Acquisition Directorate

Research, Development, Test & Evaluation

Coast Guard Unmanned Systems RDT&E Projects

Mr. Scott Craig; Office of RDT&E

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Coast Guard Unmanned System RDTE&E Efforts

- **Beyond Visual Line of Sight UAS Operations**
- **Vertical Takeoff and Landing UAS Operations**
- **Robotic Aircraft for Maritime Public Safety**
- **Low Cost Maritime Domain Awareness Pilot**
- **Port and Coastal Surveillance Unmanned Maritime Systems (DHS)**
- **Oil Spill Detection and Mapping Using Long Range Autonomous Underwater Vessels (DHS)**

Beyond Visual Line of Sight UAS Operations

- **Timeline: FY20-FY22**
- **Partners: SOUTHCOM**
- **Research and evaluate detect and avoid technology to enable "visual flight rules" flight by UAS**
- **Technology allows UAS to avoid other aircraft operating in the area**
- **Enables unrestricted UAS support of Coast Guard operations**

Vertical Takeoff and Landing (VTOL) UAS Operations

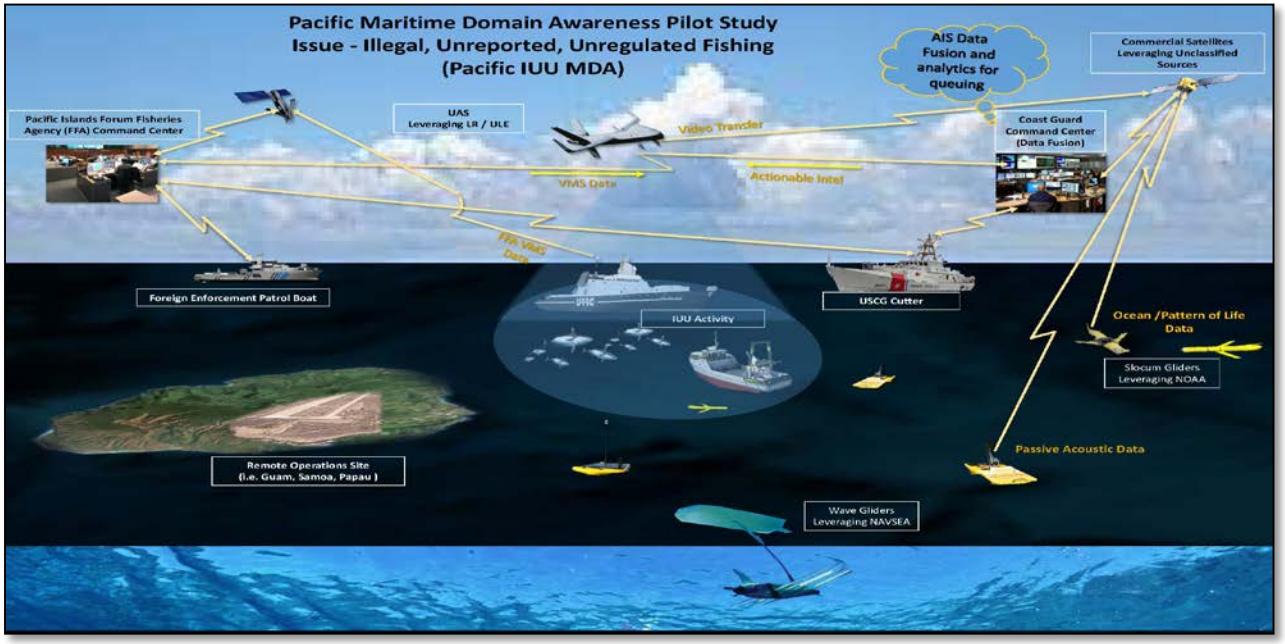
- **Timeline: FY20-FY22**
- **Partners: SOUTHCOM**
- **Research and evaluate UAS that takeoff/land like helicopters but fly like airplanes for shipboard use**
- **Smaller footprint than current catapult launched systems**
- **Potential for expanding UAS capability across cutter fleet**

Robotic Aircraft for Maritime Public Safety

- **Timeline: FY13-FY19**
- **Develop requirements, standards, and CONOP**
- **Evaluate realistic maritime security and first responder scenarios**
- **Guide future platform and sensor development**
- **Evaluate UAS sensor payloads across diverse mission sets and geographic areas**

Low Cost Maritime Domain Awareness

- **Timeline: FY18-FY21**
- **Partners: Maritime Intelligence Fusion Center Pacific, Global Fish Watch**
- **Focused on low cost solutions and unmanned maritime systems for Illegal, Unreported, Unregulated (IUU) fishing in the central Pacific**
- **RFP planned for October 2019**



