



DoD Collaboration and Opportunities

Presented to:
VICEROY

Presented by:

Mr. John Diaz, PE
John.m.diaz2@navy.mil

Naval Undersea Warfare Center Division Keyport
Branch Head, Advanced Cyber Engineering (c/271)

- 23 MAY 2023-

This presentation has not been reviewed for public release. Opinions are solely those of the presenter, John Diaz. Source materials are unclassified.

Naval Sea Systems (NAVSEA)



NAVSEA Warfare Centers

Enabling Maritime Superiority Today, Tomorrow, and the Navy After Next



3

Naval Sea Systems (NAVSEA)



Mission-Vision-History

Mission:

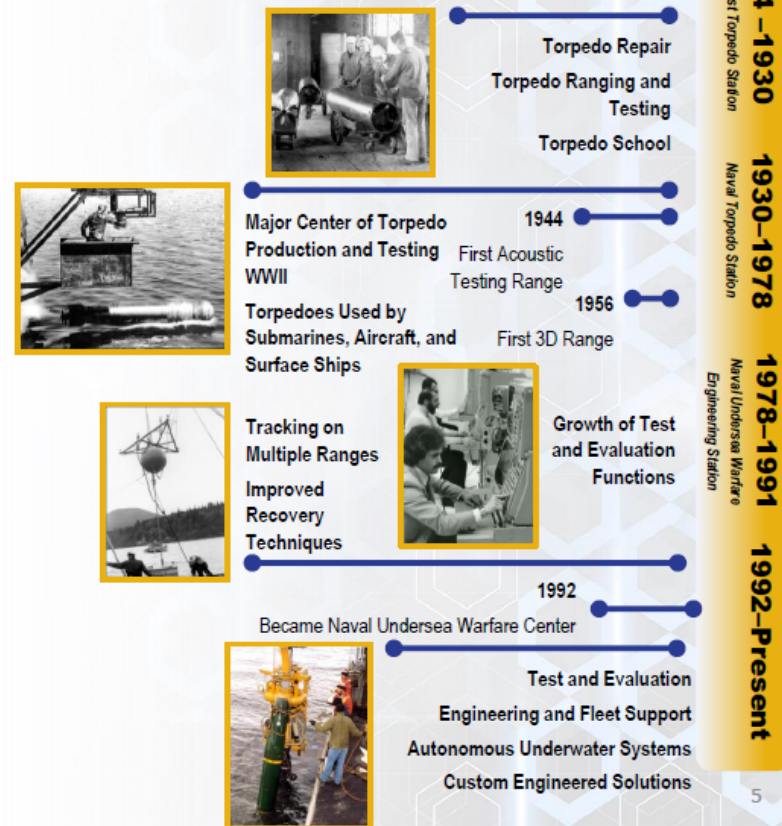
Provide advanced technical capabilities for test and evaluation, in-service engineering, maintenance and industrial base support, fleet material readiness, and obsolescence management for undersea warfare.

Vision:

Expand America's Undersea Dominance

Core equities:

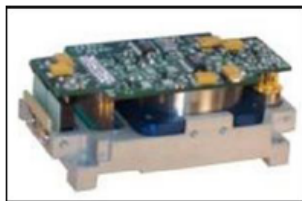
- Undersea weapons research & development, production, and sustainment
- Unmanned underwater vehicles
- Undersea warfare test & evaluation
- Theater undersea warfare
- Obsolescence management
- Prototyping and custom engineered solutions
- Sustainment engineering
- Cyber engineering



Naval Sea Systems (NAVSEA)



Capabilities



Prototyping & Custom Engineered Solutions

- Custom Engineered Solutions for Material Readiness
- Data science solutions for optimized and predictive maintenance
- Reverse Engineering & Redesign
- Advanced Depot Repair



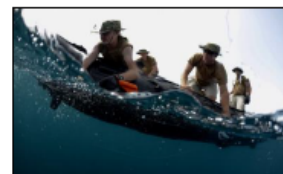
Data Sciences and Analytics

- Predictable trend analysis
- Reliability analysis
- Manpower readiness tools



USW Weapons and Targets

- Advanced undersea weapons R&D
- Advanced propulsion and energy
- IMA Digital Twin



Unmanned Underwater Vehicles

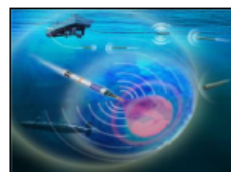
- Advanced undersea vehicles R&D
- Advanced propulsion and energy
- UxS payloads and integration



Theater Undersea Warfare

- Aircraft Carrier Tactical Support Center (CV-TSC)
- Undersea Warfare Decision Support System (USW-DSS)
- Littoral Combat Systems Anti-Submarine Warfare Module

