

Department of the Navy SBIR/STTR Transition Program

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NAVAIR 2017-840

Topic # N151-021

Advanced Modeling and Visualization of Effects for Future Electronic Warfare Systems

Sonalysts, Inc.

WHO

SYSCOM: NAVAIR

Sponsoring Program: PMA-234
(Airborne Electronic Attack Systems
and EA-6B Program Office)

Transition Target: PMA-242,
HARM, AARGM, PMA-281, PMA-
299

TPOC:
(301)342-0043

Other transition opportunities:

Derivatives of this simulation tool could be used by spectrum-regulating agencies, such as the Federal Communications Commission (FCC), to more effectively model interference possibilities among a great variety of competing radio frequency (RF) users. Additional commercial industry value can be found through RF System Design Modeling, or even the testing of potential Intelligence, Surveillance and Reconnaissance Platforms.

Notes: PMA-234 will retain the title "Airborne Electronic Attack Systems and EA-6B Program Office" thru FY19.



MOJO - Mission Offensive Jammer Operations

WHAT

Operational Need and Improvement:

A primary purpose for MOJO is to visualize Radar Cross Section (RCS) interactions for Blue Force air platforms in reference to Red Force Integrated Air Defense Systems (IADS), optimized for EA-18G aircraft equipped with ALQ-249/Next Generation Jammer (NGJ) for Airborne Electronic Attack (AEA) operations.

Specifications Required:

Develop the capability to model and simulate the complex tactical electronic warfare (EW) environment, including EW effects, threat radars, tactical aircraft, and other tactically-relevant information in support of Airborne Electronic Attack (AEA) mission planning for current and future EW systems, such as the ALQ-249/Next Generation Jammer (NGJ).

Technology Developed:

Advanced simulation and modeling of complex systems, electromagnetic environments and interactions from space to the ocean floor. Our system provides a 2D/3D model of the entire earth to include unique geographic weather patterns and other atmospheric conditions.

Warfighter Value:

Our tool provides low risk training environment for both personnel and systems, directly resulting in the extended performance of personnel, systems, net savings in fuel, maintenance and personnel logistics associated with TDY training.

WHEN

Contract Number: N68335-16-C-0168 **Ending on:** October 1, 2017

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Successful Delivery Spiral 4 Software	Low	Software is stable, final report delivered	5	October 2017
Successful Spiral 5 Delivery	Low	No major bugs discovered, system ready for classified work	5/6	January 2017
MOJO Secure Network Set Up Complete	Low	Defense Security Services approves Sonalyst Secure Network, platform specific work begins	6	February 2018
Information Assurance Plan Approved	Med	Seeking NAVAIR Approval of IA Plan, MOJO Software becomes program of record and is authorized on Department of Defense Information Networks	7	February 2019

HOW

Projected Business Model:

The current plan is to license the capabilities of Sonalysts Simulation Engine II, building mission specific products for DoD, or Commercial Customers.

Company Objectives:

Our goal is to provide a premier simulation and modeling experience that enhances the professional development and training of organizational members by reducing training costs and excess wear and tear on systems.

Potential Commercial Applications:

Our software tool is organizationally agnostic with direct applicability for Army, Navy, Air Force, Marine Corps, Coast Guard, DHS, National Guard, local law enforcement. The only limit to this system is the imagination of the client/user.

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