



# AMERICA'S SLAMR<sup>SM</sup>

## DIRECTOR'S UPDATE

*August 2020* - Welcome to the second quarterly **Sea Land Air Military Research initiative (SLAMR)** Update! As those of you following @TheSLAMR are aware, there continues to be big developments across the SLAMR "AOR." (That's "Area of Responsibility" for non-military types!) The SLAMR Community's new website will be launched next month and will serve as a valuable resource for nationwide collaboration, along with our social media feeds and this newsletter, to create a more integrated user experience. The header is a sneak peak!

This new emphasis on the digital experience and shaping the evolution of the **Digital Enterprise** is an example of applying what we are learning to our own efforts. Using the unique resource that is the Naval Postgraduate School's (NPS) certified IT network, SLAMR is exploring improving collaboration and decision-making across the naval enterprise at the intersection of military and civilian research. Learn more on page 2.

The **Initial Operational Test of Aquatic Environment 1** evolved into a Limited Operational Availability that, in addition to supporting active research methods, has already supported its first industry engagement. Page 3 brings you up to speed.

Our progress with **Business Process Innovation** is described on page 4 and sets the stage for future updates, as well as blog entries and social media posts, that describe vehicles for collaboration, and ways to engage SLAMR and opportunities across the federal R&D space.

We end with our **Follow the Money** page, where you get insights into what we have done and hope to do regarding resources.

Your ideas on working together to address the Nation's security challenges are essential.  
Let's engage!



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## DIGITAL ENTERPRISE

Smashing barriers to collaboration is what SLAMR is all about! Enabling collaboration between diverse institutions such as government, academia and industry requires re-thinking of the Digital Enterprise. NPS' unique network provides a secure, certified "space" for this multi-institutional collaboration to take place. Using the new facilities, as well as existing NPS activities, the digital enterprise effort aims to enhance awareness, empower discovery, and support decision-makers at all levels of the respective institutions. Finding *better answers faster* is something valued across the national R&D enterprise and what SLAMR aims to deliver. Recent accomplishments include:

- **Memorandum of Agreement (MOA) with Naval Undersea Warfare Center (NUWC) Division, Keyport.** The MOA formally assigned a Warfare Center expert as the Co-Principal Investigator for the effort. Making it easier for Warfare Centers and other research teams to engage NPS is a key component.
- **Supporting ONR's Future of Intelligent Autonomous Systems (IAS) Team.** The Navy's effort to shape the future of intelligent autonomy is using SLAMR data collection, crowdsourcing, and collaboration tools.
- **Accelerating Unmanned Vehicles and Autonomous Systems (UVAS) Working Group efforts.** Initial work included crowdsourcing autonomy and unmanned systems research proposals for Naval Sea Systems Command Warfare Centers, discovery of NR&DE autonomous systems expertise, and rapidly providing NR&DE-wide inputs to Commander, U.S. Pacific Fleet-led multi-national fleet exercise and experimentation program.



Is there anyone who doesn't want to be able to make *better decisions faster*?



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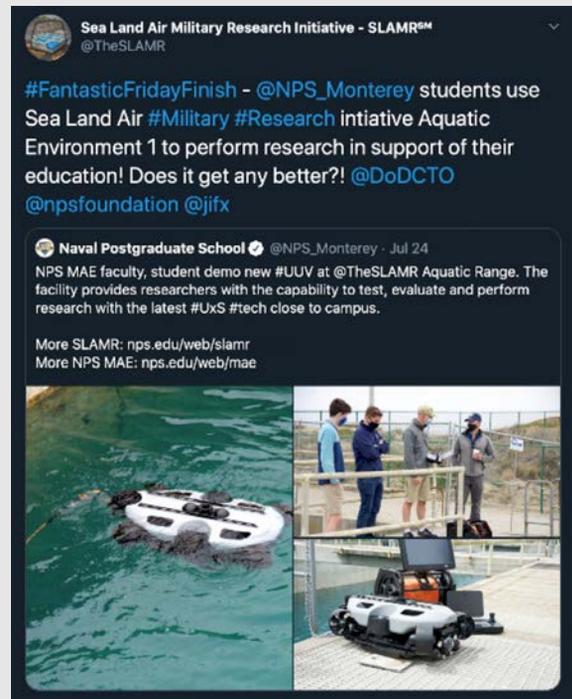
## FACILITIES

The successful completion of the Initial Operational Test of the first of three aquatic environments (AE1) taught us a great deal about water usage, chemical treatment, safety rules, and other processes and was a great success. That success led NPS faculty members to request to continue using AE1 to support Graduate School of Engineering and Applied Sciences work...so we made it happen!

