



**HTDC** *Cultivating*   
*Hawaii's tech sector*  
HIGH TECHNOLOGY DEVELOPMENT CORPORATION



new day



ANNUAL REPORT 2011

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## HTDC MISSION AND DUTIES

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The mission of the High Technology Development Corporation (HTDC) is to facilitate the growth and development of high technology as a viable industry sector in Hawaii's economy. HTDC is an agency of the State of Hawaii created by the State Legislature in 1983 and is administratively attached to the Department of Business, Economic Development and Tourism (DBEDT). HTDC's duties include, but are not limited to:

- developing industrial parks as high technology innovation centers and projects within or outside of industrial parks;
- providing support and services to Hawaii-based high technology companies;
- collecting and analyzing information on the state of commercial high technology activity in Hawaii;
- promoting and marketing Hawaii as a site for commercial high technology activity; and
- providing advice on policy and planning for technology-based economic development.

(HRS Chapter 206M-2)



Yuka Nagashima  
Executive Director



Assumpta Rapoza  
Board Chair

## Message from Executive Director Yuka Nagashima and Board Chair Assumpta Rapoza

In 2011, it is undeniable how products of technology and innovation are connecting the world like never before. Individually, we are becoming the fabric of a globally woven community, and the boundary between business and pleasure is evolving; further being consumed by social media. Our increasing community interaction has pushed society toward principles of collaboration, open innovation, and sustainability. At the High Technology Development Corporation, we have embraced these values and formed partnerships that collectively support our mission of serving Hawaii's technology sector. As we look back on the past year, we celebrate the advances of our state's tech community, and invite you to imagine how the innovations made today will be used in our lives in the coming years.

Since last year's annual report:

On CNN, we anguished watching the devastation in Japan unfold in real-time via Twitter reports, YouTube videos, and Skype interviews. We witnessed how individuals are empowered with the tools to rapidly share life experiences from a very personal perspective. We also felt how closely we are all connected as CBI Polymers, a Hawaii company, contributed to the remediation efforts.

Queen Elizabeth II joined Facebook, becoming one of 750 million active users on the social media site. As social media redefines the way we are all interconnected, online communication becomes our direct passage to the world. Through the broadband initiative, HTDC continues to work with our political leadership and business community on providing the ubiquitous high speed connectivity required to compete in the changing global economy.

The Apple iPad tablet was born unlocking a new generation of mobile productivity and communication. Apps, games, and streaming video have become a part of our everyday lives, our kids' lives, and our parents' lives. Whether from the Manoa Innovation Center, downtown Honolulu, or neighbor islands, our tech community is now delivering their inventive content to the world in diverse ways ranging from social gaming to autism training.

It cannot be overstated that during these continuing tough economic times it is imperative for us to work together as a community to keep the industry moving technology and innovation forward in Hawaii. At HTDC, we continue to leverage federal funds through the SBIR and Manufacturers Extension Partnership programs to support germinating entrepreneurs as part of our mission. At this juncture, this alone is not enough. We are leveraging the \$13 million of federal funds our partners at HSDC are investing into Hawaii tech startups. We are assisting the dual-use community turning military R&D technologies into commercialized products by supplementing their efforts with matching Hawaii SBIR funds. We need to continue sustainability efforts like the Energy Audit where we teamed with Hawaii Energy to create more of a community impact. And we foster forums like the Software Skills Panel where we joined together with the Workforce

Development Council, University of Hawaii, and the Department of Labor and Industrial Relations to address industry competitiveness issues. In the coming year, we will continue to further our community development through public/private partnerships.

As a closing thought, technology and innovation take many forms. Sometimes the breakthrough is not the invention of something new - it can be the marriage of unique contributions for a collective purpose to create the needed synergy. At HTDC, partnerships provides us our strength, our passion, knowledge, experience and commitment will continue to make positive impacts to further our technology industry. It is our belief that you are part of 'us' to help the future of the technology industry in the state.

Aloha,  
Yuka Nagashima, Executive Director and CEO  
Assumpta Rapoza, Board Chair

MANOA INNOVATION CENTER

# Incubation nourishes Innovation

The Manoa Innovation Center (MIC) offers fresh tech start-ups the location and services to grow their business into a commercially viable and fruitful enterprise. Whether an on-site tenant or a virtual one, MIC provides a rich habitat filled with other like-minded companies to stimulate the process of innovation. Learn more at [www.htdc.org](http://www.htdc.org).

**HTDC**  
HIGH TECHNOLOGY DEVELOPMENT CORPORATION  
*Cultivating Hawaii's Tech Sector*

Phone: **(808) 539-3616** • Web: [www.htdc.org](http://www.htdc.org)  
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The Manoa Innovation Center (MIC) is a business incubation program designed to provide entrepreneurs in the technology and innovation field a common place to gather, learn and grow a business. In this engaging habitat, HTDC provides office space to qualified companies who are looking for a place to:

- Grow their business with flexible lease terms that reflect the needs of entrepreneurs
- Discover valuable business resources and funding opportunities
- Develop skill sets to realize their companies' potential
- Learn from other mentors in their industry, and
- Increase their professional network.



The MIC is a 42,000 square foot facility and has helped 130 tech start-up companies since 1993 with incubation office space. Developed by the State of Hawaii in partnership with the University of Hawaii, it is one of the first true technology incubators in Hawaii. Occupants of this facility have the opportunity to rent office space at low cost and use shared office equipment and conference rooms of various sizes. The most recent client companies to join MIC are: **Cardax, Translucent Analytics, and Keahole Solar Power.**

## MANOA INNOVATION CENTER (MIC)

### **MIC Metrics 2011**

Clients: 27

Average Occupancy Rate: 98%

Average Tenure: 3.4 years

New Clients: 3

Graduates: 3

Failures: 0

Overall Success Rate: 75%

Highlights from our MIC incubation tenants in fiscal year 2011:

- **PUKOA SCIENTIFIC:** Awarded the Pacific Business News #31 Fastest 50 Award in August 2010. The award is based on company growth percentage.
- **ADAMA MATERIALS:** Received \$4.75M in equity investment from two venture capital companies and other investors.
- **IKAYZO:** Published in New York Times on December 30, 2010 for launching a tool to help Japanese Companies avoid embarrassing English.

