



AMERICA'S
SLAMRSM

The Sea Land Air Military Research Initiative (SLAMR)

*Thrive at the intersection of military, commercial, and
academic research and development.*

15 August 2021

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Field Experimentation Program

- Participant benefits

- Autonomous systems waivers
- Cybersecurity Vulnerability Assessments

- Taking experimentation to the .mil

- Collaboration space
- Pre-event information on technologies and experiments
- Access to CVAs

- Venues

- Camp Roberts, CA
- San Clemente Island, CA
- Alameda, CA
- Beach Laboratory, Monterey, CA (new)
- Command Centers (new)



Joint Interagency Field Experimentation (JIFX)

- Focus areas
 - Autonomy
 - All domain UxS
 - AI and Machine Learning
 - Fully Networked C3
- Sponsors
 - OUSD(R&E) RRTO
 - CRUSER
- Events/year: 4



Expeditionary Organic Tactical ISR Capability Set (EOTACS)

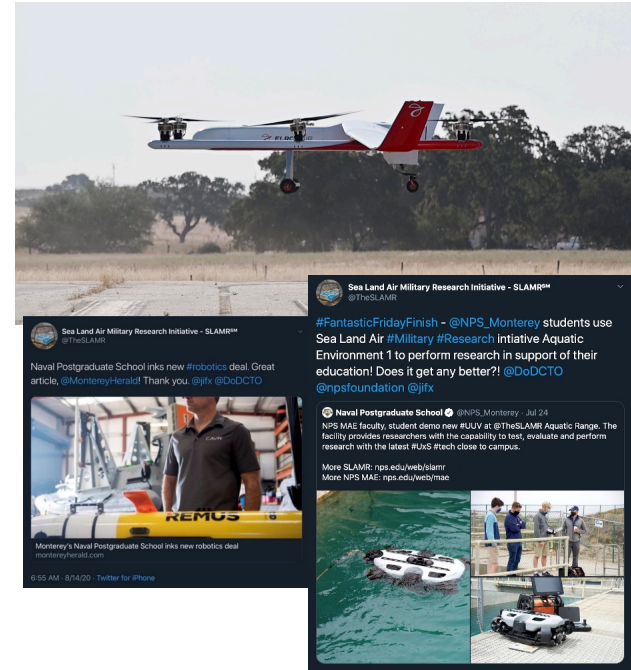
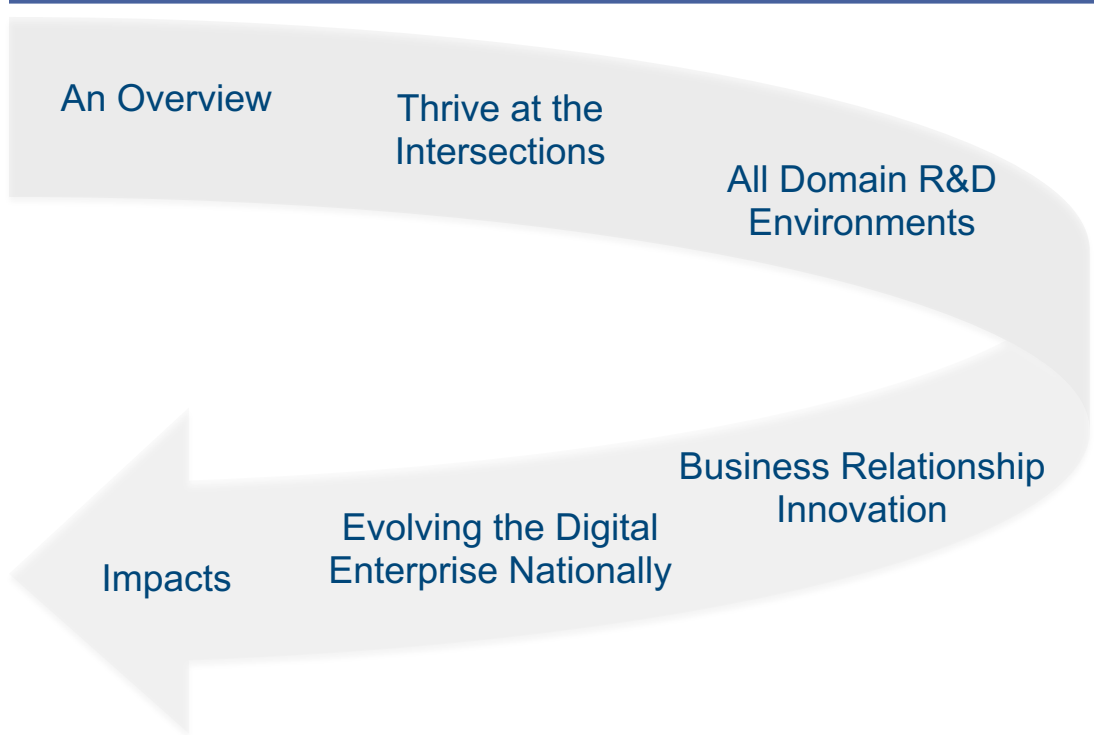
- Focus area: Small UAS
- Sponsor: USSOCOM
- Events/year: 2

