

**DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT & TOURISM**
KA 'OIHANA HO'OMOHALA PĀ'OIHANA, 'IMI WAIWAI
A HO'OMĀKA'IKĀ'I

JOSH GREEN, M.D.
GOVERNOR

SYLVIA LUKE
LT. GOVERNOR

JAMES KUNANE TOKIOKA
DIRECTOR

DANE K. WICKER
DEPUTY DIRECTOR

No. 1 Capitol District Building, 250 South Hotel Street, 5th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804
Web site: dbedt.hawaii.gov

Telephone: (808) 586-2355
Fax: (808) 586-2377

Statement of
JAMES KUNANE TOKIOKA
Director
Department of Business, Economic Development, and Tourism
before the
Senate Committee on Energy, Economic Development, and Tourism

Tuesday, January 30, 2024
1:30 PM
State Capitol, Conference Room 229

In consideration of
SB2081
RELATING TO ECONOMIC DEVELOPMENT

Chair Decoite, Vice Chair Wakai and members of the Committee.

The Department of Business, Economic Development and Tourism (DBEDT) **strongly supports** SB2081 which establishes the Aerospace and Aeronautics Development Program within DBEDT and makes an appropriation.

DBEDT is supportive of initiatives that promote economic diversification through technology as it is within the department's mission to embrace innovation in an effort to be globally competitive and dynamic. DBEDT agrees with the premise of the bill that the aeronautics and aerospace industries hold great potential to enable future development and innovation in science and technology in Hawai'i. DBEDT supports initiatives that intersect with aerospace and is supportive of leveraging Hawai'i's resources to help realize humankind's full potential in space and to establish the State as a major contributor to, and beneficiary of, global space enterprise.

Thank you for the opportunity to strongly support this measure.



Hawaii Technology Development Corporation
521 Ala Moana Blvd, Ste 255 | 808-539-3806
Honolulu, Hawaii 96813 | www.htdc.org

JOSH GREEN, M.D.
GOVERNOR

SYLVIA LUKE
LT. GOVERNOR

Written Statement of
Wayne Inouye
Interim Director
Hawaii Technology Development Corporation
before the
Senate Committee on Energy, Economic Development, and Tourism

Tuesday, January 30, 2024
1:30 PM
State Capitol, Conference Room #229

In consideration of
SB2081
RELATING TO ECONOMIC DEVELOPMENT

Chair Decoite, Vice Chair Wakai and members of the Committee.

The Hawaii Technology Development Corporation (HTDC) strongly supports SB2081 that establishes the Aerospace and Aeronautics Development Program within the Department of Business, Economic Development, and Tourism (DBEDT) and makes an appropriation.

HTDC supports initiatives that promote economic diversification through technology. HTDC agrees with the premise of the bill that the aeronautics and aerospace industries hold especially great potential to enable future development and innovation in science and technology in Hawaii. HTDC currently supports initiatives that intersect with aerospace and is supportive of leveraging Hawaii's resources to help realize humankind's full potential in space and to establish the State as a major contributor to, and beneficiary of, global space enterprise.

Thank you for the opportunity to testify.

Testimony on S.B. 2081

This testimony is being submitted in strong support of S.B. 2081, which outlines the State of Hawaii's strategic advantages and visionary leadership in space-related enterprise, as well as the pioneering role Hawaii can continue to play in helping advance humankind's understanding and exploration of the Cosmos by reestablishing an Aerospace and Aeronautics program at the Department of Business, Economic Development and Tourism (DBEDT).

Humanity is now embarking on a new and truly inspiring era of space enterprise. Public and private research institutions worldwide are pursuing increasingly innovative approaches to advance space exploration and development. Building upon these innovations, space-faring nations are currently working to both expand and diversify their cosmic ventures. Non space-faring nations will also benefit from the pioneering technologies emerging through this space revolution, which could provide creative and diverse pathways that ultimately would engage all of humanity on the frontiers of space.

There are, however, gaps in the global collaborative framework that today are preventing countries newly embarking on space enterprise from fully realizing their space potentials. There also are expanding needs to promote international collaboration on space safety, the challenges of space debris and other cosmic hazards, and ultimately the long-term sustainability of space enterprise. These issues will ultimately impact all nations, regardless of their current space-faring interests or capabilities. Enhanced international collaboration among governments, as well as private and public space entities, will also be essential to enable space policies and regulations that could effectively address these challenges, as well as to help reduce political, economic, and military conflicts in space.

