Department of the Navy SBIR/STTR Transition Program

DISTRIBUTION STATEMENT A. Approved for public release. Distribution is unlimited.
NAVSEA #2025-066

Topic # N171-044
Cognitive Software Algorithms Techniques for Electronic Warfare
Vadum

WHO

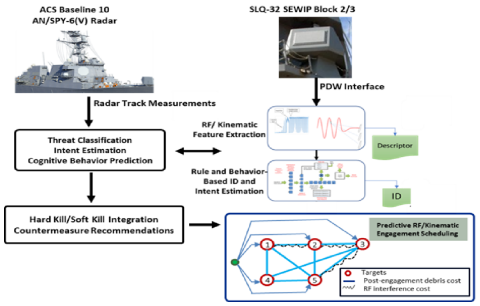
SYSCOM: NAVSEA

Sponsoring Program: Program Executive Office Integrated Warfare System (PEO IWS) 1.0 - Aegis

Transition Target: Aegis

TPOC: (202) 781-0567

Other Transition Opportunities: Navy Frigate FFG(X), Ship Self-Defense System (SSDS), and any system with requirements for cruise missile defense to include those supported by the Missile Defense Agency's (MDA) and the US Army, e.g., MIM-104 Patriot



Notes: Vadum Inc. is a Software supplier for multiple prime contractors and direct to the government. Vadum's experience stretches across air, land, and sea platforms.

WHAT

Operational Need and Improvement: Anti-ship threat capability is increasing rapidly. More evolved techniques to characterize, ID, predict, and schedule against the evolved threats is necessary to increase survivability and probability of successful engagements. Multi-sensor coordination amongst hard kill and soft kill systems allows more flexibility during engagement and better conservation of kinetic inventory.

Specifications Required: A solution will not increase combat system processing time to achieve its primary objective. It will integrate with all elements of the ACS. Track visualization, battle damage assessment and HK/SK Coordination will be delivered through existing ACS console Graphical User Interfaces (GUIs) to support operator track management and decision-making. It shall also be able to integrate with the AEGIS Test Bed (ATB) to facilitate system evaluation against more advanced and prolific threats. This enables shortening of testing and certification timelines for new baselines. This will also help in maintaining and improving product quality through the early detection of deficiencies in the product. The speed and accuracy of the solution must exceed existing ACS performance attributes resonant in the ATB by 10% or better.

Technology Developed: Vadum Inc. has developed algorithms to combine sensor data from multiple sources to track, identify, and predict incoming threats. Utilizing that information Vadum has developed additional algorithms to coordinate interceptor systems (hard-kill and soft-kill) to achieve more accurate and higher probability of successful threat engagement.

Warfighter Value: Improving the tracking, identification, and prediction of threats allows Vadum to also coordinate higher success rate of interceptions. Interceptor coordination will enhance the ability to utilize non-kinetic interceptors; saving limited kinetic inventory. Overall better awareness of the damage inflicted during conflict and improved coordination increases survivability against increasingly complex threats and raid scenarios.

WHEN

Contract Number: N00024-24-C-S055 **Ending on:** Jul 02, 2026

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Enhanced threat behavioral prediction	Medium	Accuracy of threat prediction	6	4th QTR FY26
Improve methods of batle damage assesment	Medium	Accuracy of damage assessment	6	4th QTR FY26
Demonstration of CTCS	Medium	Probability of Kill and Survivability	6	4th QTR FY26

HOW

Projected Business Model: Algorithms will be integrated into to Aegis Combat System (ACS). Revenue will result from Vadum involvement with initial algorithm integration, testing, and ongoing support and maintenance as well as development and testing to support new Aegis system requirements.

Company Objectives: We anticipate the Navy SBIR/STTR Transition Program (STP) Forum will facilitate connecting with a prime or system integrator that wishes to add CTCS algorithms to existing and future ship defense platforms.

Potential Commercial Applications: Commercial applications include those in which vehicles must be identified based on unique aspects of their motion.

Contact: Chris Cunningham, Program Manager
chris.cunningham@vaduminc.com (919) 341-8241 x160