Multi-Thread Experimentation (MTX)

- Focus area:
- Sponsors
 - OUSD(R&E) RRTO
 - CRUSER
- Events/year: As needed



Discussion Path



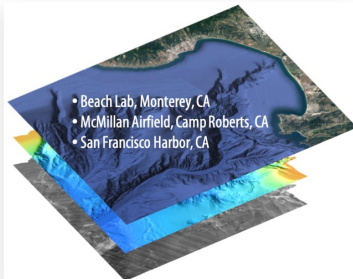
Thrive at the Intersections

- A *Sputnik*-moment
- Tenets
 - “Whole of country” approach
 - One-stop for enabling adoption/adaption of technologies, processes, and people
 - Intellectual foundation for the Nation’s autonomous warfare team
- Three focus areas
- Active projects
 - Expeditionary Artificial Intelligence
 - Secure Maritime 5G
 - Rebalancing Cognitive Workloads to Improve Decision-Making
 - Aquatic and Air Environments
 - Sustainable Power Autonomous systems Research (SPAR) station

All Domain R&D Environments

Speed Matters

Deliver *all-domain solutions* faster and with fewer resources.



Three Focus Areas

Business Relationship Innovation

Explore New Partnerships

Thrive at the intersection of military, commercial, and academic research and development.



Evolving the Digital Enterprise Nationally (EDEN)

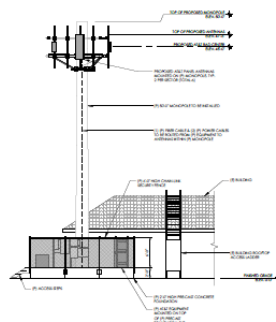
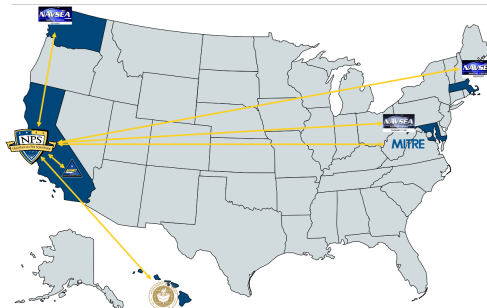
Engage Faster

Your vision will transform the world - *engage it*. We deliver your vision to more people - *faster*.



All Domain R&D Environments

- Modernizing NPS' Beach Laboratory facilities
 - Three aquatic environments
 - Two aquatic-air environments
 - One reconfigurable subterranean environment
- Distributed capabilities
 - DREN expansion
 - SDREN deployment
- Distributed research and operations development
 - Warfare Centers and Divisions
 - Naval Research Laboratory
 - University Affiliated Research Centers
 - National Research Laboratories



Business Relationship Innovation

- Value proposition-centric
- Academic environment
- Accessible by business sectors and allies
- Leverage Navy-accredited and accessible IT networks
- Expand Public Private Partnerships
- Government partners
 - OUSD(R&E) Rapid Reaction Technology Office
 - U.S. SOCOM
 - NUWC Division, Keyport
 - Naval R&D Establishment Unmanned Vehicles and Autonomous Systems Working Group
- DREN expansion and SDREN deployment



AT&T

Secure
Maritime 5G



ELROY AIR



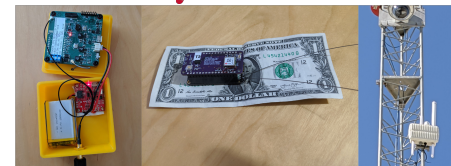
Autonomous VTOL
logistics delivery
system



