



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

ANNUAL REPORT 2009

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HTDC Mission and Duties

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)



A Message from the Board Chair

It is with appreciation and gratefulness that we serve Hawaii's developing technology sector. This annual report is presented on behalf of the Board of Directors of HTDC and its devoted staff. As all of us recognize, tech-based economic development is critical to the growth of our local, national and global economies. While economies are struggling to revitalize, we realize even more now how important it is to advance policies and programs that support tech-based economic development programs. Specifically, we know that most net job creation in the U.S. since 1980 has been by new businesses and entrepreneurs.

Despite this important mission, this State agency, tasked to support entrepreneurs and grow the commercial technology industry in Hawaii, faced and continues to face the same budget restrictions and tough economic climate as the companies and communities we are committed to helping. The management and staff at HTDC took on the challenge to do more with less, and early on made the decisions to prepare HTDC for these difficult financial times. Their actions resulted in HTDC's ability to continue to provide the most important services and programs to our community. Judging by the activities reflected in this annual report, readers can see for themselves that the spirit to serve the community is very much alive at HTDC with Hawaii's entrepreneurs poised to leverage these programs to grow their businesses.

Unfortunately, as of this writing, this economic storm has not yet left the State, and we will need to take further steps towards recovery. And yet in our community, we have much to celebrate and to be appreciative for. From Governor's Innovation Award winners who are HTDC clients (pp. 4 – 5) and other national and international recognitions to entrepreneurs actively learning about expanding their markets through exporting (pg. 12), it is clear that Hawaii has the willing talents to move our industry forward. We are appreciative of the numerous partnerships that made it possible to provide timely events dispensing valuable information to thrive despite this economy and to raise the level of discourse which needs to take place for our industry to reach the next level. I would especially like to draw your attention to the many workshops held on the neighbor islands (pg. 10), where HTDC's limited resources were boldly placed to reach out with our neighbor island constituents in mind, to appropriately expand our programs beyond the walls of our State tech incubation centers.

With Aloha,
SHARON M. WONG
Chair, Board of Directors



A Message from the Executive Director & CEO

“With adversity comes opportunity”, and it’s a saying both the High Technology Development Corporation and our constituents embraced in 2008–2009.

With narrow and incomplete resources to grow a business, many start-up tech companies and entrepreneurs put their fundraising activities on hold and concentrated on growing any aspect of their business to generate revenues while awaiting improvement in equity and financial markets. It was an opportunity for companies and entrepreneurs to take a harder look at their development timelines and burn rates.

The tech industry and our incubator centers’ clients were in need of more assistance. HTDC felt this pressing need firsthand, and realized that our agency’s own fiscal challenges should not prevent us from somehow delivering the needed services to the very community who needed to succeed to improve our island economy. Innovation and technology, now more than ever, would be needed to drive traditional businesses to become more efficient, relevant, mainstream contributors.

HTDC further leveraged its sources of federal funding to continue to invest in the tech community. A quick assessment led us to focus on the community’s priorities: (i) supporting applications for Small Business Innovation Research grant awards, (ii) training for cost cutting measures and new product development through the Manufacturing Extension Partnership program from the National Institute of Standards and Technology, and (iii) increasing support for hydrogen fuel infrastructure projects, which contributes to Hawaii’s long-term goal of energy independence and self-sustainability.

HTDC also continued to utilize federal funding from the Economic Development Administration of the U.S. Department of Commerce to deploy customized programs statewide, tailored to each island’s unique needs which were identified by working with local partners. With the economic development practitioners pressed to respond to increased demand with very few resources, this fiscal crisis brought many organizations together to play to each of our strengths and join forces to provide a higher level of service to more constituents.

