

Topic: N141-070

Analysis, Design & Diagnostics, Inc.

In-node Processing for Low Power Target Detection, Classification, Localization, & Tracking

ONR Maritime Mining programs require low power sensors to automatically detect, classify and localize vessels of interest. The autonomous sensors and cortical processing algorithms being developed, tested and evaluated under this SBIR program are intended to support future next generation mining capability. Analysis, Design & Diagnostics, Inc. specializes in the development of low power autonomous sensors and post mission workstations running automated detection, classification and localization algorithms. AD&D's and our SBIR teammate, In-depth Engineering Inc.'s ultimate goal is to provide the Maritime Mining portfolio a viable solution while also integrating this technology into manned and unmanned platforms for a wide range of mission profiles.

Technology Category Alignment:

Advanced Electronics

Autonomy

Ground and Sea Platforms

Sensors

Acoustic, Seismic and Magnetic

Contact:

Gary M. Donoher

gdonoher@adndinc.com

(904) 475-0094

<http://www.adndinc.com>

SYSCOM: ONR

Contract: N00014-15-C-5074

Department of the Navy SBIR/STTR Transition Program

STATEMENT A. Approved for public release; distribution is unlimited.

ONR Approval # 43-2203-16

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WHO

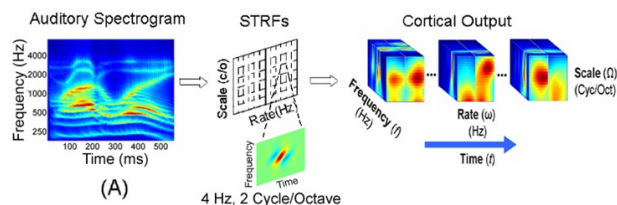
SYSCOM: ONR

Sponsoring Program: Office Of Naval Research

Transition Target: Maritime Mining portfolio

TPOC:
Emily Medina
emily.medina@navy.mil

Other transition opportunities:
Ships, Submarines, Aircraft



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WHAT

Operational Need and Improvement: Future Naval Capabilities (FNCs) for the Maritime Mining portfolio require low power sensors to automatically detect, classify and localize vessels of interest.

Specifications Required: Low Power, Automated Detection, Automated Classification, Automated Localization

Technology Developed: Low power autonomous sensors and cortical processing algorithms are being developed, tested and evaluated under this SBIR program.

Warfighter Value: The autonomous sensors and cortical processing algorithms being developed, tested and evaluated under this SBIR program will support the Future Naval Capabilities (FNCs) for the Maritime Mining portfolio.

WHEN

Contract Number: N00014-15-C-5074 **Ending on:** March 30, 2017

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Technology Concept	High	Concept Formulation	TRL-2	May 2014
Real World Data Collection and Initial Demonstration	High	Collect Data Demonstrate In MatLab	TRL-3	November 2015
Component Validation In Laboratory Environment	High	Obtain and Test With Real World Data	TRL-4	March 2017
integrate Algorithms Into Sensor Node	Med	Testing In Relevant Environment	TRL-5	March 2018
Prototype Demonstration in Relevant Environment	High	At Sea Demonstration	TRL-6	October 2018

HOW

Projected Business Model: Analysis, Design & Diagnostics, Inc. and our SBIR teammate (In-Depth Engineering) will produce the hardware, software and detection algorithms for prototype and testing of the Acoustic Sensor Node. Analysis, Design & Diagnostics, Inc. has the capability for low rate production. For mass quantities the technology will be licensed to production partners with well-established lean manufacturing processes to drive down per unit costs.

Company Objectives: Analysis, Design & Diagnostics, Inc. specializes in the development of low power autonomous sensors and post mission workstations running automated detection, classification and localization algorithms.

Potential Commercial Applications: This technology could be used by researchers and other to assess the abundance and density estimates of marine mammals. This same technology can also be used to support Port and Harbor security and improved situational awareness.

Contact: Gary M. Donoher, President
gdonoher@adndinc.com 904-475-0094