

## 2008 Innovations Awards Program APPLICATION

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ID # (assigned by CSG): 08-W-10HI

**Please provide the following information, adding space as necessary:**

State: **HAWAII**

Assign Program Category (applicant): **Infrastructure and Economic Development**

1. Program Name: **The Hawai'i Innovation Initiative**
2. Administering Agency: **Department of Business, Economic Development and Tourism**
3. Contact Person (Name and Title) Theodore E. Liu, Director
4. Address: **No. 1 Capitol District Building, 5<sup>th</sup> floor, 250 S. Hotel St., Honolulu, HI 96813**
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7. E-mail Address: **tliu@dbedt.hawaii.gov**
8. Web site Address: **www.hawaii.gov/dbedt/innovation**
9. Please provide a two-sentence description of the program.

**The Hawai'i Innovation Initiative (HII) is a comprehensive economic development program consisting of 5 key policy initiatives in:**

- o **Education (particularly STEM learning),**
- o **Workforce Development (including tax-free life-time learning accounts),**
- o **New Infrastructure for the Economy (including new wet-lab incubator space),**
- o **Linking Hawai'i to the Global Economy (by increasing international education opportunities for Hawai'i students), and in**
- o **State Government Leading by Example (including pioneering ubiquitous internet access and providing new economic measurements and monitoring)**

**to create an innovation-driven economy that enables Hawaii's creative and entrepreneurial talent to turn ideas into new products and services in both existing and new business sectors.**

10. How long has this program been operational (month and year)? Note: the program must be between 9 months and 5 years old on March 1, 2008 to be considered.

**The Hawai'i Innovation Initiative has been operational since May 2007.**

11. Why was the program created? What problem[s] or issue[s] was it designed to address? **The Hawai'i Innovation Initiative (HII) recognizes that the state's continued prosperity and ability to preserve its quality of life depends on reducing dependence on land as the chief driver of economic development and meeting the new challenges of the "global economy."**

12. Describe the specific activities and operations of the program in chronological order.

### **Innovation in Education**

Equip and significantly increase the numbers of Hawaii secondary school graduates with world-class analytical and problem solving skills developed through science, technology, engineering and math (**STEM**) education, beginning in middle school through college.

Provide incentives for families to make STEM education and career choices; provide opportunities for teachers for additional STEM training.

Significantly increase Hawaii secondary school graduates with STEM competencies ready to enter the workforce or to go on to post-secondary education.

1. **FIRST** (“Fostering Inspiration and Relevance from Science and Technology”) Academy: Engage middle school students with math, science, engineering, problem-solving and teamwork concepts in a project-based contextual learning environment, i.e. Robotics. **(Implemented)**
2. **HiEST** (“Hawaii Excellence through Science and Technology”) Academy: High school standards-based science and technology curriculum taught by community college instructors or teachers certified by the community colleges. **(Implemented)**
3. Significantly expand and standardize **business internship and mentoring programs** for secondary school students in order to prepare them to enter the labor force with work-ready skills.**(Implemented)**
4. Undergraduate tuition **scholarships** at in-state colleges for secondary school students completing the academy program and pursuing studies in STEM disciplines. **(Pending)**
5. **Professional Development for Teachers.** Provide practicing elementary, middle and high school teachers of science and mathematics with opportunities to increase their knowledge and understanding of recent developments in science, technology and mathematics. **(Implemented)**
6. Incentives to Enter STEM Teaching. Provide people with STEM degrees with stipends toward acquiring teaching certificates through the University of Hawaii's Post Baccalaureate Certificate in Secondary Education program. **(Implemented)**
7. Strengthen **higher education institutions** as “drivers” for innovation, including:
  - i) Recruit distinguished faculty through State match of private sector **endowment** of faculty chairs in STEM disciplines. **(Pending)**
  - ii) Increasing the number of licensing agreements and **commercialization opportunities** through private industry partnering with the Office of Technology Transfer and Economic Development (OTTED). **(Pending)**

### **Innovation Infrastructure for the Economy**

Create the infrastructure and environment in Hawaii that encourages the creation of ideas and their conversion to products and services that can be sold in global markets.

1. Create a **Hawaii Innovation Council** to guide and assess public and private sector initiatives and investments. **(Implemented by Executive Order)**
2. Support a private sector-led life sciences and biotech research facility and **technology incubator in Kaka`ako** near the University of Hawai`i John A. Burns School of Medicine. **(Implemented)**
3. **Invest in Hawaii's creative industry** by developing:
  - i) A **Digital Media Center** to act as a catalyst, incubator and aggregator for the development of a local film and digital media sector. **(Pending)**
  - ii) A **Music Enterprise Learning Experience (MELE)**: Applying the successful "Nashville" model from Belmont University to build the technical and business skills of Hawaii's artists in the music industry into a global business. **(Implemented)**
4. \$100 million professionally managed **Hawaii Innovation Fund** to provide capital for promising emerging companies. **(Pending)**

### **Innovation in Workforce Development**

Create life-long learning and skill-building opportunities for incumbent workers.

