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# 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, which 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  
15 agreement 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 statutorily established by the legislature in Act  
6 169, Session Laws of Hawaii 2012, to provide unique  
7 opportunities to expand and diversify technology-based  
8 enterprises and education statewide and to advance the national  
9 space program by leveraging Hawaii's substantial assets and  
10 capabilities in space exploration.

11 The goal for the Pacific international space center for  
12 exploration systems is to leverage these trends to develop 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 the 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 an 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 center for  
11 exploration systems is working with the Northern Center for  
12 Advanced Technology in Canada to develop a robotic operator  
13 training and certification program, and will be collaborating  
14 with the University of Hawaii community colleges on course  
15 facilitation and development. Additionally, the Pacific  
16 international space center for exploration systems is exploring  
17 opportunities with the Northern Center for Advanced Technology  
18 in underwater robotics.

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



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

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



1           The legislature further finds that all of these initiatives  
2 align with current demands in the State, as well as President  
3 Obama's Advanced Manufacturing Partnership, and represent  
4 critical components for a stronger economy in the State.

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

12           Moneys appropriated through this Act will be used to fund:

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



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

21 SECTION 2. There is appropriated out of the general  
22 revenues of the State of Hawaii the sum of \$ or so much



1 thereof as may be necessary for fiscal year 2013-2014 for the  
2 Pacific international space center for exploration systems for  
3 personnel costs, operational expenses, and the purchase of  
4 equipment, materials, and services.

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

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

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





1 (5) Details on any progress made toward the development of  
2 a robotics operator training and certification  
3 program, including program location, course and  
4 curriculum development, and when the program is  
5 expected to begin accepting students;

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

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

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

19 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 for operations, personnel costs, and the purchase of equipment required to support the Pacific International Space Center for Exploration Systems activities. Effective July 1, 2030. (SB1256 HD2)

*The summary description of legislation appearing on this page is for informational purposes only and is not legislation or evidence of legislative intent.*