Given it's strategic mid-Pacific location, resident expertise in science and technology, and ongoing alliances with professional research and development institutions worldwide, Hawaii is exceptionally well situated to serve as an innovative catalyst for launching both public-private and international partnerships that can help advance space enterprise for all humankind. The pioneering vision and goals set forth in S.B. 2081 provide an outstanding overview of the benefits space enterprise can bring to Hawaii, as well as a strategy that will both promote and advance our state's global leadership role on the frontiers of space.

As such, I strongly recommend that the Hawaii State Legislature approve this legislation, and would be happy to address any questions concerning this recommendation.

Mahalo nui loa,



Jim Crisafulli, President
The Alliance for Collaboration in the Exploration of Space
(ACES Worldwide)

SB-2081

Submitted on: 1/29/2024 11:41:02 AM

Testimony for EET on 1/30/2024 1:30:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---------------------|-------------------------------------|---------------------------|------------------------|
| Amber Imai-Hong | Testifying for Mahina Aerospace LLC | Support | Written Testimony Only |

Comments:

Dear Chair DeCoite, Vice Chair Wakai, and members of the Committee,

I am writing to express strong support of this bill that establishes the Aerospace and Aeronautics Development Program. As the CEO of Mahina Aerospace, a spinoff startup that originated from the Hawai'i Space Flight Laboratory, and as a Hawai'i island resident, I would like to see the diversification of our local economy, an increase in high paying jobs in our community, and more support of Aerospace programs and companies here in Hawai'i.

Starting a small business in Hawai'i is not easy, starting a tech company that has a hardware component even more so. The technology developed at the Hawai'i Space Flight Laboratory has the potential to make an impact on both Hawai'i's economy and the aerospace industry as a whole, but we need state support to make it happen.

Mahalo for your time,

Amber Imai-Hong



January 29, 2024

Dear Chair DeCoite, Vice Chair Wakai and Committee Members,

Maui Economic Development (MEDB) is pleased to **testify in support of SB2081 to establish the Aerospace and Aeronautics Development Program within the Department of Business, Economic Development, and Tourism.**

From MEDB's inception, we have viewed the cultivation of the aerospace sector as one of several key strategies for diversifying the economy of Maui County. More recently, the 2022 update to Hawaii's Comprehensive Economic Development (CEDS) Strategy reaffirmed the aerospace sector as a key emerging industry for Hawaii.

On Maui, examples include the annual AMOS Conference, the premier technical gathering related to space situational awareness in the world, which has served to showcase Maui's aerospace assets internationally. The companion EMER-GEN Program designed for students and young professionals pursuing careers in space, draws half its annual cohort from Hawaii-based universities and aerospace companies. Aerospace technologies are also an underpinning of Maui County's extensive activities in STEM education and career paths. MEDB's STEMworks program regularly taps the research and development expertise of that sector to bolster its teacher training, job shadowing, internships, mentoring and project-based learning initiatives.

Maui High Performance Computing Center, one of the largest supercomputing centers in the nation, resulted from the image processing needs of the Air Force. Homegrown companies like Cloudstone, EO Solutions, Hnu Photonics, Privateer, and Oceanit trace their beginnings to the opportunities in space surveillance and astronomy.

Under NASA's current Artemis program to sustainably return to the moon, the demand for high fidelity analog test sites is going to increase. Few agencies have the experience in providing logistic support, and access to sites as desirable as those on the Island of Hawaii such as PISCES and HISEAS.

Leadership in advancing the aerospace sector at the state level, coupled with the significant ongoing activities at the county level, would allow us to fully realize the benefits of this economy strategy for our residents for years to come.

Thank you for the opportunity to offer this testimony.

A handwritten signature in black ink, appearing to read 'Leslie Wilkins'.

Leslie Wilkins
President & CEO



House Committee on Economic Development
1:30 p.m., Tuesday, 30 January 2024
State Capitol, Conference Room 229
Senate Committee on
Energy, Economic Development, and Tourism

SB 2081

Relating To Economic Development: Establishes the Aerospace and Aeronautics Development Program

Aloha Chair DeCoite, Vice Chair Wakai, and Members of the Senate Committee on Energy, Economic Development, and Tourism:

My name is Jacqui Hoover and I have the privilege of serving as the Executive Director and COO of the Hawaii Island Economic Development Board, Inc. (HIEDB) a private, member-based 501(c)3 incorporated in Hawaii in 1984 committed to help strengthen and diversify the economy of Hawaii Island in collaboration with government and private sectors, and which has consistently supported Hawaii's aerospace industry. Concurrently I also serve as President and COO of Hawaii Leeward Planning Conference.

