HOUSE OF REPRESENTATIVES
TWENTY-SEVENTH LEGISLATURE, 2014
STATE OF HAWAII

H.C.R. NO. 133

HOUSE CONCURRENT RESOLUTION

COMMENDING AND SUPPORTING THE PACIFIC INTERNATIONAL SPACE CENTER FOR EXPLORATION SYSTEMS' COLLABORATIVE WORK WITH THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AND PRIVATE INDUSTRIES IN THE AREAS OF BASALTIC CONCRETE AND ADDITIVE MANUFACTURING AND REQUESTING COLLABORATION TO EXPLORE OPPORTUNITIES FOR APPLICATIONS OF BASALTIC CONCRETE AND ADDITIVE MANUFACTURING.

WHEREAS, this body has been a strong supporter of the Pacific International Space Center for Exploration Systems since the Center's inception; and

WHEREAS, the Pacific International Space Center for Exploration Systems has gained substantial visibility at the National Aeronautics and Space Administration and various international space agencies; and

WHEREAS, the Pacific International Space Center for Exploration Systems has entered into research and development alliances with various private industry partners, including HoneyBee Robotics, Ontario Drive Gear, and Shackleton Energy; and

WHEREAS, as a result of the similarity of Hawaii's volcanic dust and lava to the regolith on the surface of the Moon and Mars, the Pacific International Space Center for Exploration Systems is assuming a global leadership role in the development of technologies that potentially will support the manufacture of concrete and other materials that may be used to construct facilities on other planetary bodies; and

WHEREAS, despite Hawaii's abundance of basalt in lava fields that could be used as a sustainable substitute for conventional concrete, almost all of the concrete used throughout the State is imported; and

WHEREAS, current market demand for concrete in Hawaii is primarily met through cement and asphalt imports, making research and development to support innovative technologies in basalt concrete composition and delivery an attractive and self-sustaining alternative to continued reliance on cement and bitumen imports; and

WHEREAS, new volcanic basalt and regolith based structural materials can be created in-situ using sintering, sulfur binding, polymer binders, thermite self-sintering, and synthetic biology binders; and

WHEREAS, new robotic technologies and digital manufacturing will allow three dimensional additive construction to be conducted on a large scale; and

WHEREAS, the Pacific International Space Center for Exploration Systems is one of four strategic partners that have been invited by the National Aeronautics and Space Administration to participate in a two to three year National Aeronautics and Space Administration funded research program on three dimensional additive construction using basalt regolith; now, therefore,

BE IT RESOLVED by the House of Representatives of the Twenty-seventh Legislature of the State of Hawaii, Regular Session of 2014, the Senate concurring, that this body commends and supports the Pacific International Space Center for Exploration Systems' work in basaltic concrete and additive manufacturing, in collaboration with the National Aeronautics and Space Administration and various private industries; and

BE IT FURTHER RESOLVED that the State is requested to collaborate with the Pacific International Space Center for Exploration Systems, county agencies, and private industries to explore opportunities for applications of basaltic concrete and additive manufacturing to reduce Hawaii's dependence on imported concrete; and

BE IT FURTHER RESOLVED that certified copies of this Concurrent Resolution be transmitted to the Administrator of the National Aeronautics and Space Administration, Director of the Office of Aerospace Development, and Chairperson of the Board of

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Directors of the Pacific International Space Center for Exploration Systems.

OFFERED BY: _____

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