Institutionalize State's ability to respond to rapidly changing new skill-set needs of employees and employers.

Enhance "brain gain" by effective recruitment of returning kama`aina from around the world.

1. Create employee-centered portable "**Lifetime Learning Accounts,**" enabling employees already in the workforce to set aside pre-tax monies, matched by employers, for participation in approved training and education programs. **(To Be Re-introduced)**
2. Deploy a **Rapid Response Training program** to enable quick turn-around of training programs tailored to market-driven demand for specialized skill-sets. Examples include advanced avionics technicians (for new submarine to be based at Pearl Harbor), lab technicians (to attract new life sciences companies to Hawaii), digital media programmers (for emerging special effects firms in Hawaii). **(Pending)**
3. "**Kamaaina Come Home**" state-wide program enabling Hawaii businesses to track, contact and recruit Kamaaina to return to Hawaii job opportunities. **(Implemented)**
4. Merge **workforce development programs** with the State's economic development objectives. **(Pending)**

### **Innovation in Linking Hawaii to the Global Economy**

Create the infrastructure enabling Hawaii to seek and play a leading role in the Asia-Pacific region in areas that build on the State's competitive advantages.

1. Through the **Office of International Affairs** catalogue all international events, activities and programs in Hawaii and throughout the Asia-Pacific region which can be easily accessed by all Hawaii citizens and organizations through an internet portal. **(Implemented)**
2. Through a newly-established **International Affairs Council** and the State's Office of International Affairs, support and facilitate Hawaii's existing **Asia-Pacific-related organizations'** efforts to enhance the State's and its residents' global orientation, e.g., Pacific and Asian Affairs Council, Japan-America Society, East-West Center, and Asia-Pacific Center for Strategic Studies, Consular Corps, the military, etc. **(Implemented)**
3. Position Hawaii as **the Asia Pacific "gathering place"** where U.S. and Asian private, public and military leaders can meet in a welcoming and multicultural environment to discuss economic, security, natural resource and public health issues critical to the region, e.g., The Asian Pacific Homeland Security Summit & Exposition and the International Women's Leadership Conference. **(Implemented)**
4. Link Hawaii to existing and emerging **innovation and creativity centers** around the Pacific Rim, e.g., Silicon Valley or Singapore, San Jose or Shanghai, etc., to increase the exchange of people, products and ideas beneficial to Hawaii's innovation economy objectives. **(Implemented)**
5. Expand existing Hawaii-based **international leadership training and education programs** to include Hawaii high school and private sector participation. **(Implemented)**
6. Organize an **"International Education Links"** program that provides every Hawaii middle and high school **students with the opportunity to study abroad**, targeting Hawaii's "sister state" relationships. **(Implemented)**

#### **Innovation in State Government**

State Government will lead Innovation by example.

1. All State **permitting on line by 2010**, unless prohibited by law. **(On track to be implemented)**
  2. Upgrade State back-office and administrative functions through a **digital (paperless) network**. **(Implemented)**
  3. Create a **Chief Information Technology Officer** position. **(Pending)**
  4. Expand affordable **wireless broadband service** on all islands and **offer free internet service** in public areas of state buildings, public libraries and schools. **(Being Implemented)**
13. Why is the program a new and creative approach or method?
- The HII is one of the most comprehensive economic development programs ever implemented in the State of Hawai`i and is the centerpiece of the Lingle-Aiona administration's second term. The many-faceted program has been recognized and**

applauded by the National Governor's Association, and the National Science Board of the National Science Foundation.

The creative approach to the legislation was in the way Governor Lingle positioned the HII as a way for Hawai'i to move away from just developing land to create wealth and instead to developing our people's capacity to innovate as the key to Hawai'i's future in the global economy. This caught the public's attention, interest and endorsement.

14. What were the program's start-up costs? (Provide details about specific purchases for this program, staffing needs and other financial expenditures, as well as existing materials, technology and staff already in place.)

The Innovation Initiative is a complex set of programs, with no central budget, administered by a variety of state agencies. The following is a breakdown of the appropriations made by the 2007 Hawaii State Legislature and funding that has been obtained by other sources. It does not include those programs which did not yet receive any funding:

## EDUCATION

- A. **FIRST ("Fostering Inspiration and Relevance from Science and Technology") Academy administered by the University of Hawaii College of Engineering: \$314,925 in FY 08 and FY 09 for robotics; \$734,805 in FY 08 and FY 09 for the Research Experiences for Teachers program.**
- B. **HiEST ("Hawaii Excellence through Science and Technology") Academy administered by the Kauai Community College: \$261,020 in FY 08 and FY 09 for two high schools on Kauai. In addition to the legislative appropriation, the Department of Business, Economic Development & Tourism expended \$100,000 in FY 08 to initiate a pilot HiEST Academy at Waipahu High School and the Department of Human Services has committed to spend over \$3,000,000 to assist the Department of Education in starting HiEST programs in 8 additional schools.**
- C. **Business/education internship and mentorship program administered by the Department of Business, Economic Development & Tourism: \$110,000 in FY 08 and FY 09.**
- D. **Professional Development for Teachers administered by the University of Hawaii College of Education: \$175,000 in FY 08 and FY 09.**
- E. **Incentives to Enter STEM Teaching administered by the University of Hawaii College of Education: \$175,000 in FY 08 and FY 09.**