OPT
OCEAN POWER TECHNOLOGIES

Renewable energy
sources and deployable
sensor platform

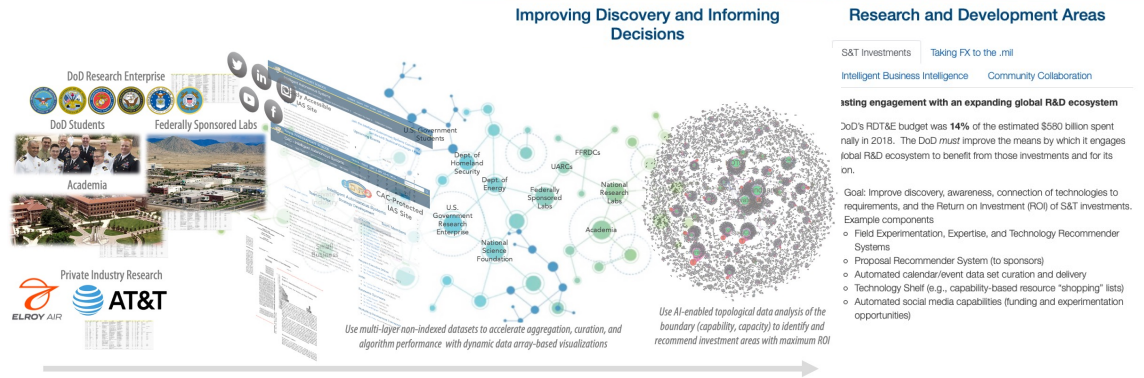
**Carnegie
Mellon
University**



Multi-system telemetry network

Engage Across Horizons

- Accelerate discovery for more robust S&T investment decision-making
 - Rebalance cognitive workloads with Human Enterprise Network Systems
 - Intelligent multi-institution Transactive Memory
- Address performance inversion from directed expertise systems
- Spin-off capabilities rapidly
- Application and domain agnostic



Support Robust Decision-Making at the Speed of War

Impact – Naval Enterprise

Focus Areas

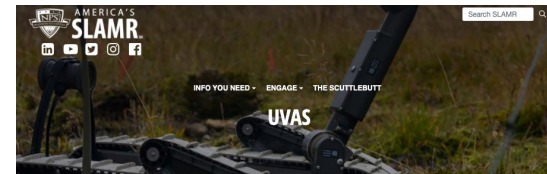
- Expanding nationwide research enterprise collaboration
- Deploying distributed, all-domain autonomous systems experimentation
- NAVSEA Warfare Centers and NPS autonomous systems R&D coordination
- Educational programs (e.g., Robotics Engineering)

Threads

- Directed, intelligent crowdsourcing
- Accelerating information flow
- Public, .mil, and .gov domain persistent engagement

NPS-wide, SLAMR-led

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Unmanned Vehicles and Autonomous Systems Working Group

The NAVSEA Warfare Centers established the Unmanned Vehicles and Autonomous Systems (UVAS) Working Group (WG) across its ten Divisions in September 2015 under the leadership of former NAVSEA Warfare Centers Executive Director, Mr. Donald McCormack, SES, along with then Deputy Assistant Secretary of Navy for Unmanned Systems, Mr. Frank Kelley. Over the last few years, the UVAS Working Group's membership has expanded to over 1,000 representatives from across the Naval Research and Development Establishment (NRADC), DoD, and its complex of partnering organizations.

[UVAS Working Group Member Site](#)

About the UVAS Working Group

Mission	Goals
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Sustain a thriving high velocity learning enterprise that collaboratively exploits the NRADC's collective technical capabilities to ensure Naval Forces and the Working Group have the most resilient and cost-effective unmanned systems practical through vital partnerships with DoD, industry, and academia.