Fueled by our economic needs, the Hawaii Technology & Entrepreneurship Network (HiTEN), technology-based economic development (TBED) supporters and stakeholders flourished and offered a comprehensive set of TBED services to the public. HiTEN, consisting of representatives from public, private, industry and university resources, provides a valuable service to our growing technology industry and the State. The fiscal year 2008–2009 annual report reflects the multi-faceted mission and activities of HTDC, so robust that had we not mentioned the dates, it may seem as though we suffered no fiscal challenges. We, however, have many more goals in the coming years with even tighter budget.

HTDC has also not forgotten about its role to explore and affect tech policy. Anticipating the State’s need for (and eventual piece of legislation requesting) a coherent strategic plan for the technology and innovation sectors, HTDC prepared a document to serve as a framework for future planning and a reference guide which summarizes the findings of recent reports. It is quite a challenge for our diverse innovation sector to choose to come together to present a shared future for Hawaii.

With constraints comes clarity of vision, determination to succeed, and opportunities for further collaborations. HTDC looks forward to embracing these challenges: to raise the bar of important debates as to what the future of capital formation strategies should be, to provide better access to federal funds and programs to local companies, and to bring relevancy of tech companies to the rest of our community.

Aloha,
YUKA NAGASHIMA
Executive Director

Entrepreneur Campus

The Manoa Innovation Center (MIC) is an incubation center program designed to provide technology and innovation entrepreneurs a place to gather and learn. This engaging habitat provides office space to qualified companies needing a place to:

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

A 42,000 square foot facility developed by the State of Hawaii in partnership with the University of Hawaii, MIC is one of the first true technology incubators in Hawaii and has assisted 119 tech start-up companies since 1993.

In FY2009 MIC assisted 25 technology companies in the incubator and reported an average occupancy rate of 93%. New to MIC's Tech Center incubation program were: **Island Pacific Energy, Spectrum Photonics, TeraSys Technologies, Institute for Triple Helix Innovation, and Lesson Tracks.**

HTDC considers MIC to be a launching pad for entrepreneur services for communities even outside the walls of the facility. The program helps to lead, facilitate and support new or existing tech-based economic development initiatives.

FY2009 highlights:

- **PIPELINE MICRO:** Winner of the 2008 Venture Capital Award for Deal of the Year. The company received the award for raising money to develop its liquid cooling systems. Pipeline Micro received \$7 million in its first venture capital round of funding.
- **ISLAND PACIFIC ENERGY:** Installed a 460kW photovoltaic solar power system across seven buildings on the



"Island Pacific Energy's solar energy facility installed at Punahou School is the largest photovoltaic at a private school in the nation."

—Joseph Saturina, President, Island Pacific Energy

"Despite the recession, Ikeyzo expanded this year with three new engineers at our Manoa office, one on Maui and two in Japan. We added new services including iPhone development, released a new product called RubyBox, and brought in more than a dozen new customers. Along with UH Pacific New Media, HTDC, IBM and Superb Internet, Ikeyzo sponsored and organized the first TechHui Conference and grew the TechHui community to over 1,200 members."

—Daniel Leuck, CEO, Ikeyzo

Punahou School campus. The system currently generates enough energy to power more than 150 homes.

- **AMEL TECHNOLOGIES:** Their article entitled "Conservation vs. renewable energy: case studies from Hawaii" was published by Elsevier, a major international scientific journal publishing house, in the Energy Policy journal. HTDC received permission by AMEL to share the article with State policymakers responsible for the Hawaii Clean Energy Initiatives.
- **PUKOA SCIENTIFIC:** Awarded the Pacific Business News #3 Fastest 50 Award in August 2008. The award is based on company growth percentage.
- **GOVERNOR'S INNOVATION AWARD WINNERS FOR FY2009:**
 - By Individuals: Wayne Karo & Eric Griffin (**Pipeline**)
 - By Company: **Island Pacific Energy** (Joseph Saturina)
- **PIPELINE MICRO and KAI SENSORS:** MIC celebrates the graduation of these successful incubation tenants. Together the companies started with 842 sq. ft. of space at MIC, and graduated into 5,200 sq. ft. of commercial space.



