

NAVY Transition Assistance Program

NAVAIR Public Release 09-1313 Distribution: Statement A-"Approved for public release; distribution is unlimited."

N07-024 - Analysis, Design & Diagnostics, Inc.

Marine Species Mitigation

NEED & CUSTOMER REQUIREMENT

Need: Per the Deputy Secretary Of Defense Memo dated January 23, 2007, the United States Navy is required to passively monitor for Marine Mammals prior to and during active sonar exercises which include Mid Frequency Active (MFA) and Extended Echo Ranging (EER) and Improved Extended Echo Ranging (IEER).

Value to the Warfighter: The wideband sensors and automated detection and classification technology developed under this program allows the United States Navy to passively monitor for marine mammal vocalizations. This automated technology allows the Warfighter to concentrate on the ASW problem while still meeting the requirement to monitor for marine mammals.

Operational Gap: Current sensors and processors onboard P-3/P-8 aircraft and Navy warships do not have the bandwidth to effectively monitor for marine mammal vocalizations. In addition, the display update rates are not adequate for an operator to effectively observe vocalizations.

Customer Specifications: High Probability of Correct Classification (Pcc);Low Probability of False Classification (Pfc);Low Probability of Missed Classification (Pmc)

Technology Description: Processor: Developed a multi-channel system which automatically, detects, classifies and supports localization of marine mammals. The system supports a wide variety of sensors including sonobuoys, fixed sensors and towed arrays and can currently exploit vocalizations up to 100 kHz. The system is fully automated, but also allows the sonar/sensor operator to validate the automated detection and classification.

Sensors: Developed SSQ-53 wideband sonobuoys (5 Hz to 40 kHz) and ATM-900 long-term acoustic sensor.

SPONSORSHIP of original SBIR/STTR Topic

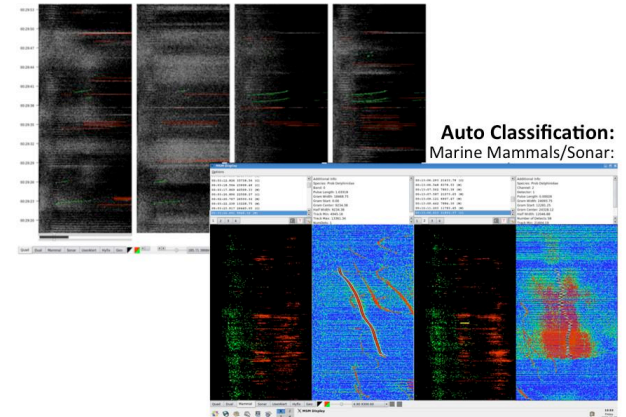
SYSCOM: NAVAIR

Transition Target: P-3C/P-A Maritime Patrol Aircraft as well as Navy Warships

Original Sponsoring Program: TBD

TPOC Phone Number:
(301) 342-0043

Multi Channel Automated Detection:
Marine Mammal/Sonar:



TECHNOLOGY DEVELOPMENT MILESTONES (SBIR/STTR)

Milestone	TRL	Risk	Measure of Success	TRL Date
Phase I Sonobuoy Processing	4	Low	Process sonobuoy data	September 17, 2007
Phase I Option Reduce False Alarms	4	Moderate	Reduce false alarms from RFI	September 17, 2007
Phase II Acoustic Modem	4	High	Demonstrate Record Capability	May 30, 2009
Phase II Wideband Sonobuoy	5	Moderate	Demonstrate Wideband Capability	November 11, 2009
Phase II MSM Processor	6	Moderate	DCL	September 7, 2009

Open contract: \$500,000.00 ending 11/12/09

TECHNOLOGY TRANSITION OPPORTUNITIES (PHASE III)

Other Potential Applications:

NAVAIR currently has a requirement to conduct Acoustic Intercept (Intercept Active Sonar in a passive mode). Our system automatically detects and classifies active sonar emissions and discriminates these from marine mammal emissions.

This same technology can also be used to conduct open ocean search for "black boxes" as required with the recent Air France disaster.

Business Model:

We would like to team up with the NAVAIR program sponsors and system integrators (primes), i.e., Lockheed Martin and Boeing Corporation to integrate our technology into the platform and support spiral development.

Objective:

A phase III contract to support integration, testing, and training.