Our Impacts

- Since 2015, the UVAS Working Group and its over 1,000 members:
 - Host weekly telephone conference calls focused on the advancement of Naval Warfighting mission effectiveness through greater use of UAS.
 - Supported nearly every UAS product in the Naval Force pipeline with subject matter expertise from Naval Air Systems, Naval Sea Systems, and Naval Information Warfare Systems Commands.
 - Partnered with the Sea Land Air Military Research Initiative to accelerate discovery and help the maturation community excel at the intersection of military, commercial, and academic research and development.
 - Supported the
 - Chief of Naval Operations' UAS Campaign Plan,
 - Department of the Navy's Intelligent Autonomous Systems Strategy Development Team, and
 - Former Deputy Assistant Secretary of the Navy for UAS and his staff in developing the Department of the Navy's UAS Roadmap.
 - Provided critical UAS and enabling technology supporting rapid development and technology demonstration events to the Deputy Assistant Secretary of the Navy for Research, Development, Test and Evaluation.
 - Developed directorates of Warfare Centers expertise in Authority and Modeling and Simulation to assist with targeting capabilities advancement.
 - Partnered with Naval Postgraduate School leadership to establish a Robotic Engineering Certificate Program to build a pipeline of future talent.
 - Assisted with aligning Warfare Center and Laboratory UAS roles and responsibilities to FRACE's Virtual Systems Command Technical Capabilities Manual, and
 - Stimulated NRADC cross-learning and development of collaborative UAS sponsor support.

Additionally, the UVAS Working Group co-leads work as senior advisors to support of Unmanned Maritime Systems Program Office portfolio, UAS-enabling technologies, and Rapid Autonomy Integration Laboratory.

nps.edu/uvas

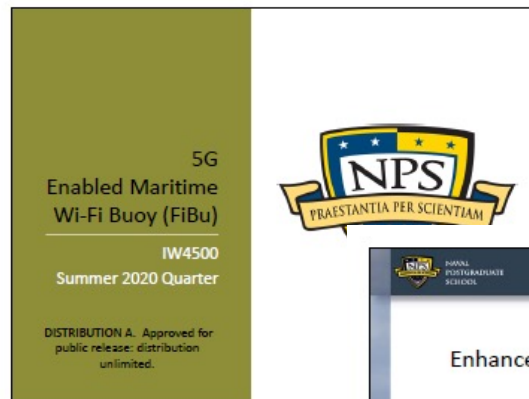
Impact - Education

Projects, Theses, & Dissertations

- 5G Enabled Maritime Wi-Fi Buoy
- Enhanced Corpsman to Hospital Optical System
- Detecting and Tracking Dark Targets*
- 5G for Naval Objectives*
- Persistent and Emergent Maritime Domain Awareness*

5G integrated into courses

- Information Warfare
- Networks Operations & Technology
- Computer Science
- Electrical & Computer Engineering

