# Department of the Navy SBIR/STTR Transition Program

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

ONR Approval # 43-2203-16

Topic # N141-070

In-node Processing for Low Power Target Detection, Classification, Localization, & Tracking
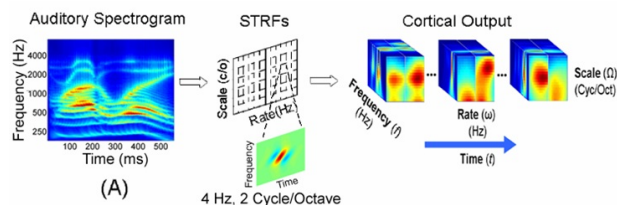
## Analysis, Design & Diagnostics, Inc.

## WHO

**SYSCOM:** ONR

**Sponsoring Program:** Office Of Naval Research

**Transition Target:** Maritime Mining portfolio

**TPOC:**
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**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 |
|---|---|---|---|---|
| Technolgy Concept | High | Concept Formulation | TRL-2 | May 2014 |
| Real World Data Collection and Intial Demonstration | High | Collect Data Demonstrate In MatLab | TRL-3 | November 2015 |
| Component Validation In Laboratory Enviornment | High | Obtain and Test With Real World Data | TRL-4 | March 2017 |
| integrate Alogrithims Into Sensor Node | Med | Testing In Relevant Enviornement | 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 a used to support Port and Harbor security and improved situational awareness.

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