It is also my privilege to have served as Chair of the former Hawaii State Office of Aerospace Development Aerospace Advisory Committee comprised of a strong collaborative of public and private sector representatives committed to developing this viable industry and opportunities for job creation, research, education, public-private partnerships, economic diversification and resilience, and attracting federal and private investment.

HIEDB strongly supports SB 2081

In 2023, the Economic Development Boards updated the Comprehensive Economic Development Strategy (CEDs) developed as a condition for qualifying the State of Hawaii for U.S. Economic Development Administration (EDA) and other streams of federal funding, for each of the four counties and the State of Hawaii. All five reports identify innovation as key to economic recovery, growth, diversification, and resilience. Economic strategy must recognize the aerospace and aeronautical sector as part of the innovation that is paramount to creating new opportunities in the post-pandemic era. Aerospace and aeronautics were negatively impacted in a very profound manner however, using employment as a leading indicator for recovery and growth, note that employment nationwide the sector increased by 75,000 employees in 2022 with wages and benefits 55% higher than the national average. Statistics specific to Hawaii pre-pandemic for the sector are provided below to demonstrate the viability and importance of rebuilding this sector in Hawaii.

In addition to direct employment opportunities, the aerospace and aeronautics sector also support many ancillary and entrepreneurial opportunities including and not limited to adaptive manufacturing.

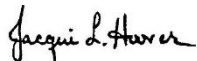
In a report for the Aerospace Industries Association on the economic impact of aerospace and defense issued for 2019, Hawaii’s aerospace sector was quantified as follows:

| Aerospace & Defense Workforce in 2019: | |
|--|----------|
| Total Jobs Supported By A&D in Hawaii | 697 |
| Direct Employment | 369 |
| Supply Chain Employment | 328 |
| Hawaii’s Share of the National A&D Workforce | 0.03% |
| Average Wage of an A&D Employee in Hawaii | \$73,354 |
| Total Wages Paid Out to A&D Employees (In Millions) | \$51 |
| Sales and Economic Output (2019) | |
| Total Economic Output (In Millions) | \$133 |
| A&D’s Gross Domestic Product (GDP) Contribution (In Millions) | \$67 |
| Direct Gross Domestic Product (GDP) Contribution (In Millions) | \$82 |
| Supply Chain Gross Domestic Product (GDP) Contribution (In Millions) | \$52 |
| A&D’s GDP Contribution as a Percent of Total State GDP | 0.07% |
| State & Local Tax Contribution (In Millions) | \$9 |

These statistics reflect the importance and contribution of what is still an “emerging” industry for Hawaii, and the establishment of an Aerospace and Aeronautics Development Program will ensure that appropriate consideration and resources are committed from both the public and private sectors.

Mahalo for this opportunity to share this information and testify in opposition to SB 2081.

Sincerely,



Phone: (808) 935-2180 Fax: (808) 443-0873
Mail: 67-1185 Mamalahoa Hwy, Unit D104 #353, Kamuela, HI 96743
E-mail: hiedb@hiedb.org Website: www.hiedb.org

SB-2081

Submitted on: 1/29/2024 12:59:49 PM

Testimony for EET on 1/30/2024 1:30:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---------------------|---|---------------------------|------------------------|
| Eric Pilger | Testifying for Interstel Technologies, Inc. | Support | Written Testimony Only |

Comments:

Dear Chair DeCoite, Vice Chair Wakai, and members of the Committee:

I am writing to express strong support of this bill that establishes the Aerospace and Aeronautics Development Program. As one of the founders of Interstel and an O'ahu resident of over 40 years, I would like to see the diversification of our local economy, an increase in high paying jobs in our community, and more support of Aerospace programs and companies here in Hawai'i.

Although small, our company has been able to provide opportunities for a number of UH students in both high tech and business disciplines. Some of the experience they gained enabled them to go on to various jobs in industry, or graduate school. We would love to be able to expand enough to welcome these individuals back as employees in Hawai'i. Growth is a challenge, however. Support from a program as proposed in this bill would helped bring us a lot farther toward achieving these goals, in a lot shorter period of time.