A team from the NPS' Center for Autonomous Vehicle Research tested the Seabotix Remotely Operated Vehicle and its ability to "hook" and retrieve a sensor. This experimentation allowed the team to test the vehicle more completely under controlled conditions thereby reducing the number of trips into the ocean environment and making underway periods more efficient.

SLAMR is investigating the potential feasibility of using a sustainably powered autonomous systems research buoy in Monterey Bay. Such a capability will allow us to explore ways to reduce the amount of time large manned platforms spend on the ocean in favor of solar- or wave-powered systems that can monitor the ocean environment using small robotic systems. This would notionally increase awareness, reduce cost and reduce pollution in the littoral environment.

The authority exists to allow industry and academic partners, in addition to other government agencies, to use these facilities. *Let us know how SLAMR might support your research!*



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## BUSINESS PROCESS INNOVATION

SLAMR continues to explore new business processes and policies for working with industry and academia. For America to succeed, the “business” must succeed. Collaboration at the intersection academia, government and industry must be faster and easier than it is today. SLAMR aims to smash through the barriers to collaboration!

Examples? SLAMR led the completion of **two** landmark agreements in the last three months.

The first was the award of a five-year \$42.4 million Unmanned and Robotics Systems Research contract via the Defense Technical Information Center (DTIC) Technical Area Task (TAT) contract vehicle. The DTIC TAT enables NPS to better access private sector capabilities and improves public private partnership opportunities. This will enable NPS to operate closer to “the speed of business” making the government a better partner for collaboration.

The second is a Cooperative Research and Development Agreement (CRADA) with AT&T focused on developing *Secure Maritime 5G capabilities*. This will enable cutting edge research on potential national security applications of this emerging technology **and** the technologies enabled by these low latency, high bandwidth networks.

The CRADA provides NPS faculty and students with access to a 5G millimeter wave multi-access edge computing environment. Two NPS student teams are already exploring potential 5G applications for *USMC Commandant's Expeditionary Advanced Base Operations* concept.



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## FOLLOW THE MONEY

SLAMR continues to benefit from the support of the Naval Postgraduate School Foundation. The Foundation has provided both funding and support in kind that has enabled success in both the Facilities and Business Processes innovation efforts. The Naval Support Activity Monterey team has been essential to our successes, as have the dozens of organizations that have become part of the SLAMR community of interest and challenging us to *do more faster!*

The plan moving forward is to push forward simultaneously on all fronts! Each element of our effort provides a direct and meaningful contribution to the Nation's security challenges on its own, and taken together they have a synergistic impact that is greater than the sum of its parts. Estimated cost of each element is provided below.

### Facilities

- Aquatic Environments - \$150k
- Subterranean Environments - \$200k
- Aerial Enclosures - \$1.5 million
- Command and Control, Education & Research Building
  - Evaluation of Bldg. 513 - \$30k
  - Refurbishment - \$750k
- Sustainable Research Grid - \$200k
- SEED Sensor Deployment - \$75k
- Sustainable Power for Autonomous systems Research study - \$50k

### Business Processes:

- DTIC TAT Student Support - \$50k
- CRADAs - \$100k
- PIA Access - \$50k

### Digital Enterprise

- DoD-wide Collaboration/Information Science Management System- \$250k
- Event Management System - \$100k
- Accelerating Discovery (public and .mil networks) - \$250k

As SLAMR explores and rapidly validates proposed concepts and processes this list will evolve – so don't be shy about proposing new ideas, or improvements to our efforts.



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