(Left:) Wayne Karo describes Pipeline's journey to graduation. (Right:) Davin Kazama accepting a bowl from Yuka Nagashima in recognition of a successful incubation graduation.

Entrepreneur Campus

Virtual Incubation Program

The U.S. Economic Development Administration technical assistance grant awarded to HTDC in 2004 was completed in March 2009. Through this grant, HTDC was able to extend the incubation program beyond the physical walls of MIC, the Maui Research and Technology Center and the Hawaii Innovation Center in Hilo, despite the harsher economic climate that affected businesses and government alike.

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

In FY2009, the Virtual Incubation program assisted 21 start-up companies. Recent companies joining the program in FY2009 are: **Produced By You, ADAMA, CSP Pacific Division, Change Management QED, and Aloha Home Cinema & Automation.**

FY2009 highlights:

- **SOPOGY:** New Product of the Year Award from the National Society of Professional Engineers (NSPE) for its MicroCSP Solar Collector "SopoNova 4.0" at the NSPE's Annual Conference in Portland, Oregon.

The company was also presented with the Business Leadership Hawaii 2008 Award for Innovation Company of the Year.

- **GOVERNOR'S INNOVATION AWARD WINNERS FOR FY2009:**

By Company: **Labels that Talk** (Ken Burken), **Sopogy** (Darren Kimura)

Service Provider Program

The Service Provider Program supports high tech start-ups and emerging technology-based entrepreneurs with business development and consulting resources needed to accelerate



Ken Burken proudly accepts the Governor's Innovation Award



Darren Kimura and the staff of Sopogy display their Governor's Innovation Award

"Thanks in part to HTDC and Hawaii Pacific Entertainment, 3D Innovations, LLC was featured on TechBox. The feature story of the week allowed us to showcase some of the services that are offered."

—Collin Kobayashi, President & CEO, 3D Innovations

their transition from incubator companies to vibrant, successful businesses.

The program is based on public-private sector partnerships between HTDC and experienced business professionals. Currently, there are over 23 providers in the business development, legal and accounting services, marketing and media development, human resource and staffing assistance and insurance professions available to HTDC client companies. Many of these offer special discounts for their services.

In April 2009, HTDC hosted Providers' Day at MIC. During this event, program providers networked and presented 15-minute pitches to tenant and client companies.



Ophi.Net, owned by Justin Goo, participates in HTDC's first Provider Day Fair.

Entrepreneur Campus

WORKSHOPS, SEMINARS AND SPECIAL EVENTS

HTDC creates educational and networking opportunities by coordinating workshops presented by experts in various fields, including professionals in the Service Provider Program.

HTDC also collaborates on events with other organizations to bring awareness on upcoming trends and current issues in the industry. Events sponsored in FY2009 were:

- HTDC Brown Bag Featuring People Bridge
- Office Leasing Market
- Research and Development Tax Credits with Grant Thornton
- Property and Licensing Issues for Tech Companies
- Pitch Competition
- High Tech Tax Credits workshop (Kona)
- Maui Native Hawaiian Chamber of Commerce Business Fest
- Survive and Thrive in the Downturn



Workshop on Federal Tax Credits by Patrick Oki of Grant Thornton.



Pamela Alesna, facility manager of Maui Research and Tech Center, and Sandy Park of HTDC at the Maui Native Hawaiian Chamber of Commerce Business Fest.

- Technology Innovation Program (TIP) Proposers' Conference
- Winning Small Business Innovation Research Federal Grants and Contracts
- SBIR Workshop on Grant Funding for Agriculture and Renewable Energy Related Projects (Oahu and Hilo)



Scott Murphy and Mika Leuck of Ikeyzo showcase their graphic and web design technology at Science & Tech Day.