Mahalo for your time,

Eric Pilger
VP
Interstel Technologies, Inc.

SB-2081

Submitted on: 1/29/2024 2:01:21 PM

Testimony for EET on 1/30/2024 1:30:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---------------------|---|---------------------------|---------------------------|
| Jacqui Hoover | Testifying for Hawaii Leeward Planning Conference | Support | Written Testimony Only |

Comments:

Incorporated in 1974, Hawaii Leeward Planning Conference (HLPC) has a long history and successful record working collaboratively with our community, public, and private sector partners to ensure sound planning and development. Recognizing the innovative economic and education opportunities for the State of Hawaii offered by the Aerospace and Aeronautics industry, HLPC is in strong support of establishing an Aerospace and Aeronautics Development Program within the Department of Business, Economic Development, and Tourism.

SB-2081

Submitted on: 1/29/2024 1:18:11 PM

Testimony for EET on 1/30/2024 1:30:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---------------------|---------------------|---------------------------|----------------|
| Miguel Nunes | Individual | Support | In Person |

Comments:

Dear Chair DeCoite, Vice Chair Wakai, and members of the Committee:

I am writing to strongly support this bill establishing the Aerospace and Aeronautics Development Program. I work as the Deputy Director and Space Systems Engineer at the Hawai'i Space Flight Laboratory (HSFL) at the University of Hawai'i at Mānoa. I'm an O'ahu resident, and I would like to see the diversification of our local economy, an increase in high-paying jobs in our community, and more support of Aerospace programs and companies here in Hawai'i. Recently, in December 2023, we delivered a NASA satellite mission (Hyperspectral Thermal Imager funded by the NASA InVEST program at the Earth and Science Division at NASA) that was completely designed and built with students and faculty at the University of Hawai'i. This is potentially the first NASA mission 'made in Hawaii'. This is also the fourth satellite that has been built at UHM. More than 1000 students have been trained in aerospace and space systems at our lab over the past 15 years since I started working at HSFL, back in 2009. We have started the Earth and Planetary Exploration Technology (EPET) certificate program at UHM which has attracted students from the College of Engineering and the Science Departments. This program is now used for the capstone projects at the Aerospace Concentration within the Mechanical Engineering Department. We are currently at maximum capacity with this program and have so far been selected to launch a CubeSat mission with NASA. These students are learning how to design, build, and launch NASA missions. Most of these students, over 95%, leave for the mainland with good job offers from NASA and aerospace companies such as Raytheon, SpaceX, Northrup Grumman, Lockheed Martin, Blue Origin, and others. Many of these students tell me they would like to work at 'home', in Hawai'i, or at least come back soon and start a family here while working on their 'dream job'. If we incentivize the state government, academic research, and the private sector in Hawai'i, we can put the state on the map in terms of Aerospace development given the potential that exists in Hawai'i. Yet if there isn't support for this effort, we will lose the engineers and faculty who are training these students and building NASA space missions.

Mahalo for your time,
Dr. Miguel Nunes

SB-2081

Submitted on: 1/29/2024 12:19:06 PM

Testimony for EET on 1/30/2024 1:30:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---------------------|---------------------|---------------------------|---------------------------|
| J. Ryan Taylor | Individual | Support | Written Testimony Only |

Comments:

Dear Chair DeCoite, Vice Chair Wakai, and members of the Committee:

I am writing to express strong support of this bill that establishes the Aerospace and Aeronautics Development Program. As a student researcher at the Hawai‘i Space Flight Laboratory and an O‘ahu resident, I would like to see the diversification of our local economy, an increase in high paying jobs in our community, and more support of Aerospace programs and companies here in Hawai‘i. I have seen many, if not most, of my fellow engineers, (and the smartest and hardest working especially) who graduate from UH leave the islands to find suitable work. As the UH engineering department grows, so too should the programs that provide local opportunities, in my opinion.

