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

21 The legislature further finds that the Pacific
22 international space center for exploration systems has a unique



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

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



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

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

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



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

19 SECTION 2. There is appropriated out of the general
20 revenues of the State of Hawaii the sum of \$1,200,000 or so much
21 thereof as may be necessary for fiscal year 2013-2014 for the
22 Pacific international space center for exploration systems for



1 personnel costs, operational expenses, and the purchase of
2 equipment, materials, and services.

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

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

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



1 development, and when the program is expected to begin
2 accepting students;

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

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

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

16 SECTION 4. This Act shall take effect on July 1, 2013.



Report Title:

Pacific International Space Center for Exploration Systems;
Appropriation

Description:

Appropriates \$1,200,000 to support operations and the purchase of equipment required to support the Pacific international space center for exploration systems activities. Effective July 1, 2013. (SB1256 HD1)

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