Topic: N131-070

SeaLandAire Technologies, Inc.

Check Range Sensor Pod

Check-Range Sensor Pod (CRSP) is a low-cost, expendable sensor system to measure submarine acoustic and electro-magnetic (EM) signatures at depth in forward areas. Although CRSP's measurement capabilities are not as extensive as existing test ranges, the ability to perform the characterization in the field represents a significant increase in operational flexibility and capability. Intended for use throughout the submarine force, initial deployment will focus on the Ohio and Virginia classes. Phase II prototype testing is underway to demonstrate the feasibility of the CRSP concept, after which SeaLandAire and its partners will focus on integration, production, and transitioning the technology to the fleet. SeaLandAire Technologies is a small business focused on research and development of autonomous sensor platforms particularly expendable sensors for underwater applications.

Technology Category Alignment:

None
None
None

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SYSCOM: ONR
Contract: N00014-15-C-0033

Corporate Brochure: https://navystp.com/vtm/open_file?type=brochure&id=N00014-15-C-0033

Department of the Navy SBIR/STTR Transition Program

STATEMENT A. Approved for public release; distribution is unlimited. ONR Approval # 43-1256-16

Topic # N131-070
Check Range Sensor Pod
SeaLandAire Technologies, Inc.

WHO

SYSCOM: ONR

Sponsoring Program: ONR Code 33 - Sea Warfare and Weapons

Transition Target: SSN, SSBN, SSGN

TPOC:
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Other transition opportunities:

U.S. Navy photo by General Dynamics Electric Boat
(040730-N-1234E-002)

WHAT

Operational Need and Improvement: Secrecy is critical to submarine operations, including the ability to operate undetected and untracked. Radiated acoustic and electro-magnetic (EM) signatures are currently characterized and mitigated only at fixed ranges. There are few techniques available to test for signature degradation while in the field. The Check-Range Sensor Pod (CRSP) is a low-cost, expendable sensor system to measure radiated acoustic and EM energy at depth in forward areas, providing increased operational flexibility and capability in situ.

Specifications Required: 10Hz - 32kHz Acoustic bandwidth
0.001Hz – 3kHz EM bandwidth
300m depth
High localization accuracy
4 hour operational life
Commandable and End-Of-Life Scuttling

Technology Developed: SeaLandAire has developed a suite of wideband acoustic sensors integrated with a state-of-the-art miniature magnetometer and underwater electrodes in a compact TDU-deployable form factor. On-board data fusion and signal processing transform the sensor data into signatures in all three measurement domains.

Warfighter Value: The ability to assess radiated emissions in the field can significantly increase operational capability by verifying low detectability in a forward operating area.

WHEN

Contract Number: N00014-15-C-0033

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Acoustic Test	Med	Measurement Accuracy	5	February 2016
Combined Subsystem Test	Med	Measurement Accuracy	5	July 2016
OTS Demonstration	Med	Signature Accuracy	6	December 2017
Phase II Option 2	Med	Cost, Certifications	7	December 2019

HOW

Projected Business Model: SeaLandAire has partnered with Lockheed-Martin to leverage the extensive experience of LM-Sippican in manufacturing expendable submarine sensors. LM will assist with submarine integration and design for production to ensure a rapid transition to the fleet.

Company Objectives: SeaLandAire Technologies is a small business focused on research and development of autonomous sensor platforms, particularly expendable sensors for underwater applications. SeaLandAire seeks to present this technology to the submarine community to further its transition to the fleet.

Potential Commercial Applications: Commercial ship emissions compliance, environmental sensing and monitoring, port and harbor security

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