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Statement of

LUIS P. SALAVERIA
Director

Department of Business, Economic Development & Tourism

before the

SENATE COMMITTEES ON WAYS AND MEANS

Wednesday, April 5, 2017

9:30 a.m.

State Capitol, Conference Room 211

in consideration of

HB 1478 HD1
**RELATING TO MAKING AN APPROPRIATION FOR UNMANNED AERIAL
SYSTEM TECHNOLOGIES.**

Chair Tokuda, Vice Chair Dela Cruz, and Members of the Committee. The Department of Business, Economic Development and Tourism **supports** this bill to appropriate funds to advocate, promote, and manage the development, testing, and evaluation of unmanned aerial systems, provided that it does not replace any of DBEDT's executive budget requests.

The State of Hawaii, in partnership with Alaska and Oregon, was selected by the Federal Aviation Administration (FAA) to serve as one of seven national UAS test sites (the Pan Pacific UAS Test Range Complex, or PPUTRC). The goal is to enable the development, testing and certification of UAS technologies, as well as to help formulate operating standards and regulations that will help safely integrate these technologies into the national air space.

The civilian UAS applications to be studied at these test sites are truly diverse and far-reaching, ranging from environmental monitoring and wildlife management to emergency search and rescue, flood and pollution control, power line inspections, air quality monitoring, watershed management, and other applications with substantial civic and commercial benefits.

In developing these applications, multiple research, business, education, and professional training opportunities will also emerge, such as the development of miniaturized high performance remote sensing instruments, aerial tracking systems and related command and control software, training courses and certification programs for UAS operators, and other innovative programs with revenue generation and job creation potential.

In addition, UAS test range operations in Hawaii will help reduce or eliminate shipping and other costs associated with demonstrating and evaluating new sensor technologies developed by Hawaii-based companies at U.S. mainland sites, facilitate cost-effective operations of both military and government contractors supporting local fire and police departments, and both strengthen and diversify statewide programs conducted by the U.S. Civil Air Patrol and Coast Guard, the U.S. and Hawaii National Guard, the U.S. and Hawaii Departments of Defense, and other federal and State agencies.

DBEDT urges the Senate Committee on Ways and Means to pass this measure. Thank you for the opportunity to testify on this bill.



UNIVERSITY OF HAWAII SYSTEM

Legislative Testimony

Testimony Presented Before the
Senate Committee on Ways and Means
Wednesday, April 5, 2017 at 9:30 a.m.

by

Don Straney, Chancellor, UH Hilo

Margo Edwards, Interim Executive Director, Applied Research Laboratory, UH System
Ted Ralston, Director Unmanned Air Systems, Applied Research Laboratory, UH System

HB 1478 HD1 – MAKING AN APPROPRIATION FOR UNMANNED AERIAL SYSTEMS

Chair Tokuda, Vice Chair Dela Cruz, and members of the Committee:

The University of Hawai'i stands in support of HB 1478 HD1.

Its passage is an important step in moving forward with Hawai'i's participation in the FAA-authorized Pan Pacific UAS Test Range Complex (PPUTRC), part of a national effort created by Congress to advance the “state of the art” of Unmanned Aerial Systems (UAS) in service to the economy.

Just as important, UAS are rapidly becoming an important component in the University of Hawai'i's educational and community outreach missions. Our PPUTRC partner states Alaska, Oregon and Mississippi are currently enjoying commercial UAS business, as well as government and educational benefits – by capitalizing on the emerging UAS opportunity.

Thank you for the opportunity to testify on this measure.

Dear Senators Tokuda and Dela Cruz,

As individuals who wish to engage in commercial UAS activities in Hawaii, we support HB 1478. We are creating solutions to relieve economic challenges inherent to interisland shipping in Hawaii, and we are confident that unmanned aerial systems will be a key component.

As founders of a startup company hoping to shape the future of unmanned aerial systems, we are often in search of forward-thinking regulatory environments that simultaneously encourage exploration and innovation while expanding economic opportunities for local businesses. Hawaii is our preferred market precisely because of the encouraging atmosphere and mindset towards the value of UAS services we have found so far, as exemplified by participation in the Pan Pacific UAS Test Range Complex. We feel that measures like HB1478 are important to maintain national leadership in public and commercial engagement with drones.