## Manoa Innovation Center Incubation Companies, FY2011

### Activision.tv

**Activision.tv** uses its patented Computer Integrated Television (CIT), Works-in-a-Box (WIB) modular computer component and its Digital Media Delivery System (DMDS) systems to provide a turnkey solution for narrowcast networks. [www.activision.tv](http://www.activision.tv)



**Adama Materials** is a materials science company focused on the development and commercialization of patented nanotechnologies to significantly improve the mechanical performance of composite structures. [www.adamamaterials.com](http://www.adamamaterials.com)



**Alakai Consulting & Engineering** is a defense contracting corporation. Their expertise spans the gamut from general engineering, systems engineering, applications engineering, marketing consulting, management consulting, and project management consulting. [www.alakai.us](http://www.alakai.us)



**AMEL Technologies** conducts energy research and consulting. Research and development is done in energy conservation by building industry and mechanical engineering design. [www.ameltech.com](http://www.ameltech.com)



**AsiaPacificFilms.com** streams culturally and historically significant films from Asia and the Pacific that entertain, educate and inspire viewers to think beyond boundaries. They use the latest streaming technology, an experienced team of programmers, notable scholars, critics, and curators who carefully select the films to provide service to subscribers in DVD quality. [www.asiapacificfilms.com](http://www.asiapacificfilms.com)

### ATCO SOFTWARE INC

Web-Based Reservations for the Concierge Desk, Timeshare Operator, Attractions Provider and Restaurants

**ATCO's** goal is to provide global, real-time connectivity among all of the participants of the Attractions Industry through a suite of web-enabled software components that includes reservation systems, voucher systems and other software that is essential for participation in the industry. ATCO automates the processing of a voucher by the sales agent, and/or the taking of the reservation by an activity provider or restaurant. The software provides for real-time online connectivity between industry participants, as well as between each participant's website and their reservation or vouchering software. [www.atcosoftware.com](http://www.atcosoftware.com)



**Autism Training Solutions** is an online education company dedicated to training professionals and parents in evidence-based autism interventions. [www.autismtrainingsolutions.com](http://www.autismtrainingsolutions.com)



**CARDAX** Cardax Pharmaceuticals is developing a platform of proprietary, exceptionally safe, small molecule compounds for large unmet medical needs where oxidative stress and inflammation play important causative roles. [www.cardaxpharma.com/](http://www.cardaxpharma.com/)



**ChipIn** (doing business as Sprout) improves the way brands connect with consumers by creating and delivering personally relevant Engage Ads and Engage Apps across publisher sites and social networks. With Sprout, brands can drive engaging online experiences that are rich, interactive, and socially connected. [www.sproutinc.com](http://www.sproutinc.com)



**Concentris Systems LLC** provides wireless networking technology for communications in rugged and severe-duty applications. Concentris pioneered the versatile RapidLink® mesh network architecture that offers reliable, secure, high performance wireless data networking for situations where conventional data networking techniques are impractical. Concentris also offers consulting, development, and integration services that provide customized solutions in the wireless communication technology field. [www.concentris-systems.com](http://www.concentris-systems.com)



**GPNE Corp.** is a research and development company. One of the primary focuses of GPNE Corp. is improving next generation wireless Internet technologies. [www.gpnecorp.com](http://www.gpnecorp.com)



**Ikayzo** is a boutique IT consulting firm and software development company specializing in business critical web application development and localization. We provide end to end web and desktop application development services including product definition, design, development, testing, localization, and online marketing in the US and Japan. [www.ikayzo.com](http://www.ikayzo.com)



**Island Pacific Energy** is a local renewable energy company offering solar energy systems and solutions. Island Pacific Energy offers special programs for consumers, businesses, non-profits and government agencies to make renewable energy systems more affordable. Island Pacific Energy's goal is to reduce Hawaii's carbon footprint and contribute to a more sustainable environment. [www.islandpacificenergy.com](http://www.islandpacificenergy.com)



**Keahole Solar Power, LLC** is an independent clean energy company focused on solutions and technologies to enable development of micro-utility scaled solar farms in the 1 to 25 megawatt class in the state of Hawaii. KSP is helping Hawaii achieve its Clean Energy Initiative by developing solar farms which reduce the use of fossil fuels and improve Hawaii's energy security. KSP's proprietary solar farm solutions bring reliable green energy to the Hawaii's utility grid. Our goal is to bring an aggregate of 30 megawatts of solar power to Hawaii by 2015. [www.keaholesolarpower.com](http://www.keaholesolarpower.com)



**Kuehnle AgroSystems Inc.** conducts research and development in magnetophoresis, a process that addresses the shortcomings of existing macromolecule transfer technologies used for medical, agricultural and aquacultural applications. [www.kuehnleagro.com](http://www.kuehnleagro.com)



**LessonTracks**

**LessonTracks** develops interactive media technologies that improve the delivery of quality outreach and education. LessonTracks develops applications to create and deliver immersive discovery learning tools that engage and excite audiences. [www.lessontracks.com](http://www.lessontracks.com)





### People Bridge

**People Bridge** provides unique and relevant online services for local businesses, organizations and residents. With a focus on building communities, they enable local connections and bonds at the neighborhood and metro area. [www.peoplebridge.com](http://www.peoplebridge.com).