Expanding America's Undersea Dominance
Excellence in execution
Advancing undersea readiness through innovation
Urgency: Delivering tomorrow's capability today
Aligned, better, faster



Undersea Defensive Warfare Systems

- Countermeasure set acoustic ISEA and development
- Special operations forces undersea mobility support



Warfighter – Engineer Partnership

- Proximity to the Warfighter
- Engineering expertise
- Quick iteration and integration
- Ideas to action



Shipyard & Maintenance Innovation

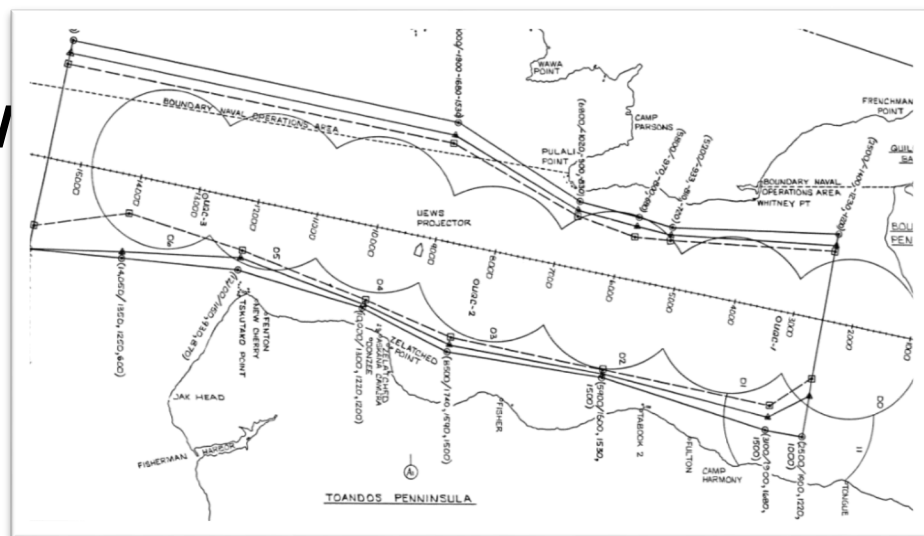
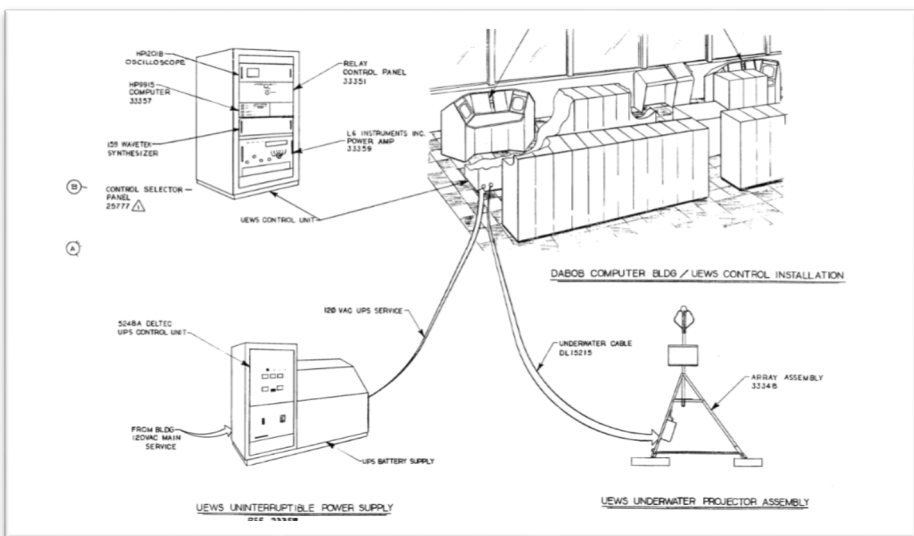
- Advanced repair and maintenance technologies
- Advanced materials / manufacturing
- Industrial engineering
- In situ automated forward repair systems

Pacific Northwest Ranges Sites



Responsibilities

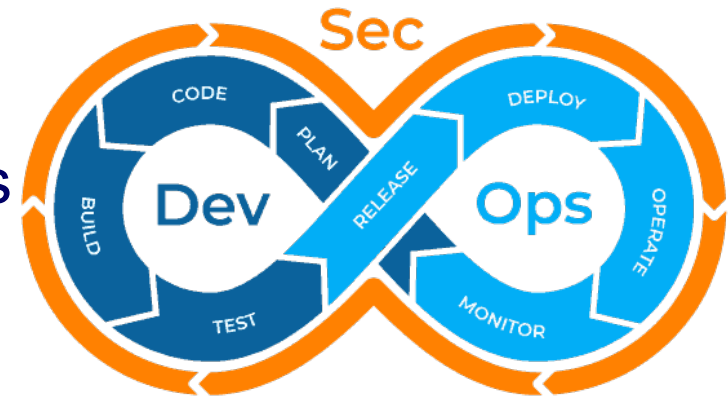
- Assigned Tasks
 - Develop a prototype software application to replace an obsolete submarine emergency warning system (Circa 1980)
 - Create Wiki page documenting software development for future teams and collaboration



