Department of the Navy SBIR/STTR Transition Program

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Topic # N232-108
Autonomous, Low-Cost Emitter for Electronic Warfare Training
Aspen Consulting Group, Inc.

WHO

SYSCOM: ONR

Sponsoring Program: Simulation Enhancement and Modernization Suite (SEAMS)

Transition Target: USMC: LVC-TE, EWGIR, MCWL, INFOMODS, MCTSSA, SIGMAN, MARSOC, PM TRASYS, PM TCE, TECOM

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Other Transition Opportunities: US Army: INSCOM, PM EW&C, DEVCOM C5ISR Center (signed transition support), TSMO, ATEC, USASOC, Navy: NAVSEA, NAVAIR, NSW.

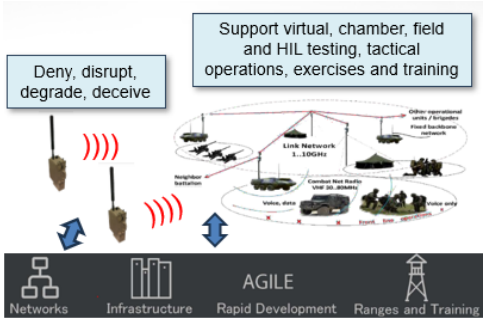

Image courtesy Aspen Consulting Group

Notes: STINGRAE trains our warfighters to maintain clear communication channels in contested environments. Our man portable transceiver has already been deployed in training exercises, simulating denied, disrupted and degraded communications in order to train warfighters to transition to alternate pathways. Provides a low size, weight, power and cost (SWaP-C) electronic warfare (EW) training device for all test and training ranges (i.e., outdoor, classroom/lab, chamber, hardware-in-the-loop (HIL) testbeds) for field training events and home station training.
- Implements a modular architecture for upgradability and growth that supports other applications and modes of operation
- Software-defined, multifunction transceiver with various attack vectors and development tools
- Easy to employ across the force for the generation of contested and EMSO environments
- Supports training the entire force with minimal resources
- Simplifies device set up, programming and operation
- Generates high-fidelity EW effects based on time, location or external triggers using preprogrammed, on-the-fly generated parameters or via remote control
- Interfaces with existing USMC equipment and into USMC training, testing and support infrastructure (i.e., Live Virtual Constructive-Training Environment (LVC-TE) , EW Ground Instrumented Range (EWGIR)

WHAT

Operational Need and Improvement: Due to the cost and complexity of existing EW training systems, the USMC cannot replicate the complete spectrum of EW effects in training exercises across the force. Applicable requirements include:
o USMC S&T Strategic Plan
- 19-5.5.2-G5/5.3.3-G4: Direct/Plan military deception
- 19-8.2.5-G1: III MEF MAGTF tactical warfare simulation training
- 19-1.2.1-G4: MOS and skills progression training
- 19-3.2.2-G2: Electronic attack
- 19-5.2.2-G1: Understanding the electromagnetic environment
o MEF Priority - Operations in an Information Environment- Signature Management
o TECOM S&T 2 - Replicate Multi-Domain EW\EMSO environment
o TECOM S&T 4 - Lack of a simulation for EMSO (e.g., EW, cyber, etc.)

Specifications Required: - Modular architecture
- HF to 6 GHz frequency range
- Two independent receive and transmit channels
- 0.1 to 10 watt power output
- Less than 10 pounds with battery and amplifier
- 8 hour mission duration

Technology Developed: Development and demonstration of a modular, hardened software defined transceiver with multiple attack vectors that addresses the technical/operational requirements, cost and SWaP goals and is integrated into the USMC training and testing infrastructure.

Warfighter Value: Enable USMC radio frequency (RF) communications operators to develop techniques, tactics and procedures to recognize and mitigate interference and jamming and to practice the transition to alternative communications pathways increasing OPSEC and survivability.
- Provides real-world effects and contested RF environments expected during a great power competition
- Standardizes training scenarios and environments across the force
- Dramatically increases training sets, scenarios and realism
- Reduces resources required for field training

WHEN

Contract Number: N68335-25-C-0087 **Ending on:** Feb 08, 2027

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Requirements and Tradeoff Analysis	Low	Prototype Field Demonstration	6	2nd QTR FY25
Design and Development	Low	Operational Demonstration	7	4th QTR FY26

HOW

Projected Business Model: Inhouse low rate initial production (LRIP), full rate production (FRP) by teammate (associate contractor or prime contractor), continued R&D to develop new capabilities.

Company Objectives: Build a low cost/SWaP device that can be mass produced and deployed to all USMC units requiring RF training/test assets and operated by minimally trained non-specialized personnel as demonstrated during recent USMC field exercises
o Remain relevant and continue innovation in the EW/EMSO market
o Connect with new customers and stakeholders
o Possible transition or license of the technology developed to prime

Potential Commercial Applications: Multiple government agencies have requirements for training detection and geolocation of illicit activities that typically use communications devices and drones for surveillance. The FCC, FAA and USCG have requirements for location of distress beacons, hoax mayday calls, jamming and unintentional interference. First responders often operate in situations where geolocation of RF transmitters is required in order to locate communications devices, trackers, rogue drone operators and emergency/distress beacons. These agencies typically can't afford expensive training systems and could benefit from a quickly deployed low cost/SWaP device that replicates signals of interest (SOI), jamming and interference for testing systems and training operators.

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