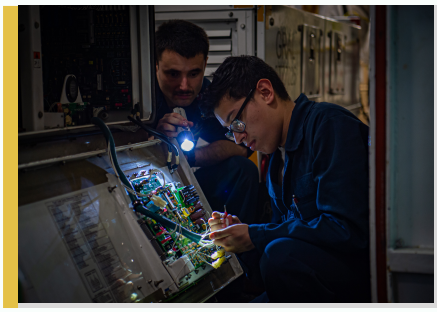
DEPARTMENT OF THE NAVY
SBIR/STTR TRANSITION PROGRAM

SUCCESS STORY

TOPIC NUMBER: N15A-T013

SBIR INVESTMENT: $2,724,276

PHASE III FUNDING: $44,624,826



PEDAGOGICAL PRACTICE FOR LEARNING, ASSESSMENT, AND REMEDIATION (POPULAR)

Soar Technology, LLC developed an artificial intelligence (AI)-enabled adaptive training program to modernize the Navy's Basic Electricity and Electronics (BEE) training.

Soar Technology, LLC

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THE CHALLENGE

The Navy sought to modernize its Basic Electricity and Electronics (BEE) training. Sailors completed the BEE coursework as part of apprentice technical training which is delivered shortly after boot camp and was often a new sailor's first experience with Navy electronics. The current training was based on traditional textbook instruction. The BEE school had high failure rates, requiring large numbers of students to retake training. The Navy sought an improved training system to prepare sailors for deployment more effectively and efficiently. The Navy also wanted the capability to take the training offline so that sailors could complete the training outside the classroom environment.

THE TECHNOLOGY

Soar Technology, LLC (SoarTech) developed and is integrating its AI-driven adaptive training services into Integration Innovation Inc. (i3's virtual training suite (VTS), a digital learning environment that facilitates high-fidelity, interactive, 3D simulations of defense electronic systems. The simulation environment introduces BEE students to common tools used to maintain electrical equipment, such as multimeter tools, probes, digital oscilloscopes and more. SoarTech's AI identifies students' strengths and weaknesses, and shapes course content to either give remedial training or accelerate through material that has been mastered. While students work the system provides real-time information to the instructor, enabling them to help students at the points where they struggle.

THE TRANSITION

SoarTech was awarded a Phase I STTR contract in 2015, followed by a Phase II contract award in 2017 which built upon the company's work with its research partner, the University of California - Davis. The Navy awarded SoarTech a sequential Phase II contract in 2021 to develop the prototype for the BEE school courseware.

SoarTech's $44.5 million dollar Phase III contract, awarded by the Naval Air Warfare Center Training Systems Division, is part of the Navy's long-term investment in its Ready, Relevant Learning (RRL) program; a series of initiatives aimed at improving and enhancing fleet readiness by modernizing the Navy's institutional training systems. SoarTech is working with the 'A' school at Naval Station Great Lakes, north of Chicago, where the Navy is in the process of transforming the 'A' school into a mix of classroom instruction, online instruction, and hands-on training.

THE NAVAL BENEFIT

SoarTech's training program provides adaptive, individualized training that introduces students to electronics tools and concepts in a cutting-edge 3D simulation environment. The program will enable instructors to manage larger classes effectively while still providing each student a personalized learning experience. The courseware can be downloaded to offline devices, so that sailors can complete the training anywhere, including aboard ships or even undersea. The modernized training system supports fleet readiness by helping new sailors complete BEE school more efficiently.

THE FUTURE

SoarTech is targeting a 2025 completion date for their courseware and the Navy could begin rolling out the new BEE classroom training as soon as 2026. SoarTech's technology will give the Navy the flexibility to manage a variety of training options going forward. Sailors can complete the training through classroom instruction or remotely. Sailors who have completed apprentice technical training could also potentially use the courseware later in their careers to refresh their basic electronics knowledge.

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