

## ACT 273

S.B. NO. 1256

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:*

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

The legislature further finds that the State entered into an agreement with the National Aeronautics and Space Administration to expand the State's role as a contributor to, and beneficiary of, the national space enterprise. The agreement will enable the State to leverage strategic assets and capabilities for space exploration, including the State's unique geographical features, which resemble lunar and Martian terrain, resident expertise in space science and technology, and extensive research partnerships with other space programs throughout the Asia-Pacific region.

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

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

The legislature further finds that the Pacific international space center for exploration systems has a unique opportunity to facilitate and accelerate the development of aerospace surface-system technologies by exploiting Earth-based commercial applications in the State. The preliminary focus for this program should be in the research of a sustainable concrete supply, robotic operator training and certification, and the attraction of companies to presently unpopulated business sectors in Hawaii.

For the study and development of a sustainable concrete supply, the legislature recognizes that current market demands for concrete in Hawaii are primarily met through imported cement and asphalt. Research and development that enables innovative technologies for basalt concrete composition and delivery is an attractive and self-sustaining alternative to continued cement and bitumen imports. Currently, the Pacific international space center for exploration systems is working with the International Space Exploration Research Institute of Hanyang University in South Korea; the National Aeronautics and Space Administration, including the Kennedy Space Center, the Ames Research Center, and the Johnson Space Center; the University of Notre Dame; the University of Hawaii at Manoa; the University of Hawaii at Hilo; the American Society of Civil Engineers; and local industries to identify, verify, and validate sustainable and in-situ concrete binders using the existing basalt resources in the State. This is a critical step toward realizing Hawaii's potential in this industry and provides an investment in the future of Hawaii and its economy by offering a self-sufficient and in-situ source of concrete for local applications.

The legislature further finds that with an increasing technological availability of robotics for emergency response and hazard mitigation, there is an emerging need for robotics training and certification for civil and government robotic operators. The Pacific international space center for exploration systems is working with the Northern Center for Advanced Technology in Canada to develop a robotic operator training and certification program, and will be collaborating with the University of Hawaii community colleges on course facilitation and development. Additionally, the Pacific international space center for exploration systems is exploring opportunities with the Northern Center for Advanced Technology in underwater robotics.

The legislature further finds that the recent emergence of private commercial space access and a resurgence of global space initiatives will involve significant private sector investment in the development, testing, validation, and verification of robotics, broadband, energy production, energy storage, recycling, and renewable and sustainable technologies that can have immediate application to improve the economy and the general well-being of the State. The legislature also recognizes the need to formulate partnerships with private industry to facilitate state-based manufacturing and operations in conjunction with the associated local workforce development. The Pacific international space

center for exploration systems is exploring possible partnerships with Planetary Power, which produces solar and hybrid energy generation and storage systems, to establish a Pacific base of operations in Hawaii to facilitate the manufacturing of specific components for fixed and mobile solar concentrator units that will offer higher efficiency than photovoltaic systems, as well as hybrid biodiesel systems.

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

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

The purpose of this Act, therefore, is to appropriate funds to provide funding for the Pacific international space center for exploration systems to manage and facilitate its work in bringing aerospace technology and corporations to Hawaii, to expand and diversify Hawaii-based industry, and to provide the training relevant to prepare Hawaii's workforce for employment in technology-related fields, and to require the Pacific international space center for exploration systems to report to the legislature on its activities.

Moneys appropriated through this Act will be used to fund:

- (1) Existing employee salaries and the creation of new positions, including a marketing officer, a project integration manager, an information-technology field technician, and two student internships;
- (2) Operational expenses, including the rental of staff offices and warehouse space for Pacific international space center for exploration systems hardware and equipment; utilities; intrastate and interstate travel to meetings and conferences; marketing costs associated with website creation, graphic design, and the development of brochures and trade advertising; travel and lodging expenses for the Pacific international space center for exploration systems board of directors; and the Pacific international space center for exploration systems conferencing contracts; and
- (3) The purchase of essential equipment, materials, and services, including electronic test and design equipment in support of robotics training and education; mechanical equipment in support of robotics training, the sustainable concrete project, advanced manufacturing skills training, and ongoing testing of robotic surface systems by the Pacific international space center for exploration systems; command and control equipment for new and existing robotics hardware; situational awareness monitoring for robotic operations training; software licensing; and a data server for archiving project results, product designs, and online training materials for a robotics operator training course.

SECTION 2. Chapter 201, Hawaii Revised Statutes, is amended by adding a new section to part V, subpart B to be appropriately designated and to read as follows:

**“§201- Pacific international space center for exploration systems; reporting requirement.** The Pacific international space center for exploration systems shall submit, no later than September 1 of each year, an annual report to the legislature that includes:

- (1) An updated business plan regarding the aerospace technology research and development park project;
- (2) Details on any progress made toward the development of a world-class space center in Hawaii;
- (3) The development of technologies and any concomitant effect on the level of resource imports into the State;
- (4) The status of all working relationships with educational and research institutions and federal agencies;
- (5) Details on any progress made toward the development of a robotic operator training and certification program;
- (6) The level of private sector investment in aerospace and related industries, including the number and nature of any partnerships with private industry to facilitate state-based manufacturing and operations related to green energy technology;
- (7) The status of the memorandum of understanding with Hawaii Techworks and the east Hawaii community development corporation regarding the cultivation of a skilled local workforce to support planned manufacturing operations; and
- (8) A detailed statement of assets, liabilities, revenues, and expenses for each fiscal year ending June 30.”

SECTION 3. There is appropriated out of the general revenues of the State of Hawaii the sum of \$400,000 or so much thereof as may be necessary for fiscal year 2013-2014 for the Pacific international space center for exploration systems for personnel costs, operational expenses, and the purchase of equipment, materials, and services.

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

SECTION 4. New statutory material is underscored.<sup>1</sup>

SECTION 5. This Act shall take effect on July 1, 2013.

(Approved July 9, 2013.)

**Note**

1. Edited pursuant to HRS §23G-16.5.