**Pukoa Scientific** is focused on the research, development, engineering, and fabrication of next generation high-quality, pattern recognition systems and components. They provide customized hardware, proprietary and open algorithms, and software and analysis for military, security, medical, and commercial problems. [www.pukoa.com](http://www.pukoa.com)



**Sanjole's** team leverages years of expertise in broadband fiber and shipboard radar testing to develop the next generation wireless test equipment. [www.sanjole.com](http://www.sanjole.com)



**Spectrum Photonics** focuses on the development and commercialization of technologies for Defense, Homeland Security, and related non-military (dual-use) sensor oriented applications. [www.spectrum-photonics.com](http://www.spectrum-photonics.com)



**TeraSys Technologies** specializes in the design and manufacturing of broadband, high power RF and microwave electronics. Their core competencies include microwave monolithic integrated circuit (MMIC) and microwave integrated circuit (MIC) development covering HF through microwave frequencies. [www.terasystechnologies.com](http://www.terasystechnologies.com)

**Technical Research Associates** develops innovative tools for multi-spectral and hyperspectral understanding to support the Navy, Army, Air Force, DARPA, multiple prime contractors and commercial clients. [www.tracam.com](http://www.tracam.com)



**Translucent Analytics LTD.** is a Hawaii corporation that develops proprietary systems and quantitative analytics to execute arbitrage transactions in the global financial markets.



**TutorHawaii** is currently operating in the Supplemental Educational Services (SES) tutoring segment of the afterschool program market. The intended software solution to be developed will provide a complete web based life cycle management platform, be user friendly, and cost effective. [www.tutorhawaii.com](http://www.tutorhawaii.com)



**Zero Emissions LLC** is a developer of large-scale (more than 100 kilowatts) solar power generation projects. [www.zeroemissions.us](http://www.zeroemissions.us)

## Virtual Incubation Program

For businesses that are home-based or in true start-up mode, HTDC's Virtual Incubation Program (VIP) offers a variety of similar services formally only available to physical tenants in the facility incubation program. This program often serves as a trial service to the full facility Tech Center incubation program.

### Virtual Incubation Metrics FY2011

Clients: 21

New: 8

Total to Date: 62

In 2004, the U.S. Economic Development Administration (EDA) technical assistance grant which helped to build the Virtual Incubation Program was awarded to HTDC and completed last fiscal year in March 2009. Through this grant, HTDC was able to build a pilot program that allowed us to extend the incubation program beyond the physical walls of facilities such as MIC and the Maui Research and Technology Center despite the harsher economic climate that affected both businesses and government alike. The pilot program was a success and continues to thrive in 2011. The most recent companies to join the program for 2011 are: **Ohana Investment Works, Solazyme, Inc, Renewable Water Technologies, Inovus Solar, Tutor Hawaii, HITMethods, Voyage Innovative Technology, Inc., and Cloudal Corp.**

## Service Provider Program

The High Technology Development Corporation's Service Provider Program helps high tech companies access consultants in areas entrepreneurs often need the most assistance.

The Service Provider program is based on public-private sector partnerships between HTDC and experienced business professionals. The providers give hands-on assistance with business plan development, marketing planning and research, competitive information, strategic evaluation, human resources and employee benefits and financial planning.

The service providers have experience with start-up companies in technology and related industries, and are well aware of the challenges faced by fledgling businesses in the first few years of business. Providers also offer workshops in their area of expertise, participate in HTDC company review committees when invited and are listed on a public website.

### Core Business Resources:

- Legal
- Business Strategy
- Marketing
- Human Resources
- Personal Development
- Financial Operations

## Workshops, Seminars and Special Events

HTDC's workshops and seminars provide clients, entrepreneurs and professionals alike with resources to help identify the next steps in their business growth in interactive and educational sessions.

During workshops at the Manoa Innovation Center, companies can benefit from experts in Social Media, Sales and Marketing, Finance, commercial leasing, funding, and business analysis and legal issues.

HTDC partners on events with organizations including Hawaii Strategic Development Corporation, the Entrepreneurs Foundation, HiBeam, Enterprise Honolulu, the Maui Economic Development Board, the Hawaii Island Economic Dev Board, Kauai Economic Development Board, the Department of Business, Economic Development and Tourism, and the University of Hawaii.

HTDC has sponsored the following events:

- Basics of Social Media Marketing Parts I & II (11/05/10, 12/15/10)
- The ABCs of Leasing Commercial Office Space (09/08/11)
- Closing the Deal – Sales and Marketing Parts I & II (05/04/11, 06/29/11)
- Tech Symposium: Entrepreneurial Development Programs, a Best Practices Symposium (12/16/10)
- Global Partnership Opportunities with the British Consulate General of Los Angeles (8/30/10)
- iFinance: What you need to know if you're not the CEO (03/16/11)
- Lunch and Learn: Get the Word out on Your Business (03/09/11)
- Lessons Learned by a Serial Entrepreneur: Tim Dick, CEO of Adama Materials (6/9/11)
- Software Skills Panel Forum (3/31/11)
- Tax Seminar: Update on Federal and Hawaii R&D Tax Credits for Research and Manufacturing Companies (1/27/11)
- SBIR: Info Sharing on Federal Grant Funding through USDA (06/28/11 on Oahu, 06/29/11 in Kailua-Kona, 06/30/11 in Hilo, Hawaii, 07/01/11 in Lihue, Kauai)
- SBIR Information Sharing and Networking event (04/28/11, 12/15/10)
- UH College of Engineering Career Fair (10/15/10)
- MEP: Export University (06/04/11, 06/11/11)

## TechJobsHawaii.org

**TechJobsHawaii and techjobshawaii.org:** Bridging the Gap between Hawaii's Tech Industry and Kamaaina Talent

Over the past 11 years, HTDC has served the tech industry through public and private partnerships to assist with building a pool of skilled workforce. TechJobsHawaii and Hawaii's tech industry target the kamaaina living on the mainland, providing them with information and opportunities to meet the innovative companies up close and personal. Educating the local talent is also important, and is done through events at the University of Hawaii and outreach to local organizations and schools. The tech industry utilizes the [www.techjobshawaii.org](http://www.techjobshawaii.org) as a major tool to advertise their career opportunities and find qualified workers in the resume databases. From large corporations such as Hawaii Health Systems Corporation and the new Disney Aulani Resort to local technology companies like Sopogy, Oceanit, or Akimeka, [www.techjobshawaii.org](http://www.techjobshawaii.org) is being utilized as a useful hiring tool.

