
A BILL FOR AN ACT

RELATING TO THE PACIFIC INTERNATIONAL SPACE CENTER FOR
EXPLORATION SYSTEMS.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

1 SECTION 1. The legislature finds that for the last fifty
2 years the State of Hawaii has partnered with the National
3 Aeronautics and Space Administration to develop and advance the
4 national space program -- beginning with the astronaut training
5 program for the Apollo lunar missions and including a broad
6 range of discoveries in astronomy and planetary geosciences,
7 satellite communications, space-based environmental monitoring,
8 deep-space surveillance, and other activities that have
9 established the United States as a global leader in space
10 exploration.

11 The legislature further finds that the State entered into
12 an agreement with the National Aeronautics and Space
13 Administration to expand the State's role as a contributor to
14 and beneficiary of the national space enterprise. The agreement
15 will enable the State to leverage strategic assets and
16 capabilities for space exploration, including the State's unique
17 geographical features, which resemble lunar and Martian terrain,



1 resident expertise in space science and technology, and
2 extensive research partnerships with other space programs
3 throughout the Asia-Pacific region.

4 The Pacific international space center for exploration
5 systems was formally established by the legislature by Act 169,
6 Session Laws of Hawaii 2012, to provide unique opportunities to
7 expand and diversify technology-based enterprises and education
8 statewide and to advance the national space program by
9 leveraging Hawaii's substantial assets and capabilities in space
10 exploration.

11 One goal for the Pacific international space center for
12 exploration systems is to develop a world-class space center in
13 Hawaii that can facilitate the design, testing, and validation
14 of new technologies that support both robotic and human missions
15 to space. Another goal is to serve as an economic driver for
16 the island of Hawaii that will promote the establishment and
17 growth of new sustainable and green industries along with
18 associated jobs, workforce development, internships, and
19 science, technology, engineering, and math education programs.

20 The legislature further finds that the Pacific
21 international space center for exploration systems has a unique
22 opportunity to facilitate and accelerate the development of



1 aerospace surface-system technologies by exploiting Earth-based
2 commercial applications in the State. The preliminary focus for
3 this program should be in research of a sustainable concrete
4 supply, robotic operator training and certification, and the
5 attraction of companies to presently unpopulated business
6 sectors in Hawaii.

7 For the study and development of a sustainable concrete
8 supply, the legislature recognizes that current market demands
9 for concrete in Hawaii are primarily met through imported cement
10 and asphalt. Research and development that enables innovative
11 technologies for basalt concrete composition and delivery is an
12 attractive and self-sustaining alternative to continued cement
13 and bitumen imports. Currently, the Pacific international space
14 center for exploration systems is working with the International
15 Space Exploration Research Institute of Hanyang University in
16 South Korea, the National Aeronautics and Space Administration,
17 including the Kennedy Space Center, the Ames Research Center,
18 and the Johnson Space Center, the University of Notre Dame, the
19 University of Hawaii at Manoa, the University of Hawaii at Hilo,
20 the American Society of Civil Engineers, and local industries to
21 identify, verify, and validate sustainable and in-situ concrete
22 binders using the existing basalt resources in the State. This



1 is a critical step toward realizing Hawaii's potential in this
2 industry and provides an investment in the future of Hawaii and
3 its economy by offering a self-sufficient and in-situ source of
4 concrete for local applications.

5 The legislature further finds that with increasing
6 technological availability of robotics for emergency response
7 and hazard mitigation, there is an emerging need for robotics
8 training and certification for civil and government robotic
9 operators. The Pacific international space center for
10 exploration systems is working with the Northern Center for
11 Advanced Technology in Canada to develop a robotic operator
12 training and certification program, and will be collaborating
13 with the University of Hawaii community college system on course
14 facilitation and development. Additionally, the Pacific
15 international space center for exploration systems is exploring
16 opportunities with the Northern Center for Advanced Technology
17 in underwater robotics.

18 The legislature further finds that the recent emergence of
19 private commercial space access and a resurgence of global space
20 initiatives will involve significant private sector investment
21 in the development, testing, validation, and verification of
22 robotics, broadband, energy production, energy storage,



1 recycling, and renewable and sustainable technologies that can
2 have immediate application to improve the economy and the
3 general well-being of the State. The legislature also
4 recognizes the need to formulate partnerships with private
5 industry to facilitate state-based manufacturing and operations
6 in conjunction with the associated local workforce development.
7 The Pacific international space center for exploration systems
8 is exploring possible partnerships with Planetary Power, which
9 produces solar and hybrid energy generation and storage systems,
10 to establish a Pacific base of operations in Hawaii to
11 facilitate the manufacturing of specific components for fixed
12 and mobile solar concentrator units that will offer higher
13 efficiency than photovoltaic systems, as well as hybrid
14 biodiesel systems.

