

Topic: N17A-T017

Tier 1 Performance Solutions, LLC

Transformation Accelerated through Redesign, Guidance, and Enhanced Training (TARGET)

The U.S. Navy must maintain and expand its anti-submarine warfare (ASW) capabilities. Warfighter readiness is the linchpin of the Navy's ASW strategy, the complexity of the ASW domain necessitates time-consuming training, and practical experiences to transfer skills to the operational environment. An innovative training approach is needed to accelerate mastery and foster transfer of ASW skills. Tier 1 Performance Solutions' Transformation Accelerated through Redesign, Guidance, and Enhanced Training (TARGET) is comprised of two components: (1) a task-centered instructional design strategy for ASW education, and (2) a performance support tool to assist ASW instructors as they apply task-centered instructional design. The tool greatly expands the impact of our solution by allowing instructors to apply the task-centered learning approach to other ASW topics and throughout Navy schoolhouse training.

Technology Category Alignment:

Personalized Assessment, Education, and Training

System Interfaces & Cognitive Processes

Acoustic, Seismic and Magnetic

Undersea Weapons

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SYSCOM: NAVSEA

Contract: N68335-19-C-0157

Booth: 1113

Room: FST at WEST 2020

 Corporate Brochure: https://navystp.com/vtm/open_file?type=brochure&id=N68335-19-C-0157

Department of the Navy SBIR/STTR Transition Program

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NAVSEA #2019-0535

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WHO

SYSCOM: NAVSEA

Sponsoring Program: PEO-IWS 5A Undersea Systems

Transition Target: Fleet ASW Training Center (FLEASWTRCEN), AN/SQQ-89, Advanced Capability Build 23 (ACB-23)

TPOC:

Other transition opportunities: U.S.Navy, Air Force, Army, and Marine Corps Combat Systems Training.



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WHAT

Operational Need and Improvement: As submarine threats from adversary countries continue to rise, the U.S. Navy must maintain and expand its anti-submarine warfare (ASW) capabilities. Warfighter readiness is the linchpin of the Navy's ASW strategy, but the complexity of the ASW domain necessitates time-consuming training, and practical experiences to transfer those skills to the operational environment. An innovative training approach is needed to accelerate mastery and foster transfer of ASW skills.

Specifications Required:

- 1) Achieve mastery faster in a more engaging way
- 2) Innovative classroom and learning methods, improved learning spaces, interactive video gamification, training sand boxes, and exploration tools such as gaming social learning, simulation, micro learning and different instructional design methods
- 3) Create effective learning experiences that also motivate learners to achieve superior levels of performance
- 4) Focus on determining the ideal training tools or approaches matched to the learning task or goal required of ASW personnel

Technology Developed: Tier1's TARGET solution provides the Navy with task-centered instructional design and innovative learning activities to improve outcomes and engagement. The TARGET also provides faculty with an innovative performance support tool to apply task-centered instructional design to other ASW topics—and throughout Naval schoolhouse training—to achieve high velocity learning and seamless transfer to fleet operations.

Warfighter Value:

- Advanced training approach for fleet ASW personnel on the AN/SQQ-89A(V)15 Surface Ship Undersea Warfare Combat System focused on improved instructional design and learning technologies
- Algorithms to recommend instructional methods based on training task, mission task, learning objectives
- A taxonomy structure for the organization of instructional technologies
- Integration of affective context integrated with task-based training to improve learning outcomes through the increase of meaning and purpose for mission tasks

WHEN

Contract Number: N68335-19-C-0157 **Ending on:** January 15, 2022

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Develop courses applying task-centered instructional design to the ASW curriculum	Low	New sonar operators will be proficient for duty 50% faster	TRL-6	January 2022
Develop a performance support tools to assist ASW instructors with the incorporation of innovative methods into courses	Low	Methodology will be adopted into 70% of ASW courses	TRL-6	January 2022

HOW

Projected Business Model: TIER1's business model applies science, education, technology, and business know-how in inventive ways to improve the performance of people. TIER1 has received 40 Phase I, II and III SBIR/STTR awards from the U.S. Air Force, Navy, Army, Missile Defense Agency, Department of Homeland Security, National Science Foundation, and the National Aeronautics and Space Administration. TIER1's projects include game-mechanics integrated into critical learning; assessment of knowledge and skills aiding prediction of mission readiness; personalized and adaptive training plans targeted to remediate any gaps; intelligent coaching and performance support; and experiential learning.

Company Objectives: TIER1's mission is to improve organizations through the performance of people to build a better world. TIER1 tackles the big challenges, so that more people can do the amazing work they are meant to do. 100% of TIER 1's government-funded research and development, is leveraged by government clients via a direct Phase III contract, or the technology is leveraged to service TIER 1's extensive commercial contract base.

Potential Commercial Applications: Advanced training concepts developed under TIER 1's TARGET initiative are directly applicable to many Department of Defense (DoD) Combat training programs and to TIER 1's extensive commercial client base, which includes leading manufacturing, retail, financial, marketing, academia, service, and logistics organizations.

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