## ECONOMY

- A. **A Music Enterprise Learning Experience (MELE): \$150,000 in FY 08 and FY 09 administered by the University of Hawaii. In FY 2008, the Department of Business, Economic Development & Tourism provided an additional \$120,000 to start-up the program.**

## WORKFORCE DEVELOPMENT

- A. **"Kamaaina Come Home": \$225,000 in FY 08 and \$260,000 in FY 09 administered by the Economic Development Alliance of Hawaii under contract to the Department of Business, Economic Development & Tourism.**

## GLOBAL ECONOMY

No new funding was provided by the Legislature in FY 08. The Department of Business, Economic Development & Tourism, which administers the programs described under the Global Economy in Question 12 above, is expending approximately \$500,000 per year on these international programs.

15. What are the program's annual operational costs?  
**These are yet to be determined. The goal is to use the experience gained during the two-year start-up phase to develop a long-term strategy for funding the programs that does not rely on annual appropriations but includes funding in core departmental budgets.**
16. How is the program funded?  
**The programs are funded primarily by state general funds.**
17. Did this program require the passage of legislation, executive order or regulations? If YES, please indicate the citation number.  
**Parts of the overall program did require legislation. The education programs listed above were included in Act 111, 2007 Session Laws of Hawaii. Funding for the MELE program was included in Act 11, 2007 SLH.**
18. What equipment, technology and software are used to operate and administer this program?  
**NA**
19. To the best of your knowledge, did this program originate in your state? If YES, please indicate the innovator's name, present address, telephone number and e-mail address.  
**YES, we believe the breadth and depth of the HII is unique.  
"Innovator" contact info: see answers 3 through 7.**
20. Are you aware of similar programs in other states? If YES, which ones and how does this program differ?  
**We have seen pieces of the program from other States, but not the totality of the HII.**
21. Has the program been fully implemented? If NO, what actions remain to be taken?  
**The HII has begun to be implemented and continues to be addressed during this second year of the Biennial Legislative session.**
22. Briefly evaluate (pro and con) the program's effectiveness in addressing the defined problem[s] or issue[s]. Provide tangible examples.  
**Since the issues that the Innovation Initiative is designed to address are large and complex, the results, for example the transformation of the economy, will not be seen immediately. In addition to outcomes tied to the specific programs listed, there also has been a perceptible increase in the amount of attention being focused on these issues, especially in the area of education.**
  - **The first HiEST Academy pilot program has been established, providing students with a rigorous standards-based curriculum combined with contextual learning activities.**
  - **The robotics and RET programs funded under the FIRST pre-academy program have been expanded to more schools.**
  - **Legislative proposals not generated by the Administration are focusing on the need to increase the State's capacity to offer improved STEM education.**
  - **Education leaders in Hawaii, at both the K-12 and post-secondary, convened the STEM Leadership Conference, an on-going grassroots effort to significantly improve STEM education.**

- **The Board of Education recently adopted a new College and Career Ready optional diploma which includes more rigorous science, math and English requirements.**

23. How has the program grown and/or changed since its inception?

**An addition of Creative Academies has been added as an adjunct of STEM academies. Legislation is currently moving through the Legislature to implement this additional innovation in education.**

24. What limitations or obstacles might other states expect to encounter if they attempt to adopt this program? **The strength of the HII is that it is comprehensive and attempts to implement across the board best practices in economic development, particularly in the area of human development (education).**

## 2008 Innovations Awards Program Program Categories and Subcategories

Use these as guidelines to determine the appropriate Program Category for your state's submission and list that program category on page one of this application. Choose only one.

### *Infrastructure and Economic Development*

- Business/Commerce
- Economic Development
- Transportation

### *Government Operations*

- Administration
- Elections
- Public Information
- Revenue

### *Health & Human Services*

- Aging
- Children & Families
- Health Services
- Housing
- Human Services

### *Human Resources/Education*

- Education
- Labor
- Management
- Personnel
- Training and Development
- Workforce Development

### *Natural Resources*

- Agriculture
- Energy
- Environment
- Environmental Protection
- Natural Resources
- Parks & Recreation
- Water Resources

### *Public Safety/Corrections*

- Corrections
- Courts
- Criminal Justice
- Drugs
- Emergency Management
- Public Safety

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This application is also available at [www.csg.org](http://www.csg.org), in the Programs section.

**Deadline: March 1, 2008**