THE SENATE
THIRTY-SECOND LEGISLATURE, 2023
STATE OF HAWAII

S.B. NO. 1510 S.D. 1

A BILL FOR AN ACT

RELATING TO UNIVERSITY OF HAWAII ASTRONOMY ENGINEERING AND INSTRUMENTATION.

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

SECTION 1. The legislature finds that astronomy contributes over $200,000,000 annually to Hawaii's economy, creates workforce opportunities throughout the State, and is an internationally recognized discipline of academic and research excellence at the University of Hawaii. Although the observatories on the islands of Hawaii and Maui are readily associated with Hawaii's astronomy industry, the industry is sustained by a wide range of ground-based support, technical expertise, and innovation in fields as diverse as remote sensing, opto-mechanics, robotics, and autonomous devices.

These ground-based activities take place, in part, at the several campuses and academic and professional programs of the University of Hawaii, including at the University of Hawaii at Hilo, University of Hawaii institute for astronomy facilities on the islands of Hawaii, Maui, and Oahu, and University of Hawaii at Manoa college of engineering. These support activities, in

turn, draw upon and nurture a diverse, talented, and robust science, technology, engineering, and math-trained workforce. However, a significant amount of the technology and instruments used by Hawaii's astronomical facilities are developed and fabricated outside of Hawaii.

The legislature further finds that, as the sole institution of public higher education in the State, the University of Hawaii has the unique capacity to draw upon its academic disciplines and professional engineering programs to serve as the hub for Hawaii astronomy engineering and instrument development. The University has successfully established and administers cross-discipline centers, such as the University of Hawaii institute for astronomy and University of Hawaii at Manoa school of ocean and earth science and technology.

The legislature further finds that the University of Hawaii is also uniquely situated to create viable career pathways in astronomical instrumentation though its network of community colleges. The demand for more formal educational, research, and career opportunities in space sciences and engineering fields continues to grow, especially with renewed federal and international interest in expanded space exploration. However,

less than fifteen per cent of engineering schools nationwide have focused or dedicated aerospace or related programs directly supporting these career paths. The University of Hawaii is poised to address this need, particularly through its workforce development programs at Maui college and Hawaii community college. The existing observatory facilities are appropriate platforms for instrumentation and technology development, facility innovation, and operational upgrade and advancement investigations and could thus expand employment opportunities for Hawaii's local high-tech workforce. In addition, a new facility dedicated to the development and fabrication of astronomical instruments would increase the instructional and educational offerings to Hawaii's students by providing student internships, undergraduate research opportunities, and exposure to engineering careers in astronomy.

The legislature further finds that, due to astronomy's importance to the State, establishing and funding a center dedicated to designing, developing, and fabricating instruments used in astronomy are in the public interest and are matters of statewide concern. The new center will augment and complement the existing core University of Hawaii faculty within the

college of engineering, institute of astronomy, school of ocean and earth science and technology, and University of Hawaii at Hilo who specialize in additive manufacturing and prototyping; electronics; mechanics; systems and servo controls; optics; software; lasers; and structural engineering. Further, the university would be responsible for the physical siting, organizational structure, and management of the center.

Therefore, the purpose of this Act is to sustain the continued prominence of Hawaii's astronomy industry by establishing and funding a center for the design, development, and fabrication of astronomical instruments within the University of Hawaii, including the funding of ten full-time equivalent faculty positions.

SECTION 2. (a) There is established within the University of Hawaii a center for the design, development, and fabrication of astronomical instruments.

(b) The University of Hawaii shall be responsible for the physical siting, organizational structure, and management of the center for design, development, and fabrication of astronomical instruments established pursuant to subsection (a).

SECTION 3. There is appropriated out of the general revenues of the State of Hawaii the sum of $ or so much thereof as may be necessary for fiscal year 2023-2024 for the planning and design of a center for the design, development, and fabrication of astronomical instruments within the University of Hawaii.

The sum appropriated shall be expended by the University of Hawaii for the purposes of this Act.

SECTION 4. There is appropriated out of the general revenues of the State of Hawaii the sum of $ or so much thereof as may be necessary for fiscal year 2023-2024 and the same sum or so much thereof as may be necessary for fiscal year 2024-2025 for ten full-time equivalent (10.0 FTE) faculty positions within the center for design, development, and fabrication of astronomical instruments established pursuant to section 2 of this Act; provided that the sums appropriated for each fiscal year shall be expended as follows:

(1) $1,150,000 for ten recurring full-time equivalent (10.0 FTE) faculty positions; and

(2) $750,000 for non-recurring start-up expenses for ten positions.

The sums appropriated shall be expended by the University of Hawaii for the purposes of this Act.

SECTION 5. This Act shall take effect on July 1, 2050.

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Report Title:
UH; Astronomy; Instruments; Center; Positions; Appropriations

Description:
Establishes a center for the design, development, and fabrication of astronomical instruments within the University of Hawaii. Appropriates funds for the center's planning and design and 10 full-time equivalent faculty positions within the center. Effective 7/1/2050. (SD1)

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