15 The Pacific international space center for exploration
16 systems is also working to establish a memorandum of
17 understanding with Hawaii Techworks and the east Hawaii
18 community development corporation to ensure that there is a
19 skilled local workforce in place to support these manufacturing
20 operations.

21 The legislature further finds that all of these initiatives
22 align with current demands in the State, as well as President



1 Obama's Advanced Manufacturing Initiative, and represent
2 critical components for a stronger economy in the State.

3 The purpose of this Act, therefore, is to appropriate funds
4 to provide funding for the Pacific international space center
5 for exploration systems to manage and facilitate its work in
6 bringing aerospace technology and corporations to Hawaii, to
7 expand and diversify Hawaii-based industry, and to provide the
8 training relevant to prepare Hawaii's workforce for employment
9 in technology-related fields.

10 Funding appropriated through this Act will be used to
11 fund:

- 12 (1) Existing employee salaries and to create new
13 positions, including a marketing officer, a project
14 integration manager, an information-technology field
15 technician, and two student internship positions;
- 16 (2) Operational expenses, including the rental of staff
17 offices and warehouse space for Pacific international
18 space center for exploration systems hardware and
19 equipment; utilities; intrastate and interstate travel
20 to meetings and conferences; marketing costs
21 associated with website creation, graphic design, and
22 the development of brochures and trade advertising;



1 travel and lodging expenses for the Pacific
2 international space center for exploration systems
3 board of directors; and the Pacific international
4 space center for exploration systems conferencing
5 contracts; and

6 (3) The purchase of essential equipment, materials, and
7 services, including electronic test and design
8 equipment in support of robotics training and
9 education; mechanical equipment in support of robotics
10 training, the sustainable concrete project, advanced
11 manufacturing skills training, and ongoing testing of
12 robotic surface systems by the Pacific international
13 space center for exploration systems; command and
14 control equipment for new and existing robotic
15 hardware; situational awareness monitoring for robotic
16 operations training; software licensing; and a data
17 server for archiving project results, product designs,
18 and online training materials for a robotic operator
19 training course.

20 SECTION 2. There is appropriated out of the general
21 revenues of the State of Hawaii the sum of \$ or so much
22 thereof as may be necessary for fiscal year 2013-2014 for the



1 Pacific international space center for exploration systems for
2 personnel costs, operational expenses, and the purchase of
3 equipment, materials, and services.

4 The sum appropriated shall be expended by the department of
5 business, economic development, and tourism for the purposes of
6 this Act.

7 SECTION 3. The Pacific international space center for
8 exploration systems shall submit a report that includes:

- 9 (1) An updated business plan regarding the aerospace
10 technology research and development park project;
- 11 (2) Details on any progress made toward the development of
12 a world-class space center in Hawaii;
- 13 (3) The development of technologies for basalt concrete
14 composition and delivery and any effect on the level
15 of cement and bitumen imports into the State;
- 16 (4) The status of all working relationships with
17 educational and research institutions, federal
18 agencies, and local industry on the use of existing
19 basalt resources in the State to identify, verify, and
20 validate sustainable and in-situ concrete binders;
- 21 (5) Details on any progress made toward the development of
22 a robotic operator training and certification program,



1 including program location, course and curriculum
2 development, and when the program is expected to begin
3 accepting students;

4 (6) The level of private sector investment in aerospace
5 and related industries, including the number and
6 nature of any partnerships with private industry to
7 facilitate state-based manufacturing and operations
8 related to green energy technology;

9 (7) The status of the memorandum of understanding with
10 Hawaii Techworks and the east Hawaii community
11 development corporation regarding the cultivation of a
12 skilled local workforce to support planned
13 manufacturing operations; and

14 (8) A detailed statement of assets, liabilities, revenues,
15 and expenses for each fiscal year ending June 30,
16 to the legislature no later than September 1, 2013.

17 SECTION 4. This Act shall take effect on July 1, 2030.



Report Title:

Pacific International Space Center for Exploration Systems;
Appropriation

Description:

Appropriates an unspecified amount in general funds to PISCES.
Requires report to the Legislature by September 1, 2013.
Effective 7/1/2030. (SD1)

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