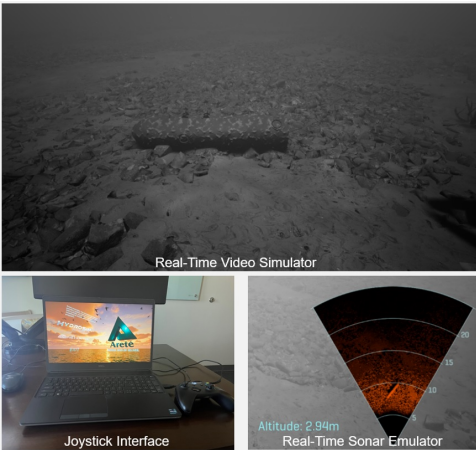


WHO

SYSCOM: NAVSEA
Sponsoring Program: NAVSEA
Transition Target: Barracuda Mine Neutralization System
TPOC: (850) 628-6685
Other Transition Opportunities: Navy UUV and ROV Programs

Notes:



Arete Associates

WHAT

Operational Need and Improvement: Develop a physics-based simulator providing real-time subsea sensor data for AI/ML algorithm development and operator training.

Specifications Required: Realtime subsea video and sonar imagery generation
Physics-based
Interactive and automated modes
Ethernet streaming interface enables Software in the Loop (SiL) functionality
Automated mode enables AI/ML algorithm development and validation
Interactive mode enables operator training and mission planning
Modularity allows new targets / threats to be introduced

Technology Developed: HydroSIM Version 1.0

Warfighter Value: Synthetic imagery generated by HydroSim reduces the number of missions needed to develop robust AI/ML algorithms for autonomous platforms.
Real-time interaction enables operator training and mission planning.

WHEN

Contract Number: N68335-22-C-0655 Ending on: Sep 20, 2024

Milestone	Risk Level	Measure of Success	Ending TRL	Date
HydroSim 1.0	Low	Demonstration	6	3rd QTR FY23
HydroSim 2.0	Low	Demonstration	6	4th QTR FY24
HydroSim 3.0	Low	Validation	6	4th QTR FY25

HOW

Projected Business Model: Data as a service (DaaS) for AI/ML development and interactive trainers for operators

Company Objectives: Seeking new DoD partners who need additional subsea sensory data to train AI/ML algorithms.

Potential Commercial Applications: Improving subsea inspection autonomy with physics-based synthetic data.