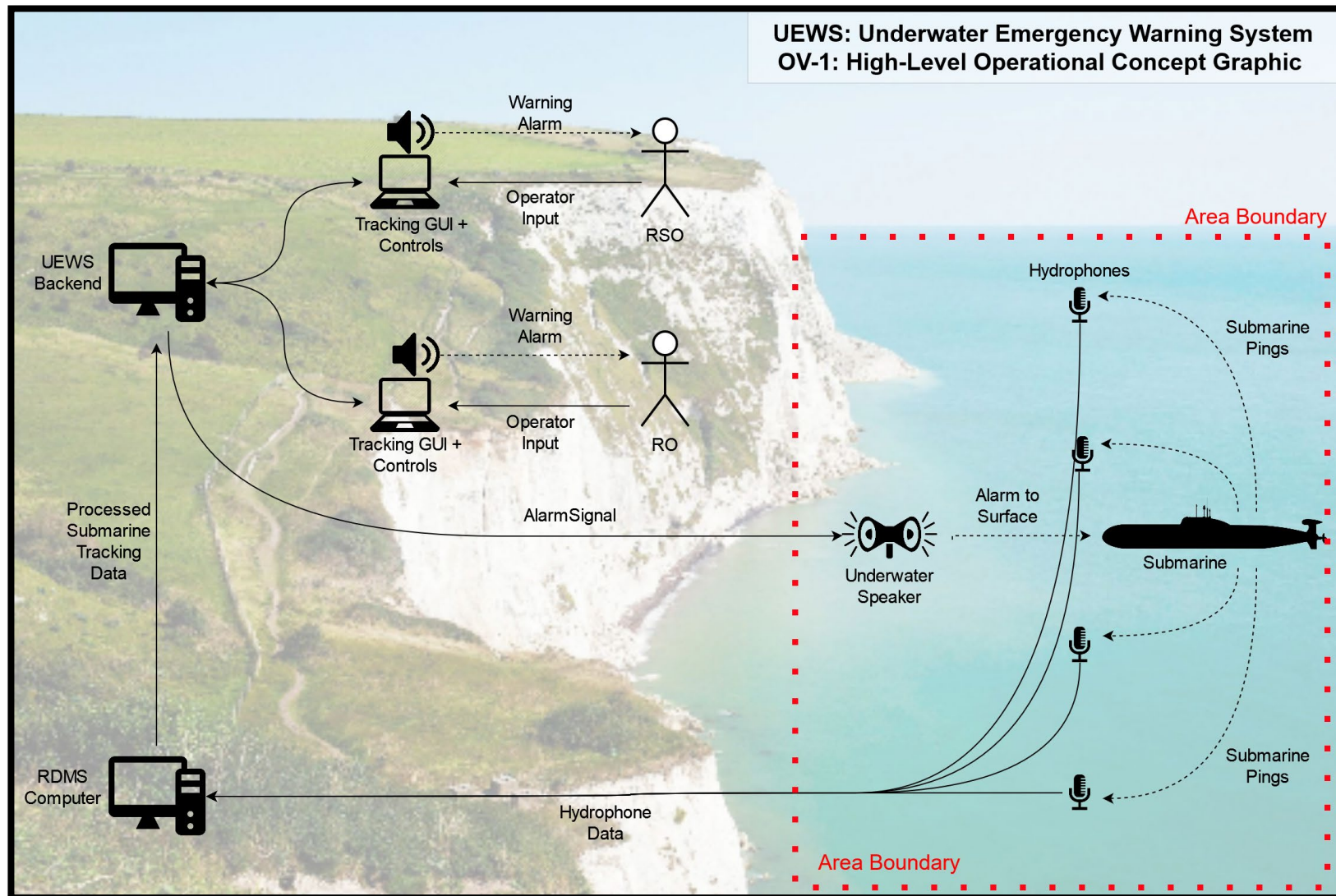
Responsibilities

- Activities

- Created functional requirements
- Began development of software
- Interviewed Range officers
- Constructed Plan
- Coded using DevSecOps and Agile Development
- Modeling and Simulation
- Technical review (IEEE-1028), STIGs
- Usability test with Range Officers
- Documentation – Standard Operating Procedures



Responsibilities - UEWS OV-1



DoD Collaborations

US Special Operations Command
Intelligence Community
Defense Advanced Research Projects Agency

Indo-Pacific Command
European Command
Southern Command
Central Command