

Unmanned Aircraft Test Range Annual Report



State of Hawaii
Department of Business, Economic Development & Tourism
Office of Aerospace Development

University of Hawaii Applied Research Lab
Reference: Act 208 (2015)
Chapter 201-72.7, Hawaii Revised Statutes

December 4, 2017

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In 2013, Hawaii, in conjunction with civic and university leaders in Alaska and Oregon, organized as the Pan Pacific UAS Test Range Complex (PPUTRC), and submitted a proposal for designation by the Federal Aviation Administration (FAA) as an Unmanned Test Range. Creation of the Test Ranges was required by Congress in the 2012 FAA Reauthorization Act, and was expected to promote growth in the Unmanned Air Vehicle business and U.S. competitiveness in UAS technology of the future.

The Pan Pacific UAS Test Range Complex was selected as one of 6 National sites, along with Texas, North Dakota, Nevada, New York, and Virginia late in 2013. The strength of the PPUTRC proposal was access to the greatest Climatic Extremes in the USA, from hot-wet tropical air in Hawaii with high winds and turbulence, to the arid interior in Oregon and the frozen north. PPUTRC group has been joined by Kansas and Mississippi, adding Midwest windstorms to the climatic threats available for testing UAV's through PPUTRC.

Funding for activities and development in the Test Range segments within the 5 PPUTRC States is the responsibility of each State, while the formal methods of FAA certification of Unmanned Air System (UAS) facilities, equipment, and personnel, as well as legal authorization to access Federal airspace for all 5 states are established via an OTA contract between University of Alaska Fairbanks and FAA.



Ted Ralston, UAS Program Director, briefing Public Safety personnel on current CUAS technology.



Josh Levy, UAS Program Coordinator, and Ted Ralston with Hawaii Kai Representative Gene Ward discussing rules and regulations of UAS in urban environments.

In 2015, initial funding for Hawaii’s UAS Test Range was created by SB 661 (Act 208). DBEDT contracted with University of Hawaii’s Applied Research Lab (UH ARL) to operate the Test Range. UH ARL hired Ted Ralston as Director and Josh Levy as Coordinator of Unmanned Aerial Systems for ARL in early 2017. The UAS Test Range Director and Coordinator are directed to achieve three development goals:

1. Establish best practices for Unmanned Aerial Systems (UAS) to support State of Hawaii economic growth and public service UAS capability development.
2. Develop procedures, program control, and reporting of UAS activities aligned with Pan-Pacific UAS Test Range administrative, partnering, and technical requirements, as defined by University of Alaska Fairbanks (UAF)-FAA agreement.
3. Define functional, performance, operational, security, and certification requirements for the Test Range.



Discussion at UH with Coast Guard, NOAA, PACOM, and UH professors developing a strategy to utilize unmanned systems for maritime operations.

In 2017, Hawaii’s first operational year, the primary focus has been on Development Goal 1, Outreach to Hawaii business, public safety, law enforcement, environmental, defense, and educational agencies and groups as well as committees in the Hawaii Legislature.

On a weekly basis, or more as needed, demonstrations, meetings, testimony, workshops, discussions, and field experimentation have been held with agencies, schools, commercial businesses, PACOM units, and leadership conferences to explore together what works, what doesn’t, and where agency needs for UAS technology can be aligned with current UAS capabilities most effectively in Hawaii.

Through these stakeholder interactions, insight has developed on both the Demand and Supply side of the economic equation, for better mutual insight toward UAS use in Hawaii – and for guidance on how the Test Range can best support companies and development agencies wanting to move forward in UAS design.



Ted Ralston briefing PACOM personnel on detecting marine debris with UAS.

In 2017, contract and grant opportunities resulted in approximately \$800,000 awarded to UH, directly or through ARL; and opportunities in the range of \$550,000 are pending. Beyond awarded work, four UAS development companies are currently considering UAS test work here in Hawaii.

As each business opportunity develops, the experience gained will add to the knowledge base to support Goals 2 and 3, which are practice-dependent. As a further consequence of the UAS work done to date under PPUTRC, insight has been gained helping to shape the working relationship with PACOM regarding UAS in general and Innovation specifically.

In 2018, the Hawaii UAS Test Range looks forward to supporting UAS legislation that both promotes business growth and creates safety protocols. At any time UH ARL stands ready to meet with Legislative groups, committees, and individuals to discuss issues and develop ideas. Please contact Ted Ralston, UAS Test Range Director at (808) 738-6814 or DBEDT Deputy Director Mary Alice Evans at (808) 586-2354.



Ted Ralston and NDPTC Director discussing uses of UAS for grounded ship operations.