

WHO

**SYSCOM:** NAVSEA  
**Sponsoring Program:** NAVSEA PEO IWS-2  
**Transition Target:** Surface Electronic Warfare Program (SEWIP) Block 2  
**Other Transition Opportunities:** SEWIP Block 3, AN/SLQ-32(7)

**Notes:** An Electronic Warfare (EW) capability operator workload organization and sharing capability is needed to analyze, organize, prioritize, and share task information and understand the EW Console Operator (EWCO)'s workload. Combat systems and sensors continuously transmit data to the EWCO and EWS with track data, alerts, communications, actions, and commands. The multiple tasks, compounded with the sensory demands resulting from the various forms of transmissions, lead to high-stress levels and burnout with the EWCO. The EWS requires a method to be kept apprised of EWCO's workload. The Workload Assessment Notification and Demand Alert (WANDA) contains algorithms to assess the EWCO's workload levels and sends notifications to the supervisor regarding the EWCO's workload level and recommends tasks for the EWS to aid the EWCO.

Acronyms  
EW – Electronic Warfare  
EWCO – Electronic Warfare Console Operator  
EWS – Electronic Warfare Supervisor  
SEWIP - Surface Electronic Warfare Program  
TDA - Tactical Decision Aid  
WANDA – Workload Assessment Notification and Demand Alert

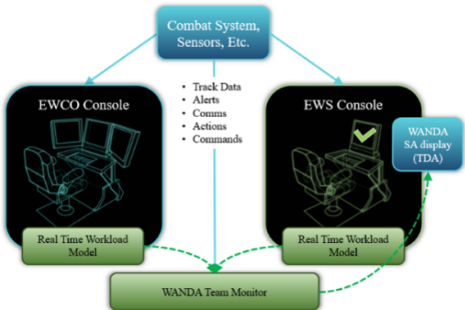


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WHAT

**Operational Need and Improvement:** Naval EW employs a comprehensive suite of technological assets to detect, identify, locate, and intercept electromagnetic energy sources that threaten operational forces on air land, or sea. EW capabilities recently improved with additional Radio Frequency (RF) monitoring and digital technologies that enhanced and expanded the capacity to detect, resolve, classify, and identify signals of interest. The Navy needs a method to ensure our Sailors are not overtaxed and remain alert. A way to monitor workload status would aid with understanding what contributes to increased workload, identify training areas, and promote knowledge-sharing within a team.

**Specifications Required:** SimVentions understands that the Navy needs containerized applications that promote portability, ease, and flexibility. We will utilize the latest technologies, such as Docker, .NET, and the DDS standards, to create the needed solution for the Navy.

**Technology Developed:** SimVentions is developing a near to real-time Tactical Decision Aid, WANDA, to identify task performance based on incoming track data, alerts, communications, actions, and commands. The WANDA solution will identify task performance parameters reflective of the incoming data input. The algorithms assess work based not solely on time but considers the sensory components (i.e., visual, cognitive, auditory, and psychomotor) to accomplish work. This TDA provides a much-needed solution for the Navy. The operational tempo is rigorous, and many times does not allow for a gap in EWCO activities. This solution assists the EW team with mitigate workload overages and prioritizes tasks. The tool includes visualizations for the EWS to obtain a quick look at workload status.

**Warfighter Value:** The solution being developed by SimVentions provides the Navy with multiple benefits, including a method to balance the workload between EWS and EWCO, understand elements that contribute to EWCO fatigue, and more alert EW operators that are not overtaxed and more likely to perform effectively and reduce combat risks.

WHEN

**Contract Number:** N68335-23-C-0233      **Ending on:** Mar 06, 2025

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Initial Concept	N/A	Concept delivered and approved by the customer.	4	1st QTR FY25
Initial Prototype	N/A	Prototype approved by customer and ready for	6	TBD
Final Prototype	N/A	Prototype approved and ready for production.	8	TBD

HOW

**Projected Business Model:** The TDA, WANDA, will transition to the IWS-2 SEWIP program once it is fully verified and regression tested as part of the tactical SW baseline. Our proposed integration strategy integrates the WANDA solution into the tactical baseline for demonstration and test purposes at the conclusion of the Phase II option. SimVentions is a recognized leader in Federal Government SBIR contracting. Both research and development and business professionals work diligently to accomplish significant project and fiscal milestones to ensure the success of each SBIR project. SimVentions is uniquely qualified to address the problems facing today's military, as roughly a third of the technical and business staff members are former warfighters, including several with US Navy Surface EW expertise. Over the past 20 years, SimVentions has steadily built experience, commercializing many of our Phase I and Phase II SBIR awards into Phase III contracts.

**Company Objectives:** SimVentions seeks to develop prototype software to improve the Navy's understanding of their EW workforce and embed the solution within the tactical software baseline.

**Potential Commercial Applications:** We believe our solution will provide a real-time workload assessment for the EW team to understand human performance and demand. A technology that helps maintain optimal workload demands and situational awareness of team tasks can also be applied within other markets. Stress and fatigue are commonly experienced due to work overload. SimVentions believes there is a greater commercial application for this workload technology and other defense domains including the Navy, Marine Corps, Air Force, and Army. This technology would be adaptable to most work environments and solve a common work overload issue. SimVentions has a proven record of devising, developing, demonstrating, and deploying innovative workforce tools from Phase I, Phase II, and multiple Phase III contracts with long-term viability and sustainability in the DoD and commercial landscape.

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