### **2010 Holiday Science & Tech Fair**

The Annual Holiday Science & Tech Fair was held on December 29, 2010 at the Japanese Cultural Center Ballroom. The event brought Hawaii's tech industry together to promote their companies' products, services, and career opportunities to Hawaii's skilled kamaaina workforce. The event is marketed to mainland colleges and Hawaii focus organizations so kamaaina returning home for winter vacation can meet tech companies and find opportunities in internships and future positions.

Over 22 companies participated, including Archinoetics, Navatek, Decision Research, Referentia Systems, Team Praxis, as well as demonstrations by the McKinley High School Robotics team. Free resume checks for attendees was done by Adecco Technical staffing as another feature of this year's event.

### Maui Research and Technology Center

The Maui Research and Technology Center (MRTC) is strategically located in the 415-acre Maui Research and Technology Park in Kihei. This research and development facility also doubles as an incubator for small start-ups and remains to be HTDC's hub for support to science and tech companies, and the UH Distance Learning Class. MRTC also administers a Maui Virtual Incubation Program for those smaller companies who do not require office space.

#### MRTC Metrics FY2011

Clients: 6  
Avg. Occupancy Rate: 66%  
Avg. Tenure: 9 years  
New Clients: 1  
Graduates: 0  
Failures: 0  
Overall Success Rate: 56%

### MRTC Tenants FY2011



The Maui High Performance Computing Center (MHPCC DSRC) Department of Defense (DoD) Supercomputing Resource Center, established in 1993, is an Air Force research Laboratory (AFRL) Center managed by the University of Hawaii under contract to the Air Force Research Laboratory's Directed Energy Directorate at Kirtland Air Force Base, New Mexico. The MHPCC DSRC operates as one of the six DoD Supercomputing Resource Centers in the DoD's High Performance Computing Modernization Program (HPCMP). The MHPCC DSRC allocates more than 70,000,000 computational hours annually to the HPCMP Research, Development, Test, and Evaluation community.



Oceanit Laboratories is a diversified research & development company in areas such as marine-based biotechnology, space situational awareness, remote environmental monitoring, biophotonics, and transparent medical monitoring. [www.oceanit.com](http://www.oceanit.com)

#### **Schafer**

Schafer provides engineering and technical services to U.S. governmental agencies, primarily in areas associated with national security and aerospace. Schafer maintains expertise in key technical areas, such as lasers, optics, aerospace defense, space control, and missile defense. [www.schafercorp.com](http://www.schafercorp.com)



**Sotera Wireless Inc.** has developed a new method for measuring continuous blood pressure without a cuff. The technology has expanded to become a platform for wireless body-worn patient monitoring. [www.soterawireless.com](http://www.soterawireless.com)



The University of Hawaii Center delivers higher education programs (Associate, Baccalaureate, and Graduate levels) and customized training. Videoconferencing facilities are also available through the University of Hawaii Center's location at MRTC. [www.umaiui.net](http://www.umaiui.net)

### **Economic Development Administration Award Update:**

With a special mahalo to the Department of Commerce Economic Development Administration (EDA) and Ms. Gail Fujita, who represents Hawaii and the Outer Pacific, HTDC successfully continues with the Hawaii Entrepreneur Campus for Innovation Economy award.

According to the executive summary in EDA's October 2009 report entitled *Crossing the Next Frontier: Information and Analytics Linking Regional Competitiveness to Investment in a Knowledge-Based Economy*, "economic development success is no longer achieved primarily through traditional industrial recruitment." In a global economy, competing based on cost alone will have limited success. Rather than emphasizing incentives, subsidies, and low-cost low-skill labor, the new race is won by regions with the capacity to innovate and with the brainpower—education and skills—needed to create and sustain a competitive advantage over the long run. Successful regions build on their own unique qualities and advantages.

HTDC, via this EDA award, strives to organize innovation activities to help Hawaii entrepreneurs succeed with their own unique capabilities and advantages. Samples of sponsored events were:

#### ThinkTech Hawaii Digital Library

One of the EDA award goals was to establish a library of resources and best practices. HTDC believes we fulfilled this goal in part by helping sponsor ThinkTech Hawaii's mission to create and disseminate videos of events and news makers relating to technology and globalism in Hawaii. Helpful information for entrepreneurs is available online and via the website [www.thinktechhawaii.com](http://www.thinktechhawaii.com). This acts as a digital library of interviews of community leaders which are packaged to be useful sources of information for entrepreneurs and stakeholders throughout the State. Access to this type of information helps the community be more successful and increase its global competitiveness.

#### Entrepreneurial Development Programs a Best Practices Symposium

On December 16, 2010 HTDC along with partners Hawaii Strategic Development Corporation (HSDC) and Enterprise Honolulu hosted a symposium whose goal was to allow participants from Hawaii's State and local government, the technology industry and technology investment organizations learn from the experiences of other states that have implemented successful entrepreneurial development programs. The program featured three speakers presenting their own State's model of entrepreneurial development assistance and its features that make their program a success. The states represented and their representatives were:

Ray Leach, CEO – JumpStart Inc., Ohio  
Tom Walker, President & CEO – i2E, Inc., Oklahoma  
Joni Cobb, President & CEO – PIPELINE, Kansas



## Hawaii Small Business Innovation Research Assistance and Matching Grant Program

*Growing Hawaii's Tech Industry through Federal Partnerships*

### SBIR/STTR

The federal Small Business Innovation Research (SBIR) is a research and development program that annually funds \$2.6 billion to small businesses to develop innovative solutions for critical problems in the U.S. SBIR is one of the largest sources of seed funding for technology development in the U.S., and often helps further the development of promising new ideas to a point where the innovations are of interest to private investors.