Thank you for your consideration,

Star Simpson and Jonathan Raphael

From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, April 4, 2017 6:14 AM
To: WAM Testimony
Cc: pua62488@gmail.com
Subject: *Submitted testimony for HB1478 on Apr 5, 2017 09:30AM*

HB1478

Submitted on: 4/4/2017

Testimony for WAM on Apr 5, 2017 09:30AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Margaret Ralston	Individual	Support	No

Comments:

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

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From: mailinglist@capitol.hawaii.gov
Sent: Monday, April 3, 2017 10:43 PM
To: WAM Testimony
Cc: vincent_kimura@yahoo.com
Subject: Submitted testimony for HB1478 on Apr 5, 2017 09:30AM

HB1478

Submitted on: 4/3/2017

Testimony for WAM on Apr 5, 2017 09:30AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
VINCENT KIMURA	Individual	Support	No

Comments: UAVs are the future of logistics, and how we will stay competitive in all aspects of our operations, especially in food production and manufacturing. We must be on par or ahead of the curve, the world is investing in UAVs.

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From: mailinglist@capitol.hawaii.gov
Sent: Monday, April 3, 2017 8:16 PM
To: WAM Testimony
Cc: margo@soest.hawaii.edu
Subject: *Submitted testimony for HB1478 on Apr 5, 2017 09:30AM*

HB1478

Submitted on: 4/3/2017

Testimony for WAM on Apr 5, 2017 09:30AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Margo Edwards	Individual	Support	No

Comments:

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From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, April 4, 2017 9:18 AM
To: WAM Testimony
Cc: ryanozawa@gmail.com
Subject: Submitted testimony for HB1478 on Apr 5, 2017 09:30AM

HB1478

Submitted on: 4/4/2017

Testimony for WAM on Apr 5, 2017 09:30AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Ryan	Individual	Support	No

Comments: The applications for UAVs are limitless, the potential for both scientific and economic advancement is massive. There is incredible work already being done at all levels, from passionate hobbyists to small businesses to aerospace firms to top-tier research. But if Hawaii is to remain at the forefront of innovation and technology in aerospace, it needs to put its money where its mouth is. I work at a local real estate tech firm, an industry that was one of the first to realize the value of UAVs in commerce. I am also a co-founder of an ag-tech startup called Smart Yields that sees UAVs as one of the most exciting platforms for advancing agricultural research and optimizing farm operations. Although I cannot speak for my colleagues, I think it's obvious that these are only two of countless verticals where UAVs can bring about revolutionary advancements. Then there's education. And public safety. And of course tourism. Please advance HB1478. Mahalo!

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**Senate Ways and Means Committee
Hawaii State Capitol
April 4, 2017**

Aloha:

I am submitted this **letter in strong support of Hawaii UAS HB 1478** for the following reasons:

1. Expansion of Emergency Management and Rescue in Hawai'i Oceans utilizing UAS-while searching for missing boats, and or swimmers, etc.
2. Expansion of Emergency Management during Disaster Aftermath in Damage Assessment - to determine open road ways, etc., to facilitate and expedite rescue of individuals in need.
3. Expansion of Emergency Management during "mountain rescues" during the day and night (using FLIR or heat detection systems).
4. During large scale dangerous demonstrations or riots, UAS systems will bring immediate intelligence, critical in PLANNING.
5. During high speed chases, UAS systems would be a prudent manner to locate and follow the individual and NOT EXPANDING a dangerous event.
6. UAV's will enhance officer safety in determining "choke points" during security routes - dangerous areas, etc.
7. Delivery of critical items, such as a "key" to unlock a door an emergency or medicine – all in an inaccessible area – like a mountain top or ocean situation.

There are many more examples of a "Cost Effective" and Expanded Emergency Service UAS will soon demonstrate. All of these statements will expand search and rescue in a cost-effective manner. Inaccessible areas can be reach by emergency responders in a SAFE and expedition manner. Through UAS, Emergency Responders will reach individuals in NEED OF HELP in an expedition manner and DETERMINE THE LOGISTICS AND SUPPLIES needed to complete rescue support.

PLEASE PERMIT HB 1478 HAWAII UAS TO CONTINUE.

Thank you,

**Gervin Miyamoto
U.S. Marshall, District of Hawaii
358-3822**

From: [Jimmy Lagunero](#)
To: [WAM Testimony](#)
Subject: Support of House Bill 1478
Date: Monday, April 3, 2017 4:25:08 PM

Aloha,

My name is Jimmy Lagunero, I am currently assigned as the University of Hawaii Emergency Management Officer, working as a Liaison with our State Emergency Management Agency. I am employed by the University of Hawaii at Manoa Department of Public Safety responsible for assisting the University in preparing for potential disasters and other emergencies that may affect us.

