Topic: N141-022

ASSETT, Inc.

Net-Centric Collaborative Environment for Littoral Combat Ship (LCS)

Legacy Navy stove piped combat system architectures limit the warfighter's ability to share information and data, and maintain multi-functional domain and cross platform situational awareness. The Advanced Collaborative Environment (ACE) network enables collaboration. ACE's net-centric architecture facilitates collection/transmission of multi-domain video and audio to and from combat system workstations. ACE implements a hardware and software agnostic solution. ACE's custom "software" decoding capabilities can be hosted from an enterprise-level server or a small form factor computer. The Undersea Warfare Decision Support System (USW-DSS) Build 3 integrated with ACE on the Theater ASW watch floor. ASSETT, Inc., a diversified, highly innovative engineering firm, specializes in cost effective software design, development, and integration. ASSETT provides advanced products and systems to the U.S. Department of Defense (DoD) and a broad base of commercial clients.

Technology Category Alignment:

Information Collection/Management

Networks and Communications

Contact:
Cameron Green
cameron.green@assett.net
(703) 365-7378
http://www.assett.net

SYSCOM: NAVSEA

Contract: N00024-16-C-4015

Corporate Brochure: https://navystp.com/vtm/open_file?type=brochure&id=N00024-16-C-4015

Department of the Navy SBIR/STTR Transition Program

Statement A: Approved for Release. Distribution is unlimited.
NAVSEA #2016-0613

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Net-Centric Collaborative Environment for Littoral Combat Ship (LCS)
ASSETT, Incorporated

WHO

SYSCOM: NAVSEA

Sponsoring Program: Undersea Warfare Decision Support System (USW-DSS)

Transition Target: USW-DSS for Theater Anti-submarine Warfare (ASW) Watch Floors

TPOC:
(401)832-3887

Other transition opportunities: Possible opportunities include Cruisers (CG), Destroyers (DDG), Aircraft Carriers (CVN), Littoral Combat Ships (LCS), and Fast Frigates (FF).



Courtesy US Navy

WHAT

Operational Need and Improvement: Anti-submarine warfare employs sophisticated sonar equipment to detect, classifying, locate and track target submarines and undersea targets of interest. Collaboration is critical in that it provides the warfighter requisite situation awareness (SA) of critical sensor, intelligence, and weapon data to optimize the ASW combat decision-making processes. Advanced collaboration has the potential to provide the warfighter with critical real time information in readily discernible formats. Effective warfighter collaboration requires a managed communication solution, the capability to provide available information to each operator, which does not adversely affect current system performance. The Advanced Collaborative Environment (ACE) provides an extremely flexible collaboration network to support distribution of video, controls, and audio across standard Ethernet cables. ACE enables collaboration, the ability to move display, control, and audio anywhere, implemented in a variety of views, and provides supporting record and playback functionality. The ACE solution is independent of the tactical code and hardware. It runs on an independent network, which simplifies IA and cyber security certification processes.

Specifications Required: Provide an independent "bolt on system" that does not impact the hardware or software of legacy systems.

Technology Developed: The goal of this SBIR is to develop an innovative solution to improve collaboration between Anti-Submarine Warfare (ASW) watch-teams executing integrated ASW missions such as Theater Anti-submarine Warfare (TASW) or Strike Group ASW (SGASW). The proposed solution is easily adapted for use on additional platforms and mission packages. A simple and intuitive graphical user interface integrates commercial-of-the-shelf (COTS) hardware with software to provide chat and whiteboard user features that enhance collaboration.

Warfighter Value: Collaboration creates an environment that allows the collective knowledge, resources and skills of each operator to be fully realized in the execution of a mission. Effective collaboration for combat systems requires a managed communication capability to provide the available information to each operator while not adversely affecting current system performance.

WHEN

Contract Number: N00024-16-C-4015 **Ending on:** January 21, 2018

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Concept Validation in LAB	Med	SW and HW works and is tested	TRL-5	February 2017
Prototype installed and demonstrated at NUWC	Med	System interfaces with USW-DSS system	TRL-6	April 2017

HOW

Projected Business Model: The production systems will be assembled, configured and tested by ASSETT, Incorporated. During insertion of USW-DSS at host locations ASSETT's installation team will install the hardware, network, setup the system, and train the operators.

Company Objectives: Installation of the ACE prototype and demonstration on USW-DSS system at the Naval Undersea Warfare Center, Division Newport (NUWC NPT).

Potential Commercial Applications: The ACE network offers audio / video source selection through a simple to use graphical user interface. The interface requires little training and is intuitive. Once set up operators can share their information displays on any other operators' workstation or to send the information to large format or wall mount displays. The system has additional software modules that can be activated to tailor the system to the specific needs of the end user. These additional modules can transfer keyboard / mouse control to a remote operator, add a chat feature between workstations or open a whiteboard session to further enhance the collaborative experience.

Contact: Cameron Green, Program Manager
cameron.green@assett.net (703) 365-7378