The SBIR program competitively awards winning proposals developed by small businesses in response to topics and solicitations posted by the SBIR agencies. Eleven federal agencies participate in SBIR: U.S. Departments of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, Homeland Security, Transportation; Environmental Protection Agency; NASA; and National Science Foundation. Phase I awards are typically \$100,000 to conduct a feasibility study of the project; average Phase II awards are usually \$750,000 to conduct a proof of concept and develop a working prototype of the innovation. The SBIR program encourages small businesses to commercialize the innovations seed funded by SBIR.

HTDC has actively supported the SBIR program since 1989. Prior to the Hawaii SBIR matching grant program and HTDC's efforts to train local firms through conferences and counseling, only two known companies in Hawaii were participating in SBIR. By the end of June 2010, 77 Hawaii companies won 359 SBIR/STTR awards and attracted nearly \$83 million in federal awards to Hawaii, plus another \$63 million in commercialization investments. Since 1989, the State has invested \$5,420,930 in local firms that participated in the SBIR program. For every dollar invested, Hawaii companies have attracted 15 federal dollars in return to the State, plus commercialization funding.

Small Business Technology Transfer (STTR) is a sister program to SBIR, and requires a research institution (often a university) to partner with the small business. The five largest SBIR agencies fund STTR.

HTDC encourages and supports Hawaii firms to successfully participate in SBIR through counseling, training workshops, proposal development consulting, and the State of Hawaii matching grants. In addition, the HTDC-Manufacturing Extension Partnership (MEP) supports SBIR firms with product development, market research and related consulting.

In FY2011, HTDC provided assistance to and awarded \$260,000 in State matching grants to 11 companies that won 20 SBIR and STTR federal grants and contracts valued at \$1,985,781. Williams Aerospace (Oahu), HNU Photonics (Maui) and Hawaii Hydrogen Carriers (Oahu) were first time SBIR awardees.

FY2011 SBIR award distribution from the federal agencies to Hawaii firms: U.S. Department of Defense – 16; U.S. Department of Energy – 1; NASA – 1; USDA – 1; and U.S. Department of Homeland Security – 1.



### Manufacturing Extension Partnership (MEP)

The National Institute of Standards and Technology (NIST) Hollings Manufacturing Extension Partnership (MEP) provides services to manufacturers ranging from process improvements to strategies for growth to green manufacturing. NIST- MEP works with state and federal partners and focuses on delivering higher value-added services which include the following: Increase Productivity, Lean Manufacturing, Capturing National Value of Integration, and Workforce Training.

*Mission: To act as a strategic advisor to promote business growth and connect with manufactures to public and private resources essential for increased competitiveness and profitability.*

### HTDC-Manufacturing Extension Partnership (MEP)

HTDC began administering the MEP center in Hawaii in 2003, and is one of 59 MEP centers across the nation. As a federal program in partnership with HTDC, the center shares a common goal to support the development and growth of Hawaii's commercial high tech industry, local manufacturing community, as well as Governor Abercrombie's New Day Initiative. HTDC-MEP services include consulting services in the areas of market research, lean manufacturing, value stream mapping, growth strategies, and export readiness. Areas of specialization include product development and commercialization for pre-manufacturing Research and Development companies.

#### HTDC-MEP FY2011 Accomplishments

45 HTDC-MEP clients were surveyed between July 2010 to June 2011 and reported the following bottom line and investment impacts as a result of MEP services, including support in participating in SBIR:

- Increase in sales: \$12.5 million
- Creation of additional jobs: 74
- Retention of jobs that would otherwise have been Lost: 71
- Cost savings: \$2.3 million
- Increased investment in plant or equipment: \$2.7 million
- Increased investment in workforce practices or employee skills: \$0.52 million
- Increased investment in other areas of business: \$1.1million

#### HTDC-MEP Supported Events

- University of Hawaii OTTED Technology Showcase
- First Robotics Competition
- Road to IPO Workshop
- Export University 101
- Close the Deal Workshops – Part I & II
- CFO Financial Workshop
- CEO Workshop
- Social Media Workshop – Part I & II
- UK Consulate General Presentation
- Work Force Development Seminar – Software Development
- Energy Audit Workshop with Hawaii Energy

### Partnership of Importance:



The Foreign-Trade Zone #9 in Hawaii is the ninth foreign-trade zone project approved in the United States, and is administered by the Foreign-Trade Zone Division of the State of Hawaii Department of Business, Economic Development & Tourism. The State of Hawaii is the grantee of Foreign-Trade Zone #9 and operator at the Pier 2, Honolulu Harbor facility.

FTZ assists companies that import and export merchandise through the Port of Hawaii. It provides services and facilities on a statewide basis that benefits domestic and foreign importers, exporters, value added manufacturers, and exhibitors.

**Success Story Title:** Westec International, Ltd. Commercializes New Industrial Filter Technology

**Company Profile:**



Westec International, Ltd., a Chicago-based company, partnered with a Hawaii-based R&D company, to form Westec Environmental Solutions, LLC in 2009. The Maui, Hawaii research team is comprised of experts in the fields of engineering, high-tech chemical processes, laboratory testing, and design. The company has spent over a decade developing cutting edge, patented technologies for air filtration, purification and wet scrubbing. The company currently employs five people at its facility in Kahului, Hawaii.

**Situation:**

Westec's team developed a fundamental new filtering technology. Sandia National Laboratories tested the filter and determined it could provide filtration at much greater levels than other known filters. The filter can also be applied as a multi-pollutant scrubber for all types of industrial pollutants, including heavy metals and sulfur dioxide. The company is now focusing an application for carbon capture that is more effective, uses less space, and is more energy efficient than any other method currently available. The technology has strong prospects for use at fossil fuel powered electric generating plants. The carbon capture product, known as the WES Absorber™, was designed, built, and tested on a small scale. The company quickly realized that a new state of the art lab and prototype testing facility was needed in order to fully commercialize the technology. Westec turned to Hawaii HTDC- MEP (Hawaii MEP), a NIST MEP network affiliate, for assistance with environmental, health, safety, and permitting aspects related to the startup of a commercial scale testing facility.