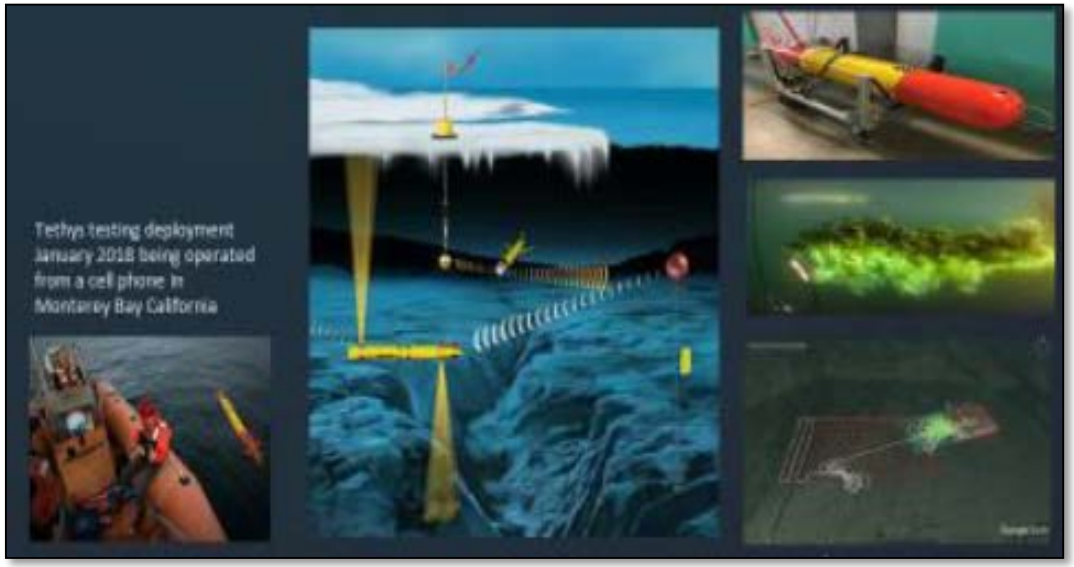
Port and Coastal Surveillance Unmanned Maritime Systems Evaluation (DHS)

- **Timeline: FY19-FY23**
- **Partners: University of Southern Mississippi, Naval Research Lab, Naval Undersea Warfare Center, Naval Information Warfare Center**
- **Will evaluate autonomous maritime surface/subsurface vehicles for counter-drug, migrants ops, fisheries, spill response, other missions**

- **"Unmanned Maritime Systems for DHS Missions" (platform focused) RFI published June 2019, closed July 2019**

Oil Spill Detection and Mapping (DHS)

- **Timeline: 2014-2020**
- **Partners: University of Alaska's Arctic Domain Awareness Center, in conjunction with Woods Hole Oceanographic Institute and the Monterey Bay Aquarium**
- **Explore use of Long Range Autonomous Underwater Vessels for the detection and mapping of oil spills on the surface, sub-surface and under ice**



Backup Slides

Low Cost MDA Pilot Appropriations Language

2018 Omnibus Appropriations Direction to USCG RDT&E

The Coast Guard continues to face challenges with respect to conducting maritime surveillance necessary to support its statutory missions related to marine safety, security, and protection in the Pacific Ocean. To address this concern, up to $5,000,000 is made available within the total amount to conduct a full maritime domain awareness pilot study and assessment to determine the efficacy of using low-cost, commercially available technology solutions, in combination with or on existing fleet platforms, to enhance maritime domain awareness. This effort should test technology solutions across the fleet, including with the Coast Guard Auxiliary if applicable. The Coast Guard is encouraged to consider systems that have been used by small, remote Pacific Island states and other technologies with little or no logistics funding tail. The Coast Guard shall brief the Committees not later than 60 days after the date of enactment of this Act on its approach to carrying out this study. The briefing shall include a timeline for the development of a concept of operations and business case analysis, as well as a plan for industry engagement and technology demonstration.

Port and Coastal Surveillance Unmanned Maritime Systems Appropriations Language (DHS)

Port and Coastal Surveillance

The recommendation includes $16,750,000 for Port and Coastal Surveillance. The Committee is aware of threats posed by submersible and semisubmersible watercraft and concerned with the technical challenges associated of maintaining persistent maritime domain awareness in a scalable and affordable manner. The Committee is also aware of an ongoing analysis of alternatives that will inform S&T's understanding of meeting these challenges. Within the amount included for Port and Coastal Surveillance, the *Committee includes $8,000,000 for research, development, test, and evaluation of existing unmanned, self-powered maritime sensor platforms capable of detecting surface and subsurface threats. In carrying out this activity, S&T shall consider how multiple such platforms could be operationally deployed and shall strongly consider the current and future requirements of the Coast Guard. Within 60 days of enactment of this act, S&T shall brief the Committee on its plan to implement this directive.*