0 strategy, under a common AxB framework.



Cooperative Sonar Engagement for Theatre ASW (C-SET) Concept

The C-SET RIF is directly enabled by the recent completion of a key Phase II SBIR, [N151-055, Multi-ship Sonar Bistatic Automatic Active Localization](#). Marine Acoustics Inc (MAI) and [In-Depth Engineering Corp](#) (IEC), in collaboration with the [Applied Research Lab, University of Texas](#) (ARLUT), verified a prototype capability enabling cooperative bistatic sonar processing with associated planning capability on an AN/SQQ-89 on a legacy Advanced Capability Build (ACB) Sonar system. MAI leveraged extensive operational ASW experience with Tactical Decision Aid (TDA) and 4-D (time based and three-dimensional space) virtual Mission Planning Tool (MPT) capability, using its Acoustic Integration Model (AIM©) modeling and simulation software for this effort.



Multi-Ship Cooperative Bistatic Sonar Concept