**Solution:**

Hawaii MEP provided technical assistance for the lab facility to comply with federal, state, county, and insurance requirements. Westec was keen to have the lab in place quickly as it is positioned for significant expansion, as it has secured a partnership to market and install the WES Absorber™ throughout Australia. Westec headquarters have also secured a financial commitment from one of the largest utility companies in the world. With assistance provided by Hawaii MEP, Westec met its operational goal of being up and running with production and testing within 3 months of the project start date. As a result, the company hired four full time employees and expects to expand once dedicated production begins. Westec plans to continue production and to develop the WES Absorber™ technology for use in markets beyond power generation including petroleum refineries, petrochemical plants, and primary metals manufacturers.

**Results:**

Developed a commercial scale testing facility for commercialization of new industrial filter technology.  
Created 4 jobs.

**Testimonial:**

“Hawaii HTDC-MEP helped us learn what regulations applied to our facility and made sure that we met all of the requirements in terms of environment and safety. This not only helped us to get up and running quickly, but ensures that we will be able to continue to operate without interruption.” Jeff Reis  
COO





### Hawaii Center for Advanced Transportation Technologies (HCATT) Experiences a Year of Major Transitions

This has been a challenging year for HCATT as its major program at Joint Base Pearl Harbor-Hickam (JBPHH) underwent a series of changes. With the Air Force office providing the funding and guidance for the JBPHH Program, the Advanced Power Technology Office (APTO) was reorganized under the Air Force Research Laboratory (AFRL) and relocated from Robins Air Force Base, GA to Wright-Patterson Air Force Base, OH. This transition created a significant delay in the receipt of FY10 federal funding, in turn slowing HCATT's progress in executing new projects at JBPHH.

To compound this situation, the hydrogen production and fueling station reached the end of Phase 1 of this R&D demonstration project and required the shutdown of all hydrogen production and dispensing operations to disassemble and analyze the station components, as well as prepare the station for the installation of new hydrogen production technologies. The funding delay resulted in the postponement of the procurement of these new technologies, extending the downtime for 30 hydrogen powered vehicles; as this unique renewable hydrogen production and fueling station was the only source of hydrogen vehicle refueling on Oahu. Additionally, HCATT was not able to complete the installation of the wind turbines mentioned in last year's annual report.



HTDC Board of Directors tours Hickam Air Force Base

The good news is that the funding is now in place and all projects are back on track. The second major transition was the fully operational status of JBPHH, placing the Navy in charge of the base. Whereas in prior years HCATT worked solely with the Air Force at Hickam Air Force Base and all construction projects (e.g. the hydrogen station) were coordinated through Air Force organizations, this year HCATT had to learn the nuances and complexities of the Navy system to complete these projects. This too factored into the downtime because of delays in initiating construction to prepare the hydrogen station for the installation of the new technologies. This hurdle has also been overcome, but the combination of all the above events limited significant accomplishments for the HCATT program at JBPHH this past year.

On a more positive note, the events above have not diminished the hydrogen initiatives in Hawaii. In fact, based on HCATT's success over the years and expansion of its program, both the Army and Navy have followed the lead that HCATT established with the Air Force and have initiated major hydrogen vehicle and infrastructure projects on Oahu. Soon DOD will have its own "hydrogen highway" anchored by the HCATT/APTO hydrogen production and fueling station at JBPHH. The improvements to the HCATT/APTO station currently underway include a greater production capacity for the expanding fleet of hydrogen vehicles and the ability to dispense hydrogen at 10,000 psi in addition to the existing 5000 psi refueling. This capability will support the announced introduction of the first commercially available fuel cell passenger cars in 2015.

The tech-related initiatives explored during the State of Hawaii 2011 Legislative Session were built upon topics explored in its previous years. While most of the bills were not enacted, many made it up to conference sessions between the House and the Senate and promoted much discussion needed in these areas. Fiscal concerns continued to affect the evaluations of all bills given the State's tax revenue levels.

The main topics affecting the tech sector included **tax credits for research and development (R&D) (House Bill 1642 and Senate Bill 753)**, **establishing a tech park on Oahu (HB 526, House Resolution 214/House Concurring Resolution 251)**, **funding for state venture capital via our sister agency, Hawaii Strategic Development Corp. (HB 983)**, **support for digital media and film production (SB 318)**, and **permit exemption for broadband permitting (HB 1342, SB1161)**.

None of the above bills passed except for the **broadband permitting bill**, which exempts broadband infrastructure improvements from state or county permitting requirements for five years, under certain conditions. The bill was signed into law by Governor Abercrombie as **Act 151**. The motivation of the bill was to assist with the implementation of the broadband project received by the State (University of Hawaii) under the federal stimulus fund, the American Recovery and Reinvestment Act. This broadband project deploys fiber optics connectivity to all public schools (including the University of Hawaii) and public libraries. HTDC is hopeful that this Act can act as a pilot legislation for future bills for streamlining the permitting process for broadband, to assist with the Hawaii Broadband Initiative, announced by Governor Abercrombie in August 2011.

There were general fiscal bills that affected the tech industry, directly or indirectly. **SB 754** sought to repeal some of the **exemptions for General Excise Tax (GET)**. Enacted as **Act 105**, GET must be paid by companies receiving the state matching funds from Hawaii Small Business Innovation Research (HSBIR) award administered by HTDC. While the budget for state government remained tight, with standard cuts applied across the board for DBEDT and other departments, HTDC was able to **double its HSBIR funding (HB 200)**. This funding increase is especially timely given the federal earmark moratorium and R&D tax credit bills not going through, affecting many of our defense contracting firms and other businesses relying on federal dollars for their R&D.

The budget bill also contained a proviso, which assigned **HTDC and HSDC to explore merging** of the two entities for cost saving purposes. The report is due to the legislature before the next session.