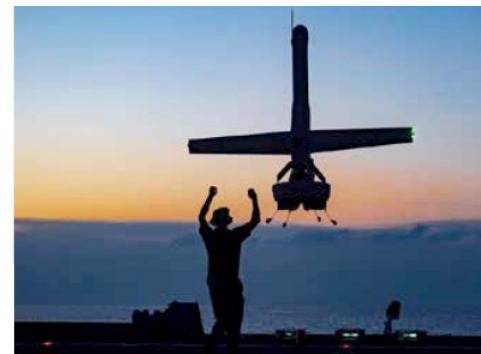


NPS-wide, SLAMR-led

Impact – Fleet, Force, and OSD

Engagements

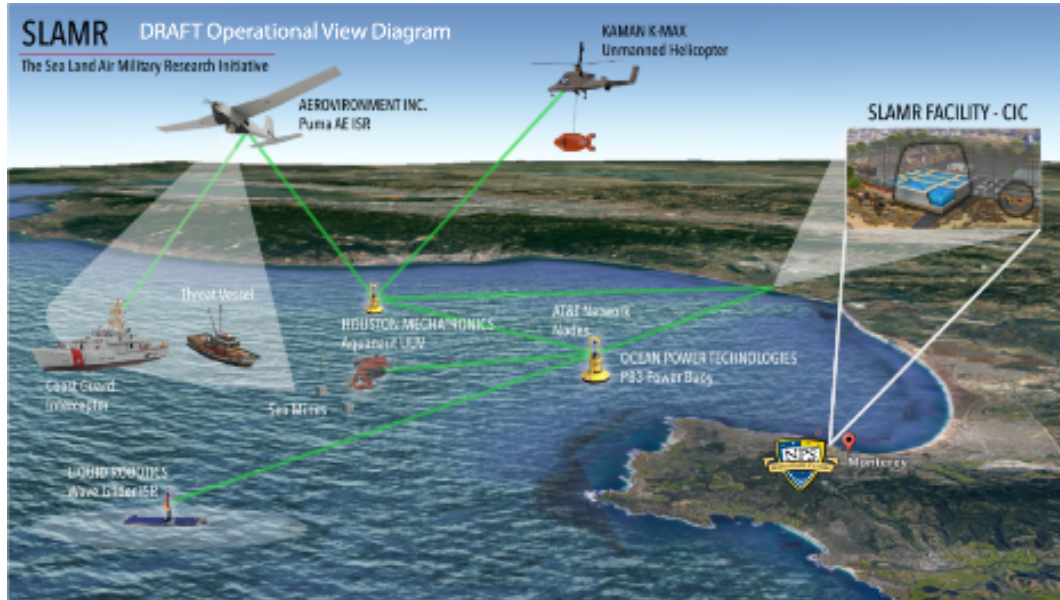
- Unmanned Campaign Framework
- Marine Corps Warfighting Laboratory
- Joint Artificial Intelligence Center Symposium
- USCG Detecting and Tracking Dark Targets*
- 5G Interference with Naval Systems
- Persistent and Emergent Maritime Domain Awareness
- Joint All Domain Information Systems Proposal
- USTRANSCOM Autonomous Aerial Cargo System White Paper



A VBAT vertical take-off and landing (VTOL) unmanned aerial system (UAS) prepares to land on the flight deck of a naval ship.

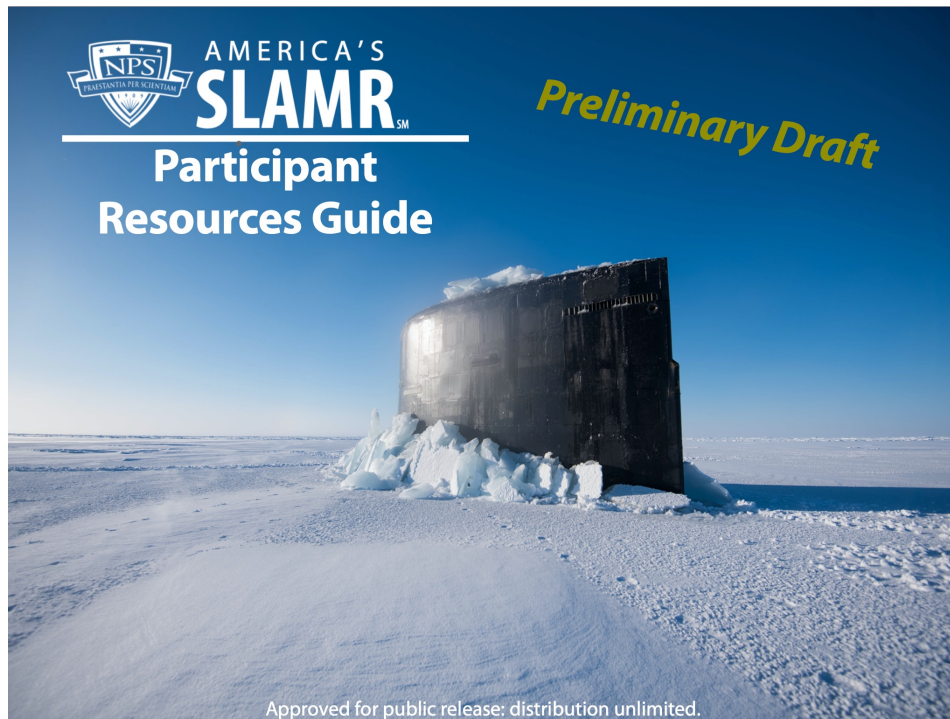
NPS-wide, SLAMR-led

Impact – International Partners



NPS-wide, SLAMR-led

A Brief Tour



- [R&D topic crowdsourcing](#)
- [Pacific Fleet experimentation ideas](#)
- [Defense landing page](#)
- [Homepage](#)
- [Events](#)
- [The Scuttlebutt](#)
- [DoD R&D Organizations](#)
- [S&T library \(sample\)](#)
- [Going to the audience](#)

Click the links above for examples

Points of Engagement



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