DEPARTMENT OF THE NAVY
SBIR/STTR TRANSITION PROGRAM

SUCCESS STORY

TOPIC NUMBER: N121-092 | **SBIR INVESTMENT:** $79,877 | **PHASE III FUNDING:** $250,000,000

SOCIAL NETWORK DATA CONVERGENCE INTO RELIABLE INFORMATION FOR EMERGENCIES (SCORE)

MI Technical Solutions (MITS) took its SBIR technology, originally intended to gather information on emergencies, and used it to provide a more reliable network with increased bandwidth for Sailors.

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THE CHALLENGE

Disasters and crises requiring U.S. response have been made more complex due to the technological and social changes wrought by mobile phones and information technologies. New information systems, from social media to YouTube, spread the word about rapidly evolving crises with greater speed; however, the reliability of the information is highly variable. Because of this, the Navy sought a means to develop actionable intelligence and to discover and enhance information so that it can be used in the planning, monitoring, and proactive execution of humanitarian missions.

THE TECHNOLOGY

MI Technical Solutions, Inc.'s (MITS's) Social Network Data Convergence into Reliable Information for Emergencies (SCORE) is a modular system converging multiple unstructured social networking data streams into reliable, verified and useful information and intelligence. SCORE compiles data from many sources, including Twitter, Facebook and YouTube among others, before performing an analysis and merging techniques on the data to filter out the noise. The data is then merged into summarized intelligence reports that can be integrated into a collaborative management system or mapped to see a larger situational picture.

THE TRANSITION

Like so many other SBIRs, other doors and applications opened up once the project was underway. NAVSEA saw a need in its ships, fleet, carriers and subs to effectively and efficiently operate IT equipment, and with some minor tweaks focused on data gathering and machine learning/artificial intelligence (ML/AI) model training, Commander, Navy Regional Maintenance Center (CNRMC) began developing the SCORE-System/ Networks Artificial Intelligence Readiness Solutions (SNAIRS) software. Two Phase III contracts (47QFLA-20-C-0002 and 47QFLA-19-C0009) worth $52M soon followed with CNRMC successfully completing live shipboard testing of SCORE-SNAIRS during Trident Warrior 21 and 22 on an aircraft carrier as well as a guided-missile destroyer (DDG). Within the exercise, SCORE-SNAIRS identified network issues, presented those issues to the users, and offered solutions.

THE NAVAL BENEFIT

As CNRMC and MITS continued to assist in the management of shipboard tactical networks, they recognized the challenges Sailors faced with bandwidth inefficiencies during maintenance periods, and through a collaborative effort with Navy fleet stakeholders, used the SCORE-SNAIRS system to provide two prototypes of a Wireless Connectivity Bridge (WCB). The WCB is a commercial-off-the-shelf solution, bringing significant high-speed connectivity to piers and barges of numerous commercial shipyards on both coasts. The end user experience for Sailors whose ships are in maintenance availabilities has been significantly upgraded through this project. It allows the ship to continue routine ship communication operations without disruption during shipyard maintenance periods. SCORE-SNAIRS monitors the connection and its efficiency and sends a warning to the users, saving the Sailors time and the Navy money.

THE FUTURE

Through CNRMC's TempLAN support, SCORE is being enhanced and expanded under the SBIR Phase III contracts. CNRMC and MITS are cultivating SCORE to provide optimal network readiness and cyber security health with TempLAN and onboard Network services. The ultimate goal is a SCORE-SNAIRS managed network onboard every Navy TempLAN that provides early recognition of issues, before they are disruptive in nature, as well as presenting the users with corrective actions to ensure their network is fully secure and operational.

"We had so many different ways to collect data, but didn't have a system that could put it all together. We looked at our need and knew we could utilize this technology to solve this problem. The SBIR program allowed MI Tech the flexibility to adapt its technology and make those changes to support different applications."

Michael Boyd, CNRMC C1170, Program Analyst, LAN MGR/COR

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