

Topic: N102-182

Hydronalix, Inc.

AUV for Sustained Riverine and Littoral Assessments

Hydronalix, a company that designs and manufactures ocean rescue and Navy surface robots, has developed a 2m mobile gateway buoy for acoustic communications with enhanced situational sensors for Mark 18 unmanned undersea vehicle (UUV) communications for the Mine Countermeasures (MCM) program for Navy Explosive Ordnance Disposal (EOD). The company's growing commercial rescue robot business reduces cost for Navy unmanned surface vehicles (USVs). This program has successfully demonstrated the use of dissimilar sensors to work close to surface. The company is looking for a Prime partner for deployment logistics, and Navy sponsors for transition to other missions.

Technology Category Alignment:

Mobility

Modularity

Survivability

Unmanned Ground and Sea Vehicles

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<http://hydronalix.com>

SYSCOM: NAVAIR

Contract: N68335-15-C-0138

 Corporate Brochure: https://navystp.com/vtm/open_file?type=brochure&id=N68335-15-C-0138

Department of the Navy SBIR/STTR Transition Program

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NAVAIR 2016-720

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WHO

SYSCOM: NAVAIR

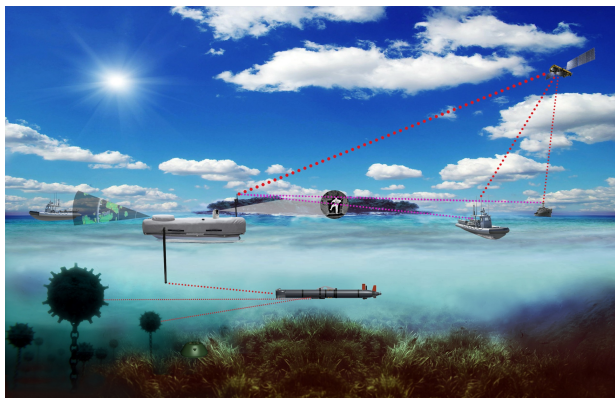
Sponsoring Program: ONR

Transition Target: PMS 408 Mark 18 Program

TPOC:
(301)342-2094

Other transition opportunities:
Navy Expeditionary Combat Command (NECC) Riverine Forces and Navy Search and Rescue

Notes: The Image depicts an existing autonomous Mobile Gateway Buoy with integrated situational sensors developed in the Phase II.



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WHAT

Operational Need and Improvement: Navy Explosive Ordnance Disposal (EOD) forces need a Mobile Station Keeping Acoustic Gateway Buoy with situational awareness sensors to reduce or eliminate time for boat team in harms way while performing Mine Countermeasure (MCM) missions with their Mark 18 unmanned underwater vehicle (UUV) system.

Specifications Required: The mission requires approximately 30 hour duration, over horizon communications, operations in sea state three or higher, man portable, and payload consisting of an acoustic modem, radar, sonar, and color/thermal cameras.

Technology Developed: This program has been successful in integration of multiple sonar systems, X-Band radar, weather station, stabilized Electrical Optical and Infrared Cameras. The new sensors have been successfully demonstrated in a robust ocean going robotic platform that is small, less than 100 pounds, has up to 30 hour duration, operates through satellite control, and is easy to maintain and operate.

Warfighter Value: The benefit to the warfighter includes the ability to do remote monitoring for 24 hour around the clock operations revolutionizing functionality and deployment dangers currently required for deployment for mine countermeasure missions. Increased safety to our warfighter and increased mission success.

WHEN

Contract Number: N68335-15-C-0138 **Ending on:** July 17, 2017

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Camera Prototype	High	Open ocean demonstration following a person from 100 yards distance.	7	February 2016
SONAR Prototype	Med	Open ocean demonstration, SONAR is functional with ocean motion.	6	April 2016
Radar Prototype	High	Open ocean demonstration for 2 weeks tracking small surface targets at 2-5 miles range.	7	April 2016
Weather Station	Low	Weather station provides data stream consistent with local weather stations while in open ocean in multiple systems for several months.	9	June 2016
Sensors in one platform	Med	Fully functional platform carrying all sensors.	9	November 2016

HOW

Projected Business Model: The company looks to be original equipment manufacturer (OEM) supplier to large prime contractor for Mark 18 with PMS 408. Company already has established manufacturing facilities and supply chain infrastructure based on its substantial commercial product line for its EMILY robotic rescue system.

Company Objectives: Leverage commercial sales and manufacturing of successful rescue robot lifeguard product line for low cost high quality Navy autonomous mobile buoys.

Potential Commercial Applications: Other potential applications include: Search and Rescue, Port Security, anti-poaching law enforcement, and earth science missions.

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