While majority of the tech-related bills did not pass, HTDC was able to forge closer partnerships both within and outside the circle of the tech industry by tackling these issues together. We especially thank the leadership shown by the Chamber of Commerce of Hawaii for convening many of the meetings to prepare for the legislative session. HTDC believes that Hawaii's transformation to an innovation-based economy will not be successful if the tech industry is the only advocate for the cause. We welcome the wisdom and interactions made possible by the Chamber and other business organizations to push the innovation agenda forward.

## Financial Information

	<b>FY 2011</b>	<b>%</b>	<b>FY 2010</b>	<b>%</b>
<b>REVENUES AND OTHER FUNDING</b>				
State General Fund	685,540	20.3%	700,426	7.4%
HTDC Special Fund	2,214,176	65.5%	2,154,694	22.6%
Federal Funds	478,264	14.2%	6,655,374	70.0%
<b>Total Revenues &amp; Other Funding</b>	<b>\$3,377,980</b>	<b>100%</b>	<b>\$9,510,494</b>	<b>100%</b>
<b>EXPENDITURES BY PROGRAM</b>				
Federal Projects	3,401,020	58.9%	3,181,082	56.5%
Federal Project Support	266,221	4.6%	225,531	4.0%
HSBIR Grants	259,500	4.5%	260,000	4.6%
Technology Centers	1,237,987	21.4%	1,287,380	22.8%
Administration	474,321	8.2%	540,650	9.6%
Technology-based Economic Development	135,574	2.4%	141,546	2.5%
<b>Total Expenditures</b>	<b>\$5,774,623</b>	<b>100%</b>	<b>\$5,636,189</b>	<b>100%</b>
<b>Excess (deficiency) of revenues and other funding sources over expenditures</b>	<b>\$(2,396,643)</b>		<b>\$3,874,305</b>	

### NOTES TO FINANCIAL INFORMATION

#### Sources of Funding:

HTDC relies on three main sources to fund its programs and projects.

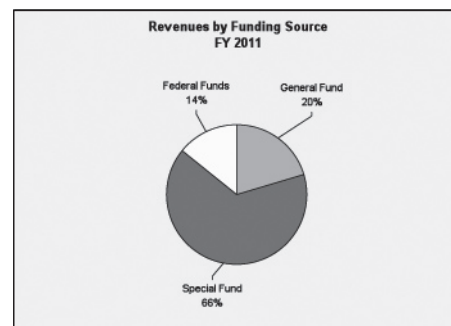
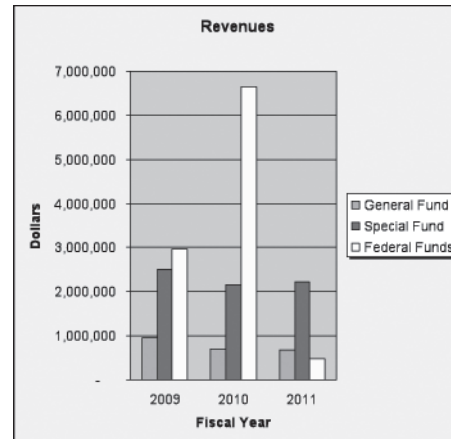
- The State of Hawaii's general fund:* As an agency of the State of Hawaii, HTDC receives an appropriation from the Legislature each year.
- HTDC special fund:* Revenues generated from HTDC's technology centers, conferences, workshops, contracts and fees from consulting service are deposited into the HTDC special fund including revenues generated from federally funded projects that are restricted for use to support those federal projects.
- Federal funds:* Includes funds received through agreements with federal agencies for programs and projects such as the Hawaii Center for Advanced Transportation Technologies (HCATT), Manufacturing Extension Partnership (MEP) and Virtual Incubation program. HTDC looks to federally funded projects such as the MEP program and Virtual Incubation to supplement its core projects. While alignment with federal programs provides some relief, it does not fully address the funding gap as most grants have a matching requirement for the grantee which further taps the resources of the HTDC special fund.

## Revenues:

The State's general fund appropriation has declined over the years as HTDC has become more reliant upon revenues it generates. The decline in general funds continued in FY10 as the state economy continued to struggle. The level of funding in FY11 decreased slightly as a spending restriction was instituted to balance the state's general fund budget. The savings primarily came from the union negotiated furlough plan and vacancy savings. HTDC received \$685,540 (20.3% of overall revenues) in general funds in FY2011.

Special fund revenues were approx. \$2.2 million (65.5% of overall revenues) in FY2011. The increase from the previous year is primarily due to higher common area maintenance (CAM) assessments to incubation center tenants due to rising expenses, especially fuel cost. The increase in CAM revenues a pass through offset by the higher operating expenses at the centers. Occupancy continued to remain low at MRTC as space vacated by anchor tenants in late FY2009 continues to be difficult to fill with the downturn of the economy on Maui.

There was a significant decrease in the receipt of federal funding primarily due to a transitional issue of HCATT projects with the U.S. Air Force. The programmatic & financial administration of the project was being transferred to new program and contract offices at another military installation. Although \$6.0 million in funding has been awarded to HCATT, the appropriate paperwork on the federal end was still in process as of the end of the fiscal year. Receipts of \$ 478,264 (14.2% of overall funding) for HCATT, MEP and EDA Entrepreneur Campus for Innovation Technology Economy grant was received in FY2011, as compared to approx. \$6.6 million in FY2010.