Mahalo for your time,
J. Ryan Taylor

SB-2081

Submitted on: 1/29/2024 12:19:44 PM

Testimony for EET on 1/30/2024 1:30:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---------------------|---------------------|---------------------------|------------------------|
| Yosef Ben Gershom | Individual | Support | Written Testimony Only |

Comments:

Dear Chair DeCoite, Vice Chair Wakai, and members of the Committee:

I am writing to express my strong support in favor of bill SB2081, to establish the Aerospace and Aeronautics Development Program within DBEDT. As an RCUH employee working at the Hawai‘i Space Flight Laboratory at UH Mānoa, I help facilitate workforce development through the training of students and graduates working on various projects, and perform business development activities to bring in more opportunities and funding into the state through UH. Too often graduates are forced to leave their home here in Hawai‘i to work on the mainland, as very few opportunities are available for them to stay here and make a living. I believe and hope that establishing this program will help support and coordinate the efforts at the University and other stakeholders across the islands, foster more collaboration and innovation, promote more economic growth and diversification, and develop opportunities for our workforce to stay in Hawai‘i.

Mahalo Nui Loa,
Yosef Ben Gershom

SB-2081

Submitted on: 1/29/2024 1:25:59 PM

Testimony for EET on 1/30/2024 1:30:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---------------------|---------------------|---------------------------|------------------------|
| Lance Yoneshige | Individual | Support | Written Testimony Only |

Comments:

Dear Chair DeCoite, Vice Chair Wakai, and members of the Committee:

I am writing to express strong support of this bill that establishes the Aerospace and Aeronautics Development Program. As an engineer at the Hawai'i Space Flight Laboratory and a born and raised resident of O'ahu, I would like to see the diversification of our local economy, an increase in high paying jobs in our community, and more support of Aerospace programs and companies here in Hawai'i.

Mahalo for your time,
Lance Yoneshige

SB-2081

Submitted on: 1/28/2024 10:28:44 PM

Testimony for EET on 1/30/2024 1:30:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---------------------|---|---------------------------|------------------------|
| Jacob Wiencek | Testifying for Hawaii Young Republicans | Support | Written Testimony Only |

Comments:

Aloha Senators,

On behalf of Hawaii Young Republicans, we support this bill. Diversifying our economy and providing more socioeconomic opportunity is one of the defining challenges Hawaii faces. Increasing support to the aerospace sector is a worthy attempt at that and we urge this committee to support this bill!

SB-2081

Submitted on: 1/29/2024 11:16:45 AM

Testimony for EET on 1/30/2024 1:30:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---------------------|---------------------|---------------------------|------------------------|
| Christian Andersen | Individual | Support | Written Testimony Only |

Comments:

Dear Chair DeCoite, Vice-Chair Wakai and members of the Committee:

I am writing to express my strong support of S.B. 2081.

Globally, and domestically, the aerospace sector has seen sustained growth over the last decade with huge investments on the commercial side. The combination of reduced payload costs, increases in private launch providers, emergence of broadband satellite constellations, the renewed push towards a lunar presence, and the increased Space Force funding all portend well for future growth of the sector.

S.B. 2081 provides the right type of structure at the right time for Hawai`i to move its aerospace sectors forward. The State of Hawai`i boasts numerous academic, commercial, and governmental aerospace programs, but Hawai`i lacks a central coordinating body to facilitate collaboration and dialogue between these groups. Additionally, the State of Hawai`i would benefit from a governmental point of contact that provides a Hawai`i-based perspective and lends legitimacy in discussions, collaborations and negotiations between state-based entities and overseas organizations.

Please support S.B. 2081. It is a crucial step in the nurturing and growth of Hawai`i's aerospace sector that will pay rich dividends in the years to come. Thank you for this opportunity to offer comments.

Christian Andersen

SB-2081

Submitted on: 1/29/2024 11:44:29 AM

Testimony for EET on 1/30/2024 1:30:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---------------------|---------------------|---------------------------|---------------------------|
| Frances Zhu | Individual | Support | Written Testimony Only |

Comments:

Dear Chair DeCoite, Vice Chair Wakai, and members of the Committee:

I am writing to express strong support of this bill that establishes the Aerospace and Aeronautics Development Program. As an assistant professor at the Hawai'i Space Flight Laboratory and O'ahu resident, I would like to see the diversification of our local economy, an increase in high paying jobs in our community, and more support of Aerospace programs and companies here in Hawai'i.

We train and send amazing students to mainland companies that generate revenue and taxes for other states that could otherwise be reinvested here. We're at the cusp of maintaining a highly visible portfolio of space missions but lack the retention to keep trained engineers working on these projects. I implore you to strategically invest in a very successful and promising economic area of growth.

Mahalo for your time,

Frances Zhu