I am submitting this testimony as a Private Citizen, as official support has already been provided and I am not assigned that function.

As you may be aware, We've got a problem with risks of urban wildfire affecting us here in Honolulu, and have escaped several recent catastrophic incidents that have occurred locally. An ongoing concern about these risks are the results of illegal encampments on State and University property, where fires have been caused by this illegal activity. To aid in the identification as well as response to these threats, qualified UAS use by authorized and certified persons would make a difference in aiding our emergency responders and managers in assessing the threat and directing resources to mitigate it's risk.

I am in support of House Bill 1478, and ask for your support too.

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Mahalo Nui Loa for your Kōkua,



Jimmy L. Lagunero, AEM
Emergency Management Coordinator
• Department of Public Safety
• Campus Services
University of Hawai'i at Manoa
1951 East-West Road • Honolulu, HI 96822
Email: lagunero@hawaii.edu

Mobile: [808.590.5390](tel:808.590.5390)
• office: [808.956.0773](tel:808.956.0773)
<http://manoa.hawaii.edu/emergency/management/>

"Bad things happen when Good people do nothing."

SUPPORT for HB1478: Good for Hawaii and its future

Unmanned Air Systems, UAS or 'drones', are arguably the next wave of technology to enter daily culture alongside cellphones and computers. As the utility and reliability of drones increases, these devices are set to move out of the laboratories and hobbyshops into mainstream business, public safety, health, education, communication, and infrastructure resilience.

To support that transformation and open the door to economic growth, FAA has set up a UAS regulatory system that relies on seven 'State UAS Test Ranges' to perform Testing and Evaluation necessary to ensure safe operation. Hawaii is fortunate to have been granted UAS testing authority; Hawaii was picked with a team of AK, OR, and MS, as these four states represent Extreme Environments, providing for testing at the greatest range of environmental limits that UAS must face in operation.

With authority now granted by FAA, it is up to Hawaii turn this opportunity into business, ultimately establishing long-term agreements with UAS, sensor, and software manufacturers, agencies, universities, and Government for testing and evaluation – as well as aligning our testing efforts to generate UAS capabilities that are important to Hawaii. The initial funding allocation was provided in 2015 legislative session; UH Applied Research Laboratory is performing the initial work of organizing the procedures and protocols to operate under FAA rules.

It should be noted that other states awarded similar authority (OR, AK, MS, TX, NV, ND, NY, VA) already had some form of industrial UAS base in-place, and are now generating self-sustaining business. The revenue flows in two related streams: the technically-focused, contract-based FAA test and evaluation; and parallel development of UAS systems that address needs of that particular State, serving the State via cost reduction in its Public Safety operations or by technology transfer benefit to business, government, and society.

HB1478 provides funding for the next step in Hawaii, primarily along the second revenue path while indirectly supporting the first. HB1478 supports development of UAS concepts that serve needs of the State and its people. Essential within that workscope is the creation of 'operating manuals', or sets of operating principles, that derive from local agency or department rules, State, and Federal law; and establishment of basic UAS capability tied to specific Hawaii end-state user need thru user-driven workshops, field experiments, training, and initial operations.

HB1478 is an important step in the buildup of capability, community involvement, workforce development, and end-state user value. These results lead to increased UAS business for Hawaii, beyond the basic Test & Evaluation authorized by FAA. UAS business is fully capable of originating and growing in Hawaii, not restricted to a traditional heavy-manufacturing aerospace state. UAS is a different business model – closer to cellphone than aerospace. The UAS product areas anticipated to grow strongest and most fruitful over time are Analytic Software, Training, Services, and Counterdrone with specialized particular UAS designed to serve the different operational environments. There is no reason for Hawaii not to have a strong role in that future business with attention to the matter.

Strength in that business is necessary for another reason – the kids. UAS is a natural capstone of STEM and Tech Education efforts, consolidating the learning into products and systems. The kids (and their parents) expect strong Scholastic UAS programs in school; they further expect the University system to provide the Academic ‘professional’ framework for the extension into R&D; and they expect the State to have fostered a viable, vital Hawaii-based business structure for a career.

And for the last reason – again for the kids - increased tax revenue. UAS jobs tend to be upper-tier in regard to income. The resulting increased tax revenue is essential for our State.

HB1478 takes us that next step.

Thank you.

Ted Ralston

Waimanalo

738.6814