## Expenditures:

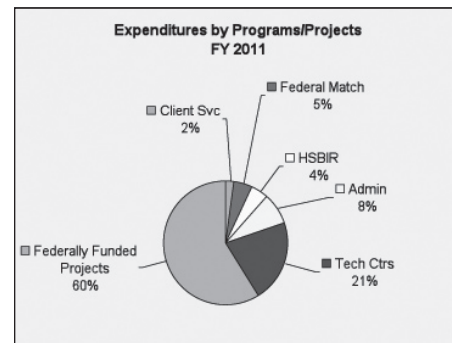
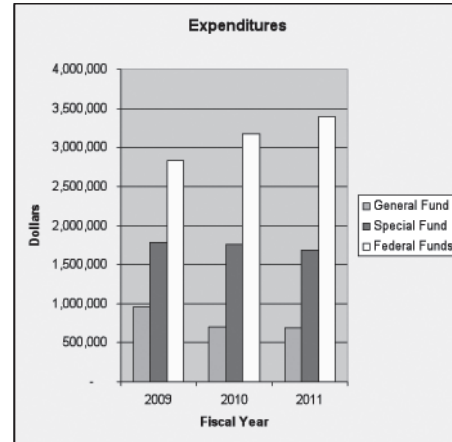
With HTDC's current financial resources and ongoing slow growth of the economy further limiting resources, HTDC continues to seek partnerships to stretch dollars, reviews existing projects, reassess the benefits to its mission and the Governor's initiatives then reallocate its resources for better alignment. General and special fund expenditures continue to reflect a focused use for mainly core services and programs.

## Excess (deficiency) of revenues and other funding sources over expenditures

There was an overall deficit in funding in FY11 of \$(2,396,643) as compared to an excess in FY10 of \$3,874,305. As illustrated in the financial statement and accompanying graphs, the primary reason is due to the timing difference of the receipt of federal funds in FY10 and subsequent obligation of the funds in FY11.

## Current Fiscal Focus:

The agency's focus continues to conserve incoming special fund revenues and limit spending, to preserve the most effective programs and introduce new ones that leverage partnerships and other sources of funding during the economic slowdown. HTDC continues to build up cash reserves to subsidize operating expenses at MRTC while space remains vacant, for anticipated large physical plant expenditures for the technology centers in upcoming years, and for potential additional capital expenditures at a new site with the looming expiration of the MIC lease in April 2015.



# HTDC Board Members & Staff

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State of Hawaii



RICHARD C. LIM (beginning 12/2010)  
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Director  
Department of Business, Economic Development and Tourism  
State of Hawaii



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(Representative for HSDC)  
Vice President, Private Banking Division  
First Hawaiian Bank

## HTDC Staff

YUKA NAGASHIMA, Executive Director & CEO  
MICHAEL REISOR, Executive Secretary & Project Assistant (beginning 9/2011)  
COLEEN YOSHINA, Executive Secretary (until 1/2011)  
LEN HIGASHI, Senior Economic Development Manager (beginning 9/2011)  
STEVE SAKUDA, Controller  
YVONNE HARUE, Senior Account Clerk  
GAIL YAMASAKI, Account Clerk  
RUSSELL AU, Business Development Manager  
SANDI KANEMORI, Program Specialist, Business Development  
SANDRA PARK, Program Specialist, Workshops & Seminars  
KEVIN CHAK, IT Network & Web Specialist (beginning 9/2011)  
LAUREN NICHOLS, Marketing Specialist (beginning 9/2011)  
JANICE KATO, Federal Programs Manager and MEP Center Director (until 8/2011)  
WAYNE INOUE, Senior Project Manager, MEP  
MARK ASUBECK, Project Manager, MEP  
JILL SUGIHARA, MEP Program Assistant (until 2/2011)  
THOMAS QUINN, Manager, HCATT  
KRISTY CARPIO, Contracts Administrator, HCATT  
ROSANNE CHAN, Secretary, HCATT



## Mahalo to Our Resource Partners

### Associations

AFCEA - Hawaii Chapter  
Hawaii Telecommunications Association  
Friends of NELHA  
Hawaii Venture Capital Association

### Economic Development Partners

Chamber of Commerce of Hawaii  
Enterprise Honolulu  
Hawaii Business Entrepreneur Acceleration Mentors (HiBEAM)  
Hawaii Island Chamber of Commerce  
Hawaii Island Economic Development Board  
Hawaii Small Business Development Center Network, UH-Hilo  
Hawaii Technology & Entrepreneurship Network (HiTEN)  
Kauai Chamber of Commerce  
Kauai Economic Development Board  
Maui Chamber of Commerce  
Maui Economic Development Board  
Pacific International Center for High Technology Research (PICHTR): Hawaii  
Technology Development Venture (HTDV) and Hawaii Renewable Energy  
Development Venture (HREDV)

### Federal Departments

U.S. Department of Agriculture  
U.S. Department of Commerce, National Institute of Standards and Technology  
(NIST) Technology Innovation Program  
U.S. Department of Commerce, NIST - National Oceanic and Atmospheric  
Administration  
U.S. Department of Commerce - Economic Development Administration  
U.S. Department of Defense - Air Force  
U.S. Department of Defense - Army  
U.S. Small Business Administration  
National Science Foundation

### Higher Education

Chaminade University  
Hawaii Pacific University  
UH Pacific Asian Management Institute, Center for International Business  
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UH College of Engineering  
UH Office of Technology Transfer & Economic Development (OTTED)  
UH Pacific Asian Center for Entrepreneurship & E-Business (PACE)

### Media Partners

Pacific Business News  
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ThinkTech Hawaii

### State Departments & Agencies

Department of Business, Economic Development and Tourism (DBEDT) -  
Energy Office  
Department of Taxation  
Hawaii Foreign Trade Zone No.9  
Hawaii Strategic Development Corporation  
Workforce Development Council  
Natural Energy Laboratory of Hawaii Authority (NELHA)

### Venture Capital Firms & Investors

Hawaii Angels  
GKM Newport  
Startup Capital Ventures  
Kolohala Ventures  
Sennet Capital  
Kamehameha Schools  
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Software Skills Panel Executive Committee

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## Special Thank You

**Steven Lee**, Rep. for DBEDT Director Theodore E. Liu  
**Barbara A. Annis**, Rep. for B&F Director Georgina K. Kawamura  
**Margaret Ahn**, Deputy Attorney General, Department of Attorney General  
**Ms. Gail Fujiita**, Economic Development Administration  
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