Science & Tech Day at the State Capitol

HTDC participated in Science & Tech Day at the State Capitol on April 2, 2009. Sponsored by the Hawaii Science & Technology Council, the event presented an opportunity to connect with lawmakers. The event brought the tech industry to State lawmakers, their staffs and the public. MIC tenants—**Island Pacific Energy**, **People Bridge**, **Ikeyzo** and **AMEL Technologies** were invited to share HTDC's booth. Other HTDC clients participating in the event were **Pukoa Scientific** and **Sopogy**.

AITP Lunch, Electronic Health Records

HTDC staff attended the May 14 Association of Information Technology Professionals (AITP) lunch and presentation, in which Art Koga, President & CEO of **Blue Cliff, Inc.**, an MIC tenant, moderated a panel on "Electronic Health Records – What You Should Know in 2009!" before an audience of about 44 attendees. The panel, consisting of Barbara Kanaha, IT Department, Director of Project Services Division of Hawaii Health Systems Corporation; Raleigh Awaya, Executive Vice President, Technology & Operations at AIG Hawaii and start-up venture Veyond; Rachael Raquino, Hawaii Region Manager of Allscripts; and Creighton Arita, CEO of Team Praxis and former HTDC Board Director, focused on the issues of bringing the health community up to speed with electronic and digital records and discussed the implications of the Health Information

Entrepreneur Campus

Technology for Economic and Clinical Health Act (HITECH Act), which is part of the American Recovery and Reinvestment Act of 2009. The stimulus package contains \$19 billion for health information technology. There will be



AITP panelists (L-R): Raleigh Awaya, Rachel Raquino, Barbara Kanaha, Creighton Arita, and Art Koga.

many opportunities for providers to work with the health community to bring medical and patient records on line, pending infrastructure development.

Survive the Economic Storm

On October 21, 2008, HTDC Executive Director Yuka Nagashima moderated this seminar (first in a series) on tips from experienced technology-based businesses executives and owners on surviving the economic downturn. The panelists were:

- Darryl Nakamoto, CFO, Hoku Scientific
- Nate Smith, President, Oceanic Time Warner Cable
- Patrick Sullivan, Founder & CEO, Hoana Medical Inc.
- David Watumull, President & CEO, Cardax Pharmaceuticals Inc.
- Larry Fuller, Pacific Business News



Economic Storm Panel (L-R): Darryl Nakamoto, Nate Smith, Larry Fuller.

CEO Brown Bag Lunch Forums

The CEO Brown Bag Lunch forum is a monthly event where HTDC CEOs can discuss common business problems and learn from other group members in



a closed environment. These gatherings provide CEOs with a network of advisors and colleagues sharing their experiences, resources, lessons learned, best practices and camaraderie. Experts in various fields are also invited and discussions are facilitated by HTDC's Executive Director.

Topics included:

- Benefits and Services of Hawaii Employers' Council
- University of Hawai'i MBA Student Internship Program
- Meet and Greet New Client: **Terasy's Technologies**, **AMEL Technologies**

HiTechHawaii.com

HiTechHawaii.com

HiTechHawaii.com is Hawaii's high-tech portal website for marketing and promoting high technology in the Islands. You will find tech resources, news, events, businesses and



jobs under one virtual roof. For over five years, Hawaii's tech industry has been highlighted in HiTechHawaii.com. Via news articles, events or resources, HiTechHawaii.com has been an access point for information in growing Hawaii's tech industry.

Entrepreneur Campus

TechJobsHawaii.org



During the past nine years, many kamaaina have returned home to work in Hawaii's growing tech industry. TechJobsHawaii.org is a no-cost, direct connection between job seekers, interns and employers. HTDC has upgraded the look and feel of the site to be current and relevant to our 21st century environment. The site continues to build awareness of Hawaii's technology industry and opportunities for our state's skilled employees.



Holiday Science & Tech Fair

The 9th annual Holiday Science & Tech Fair took place December 29, 2008 at the Japanese Cultural Center and featured 25 high tech companies and organizations promoting opportunities in the industry. Participating companies included Oceanit, DataHouse, Lockheed Martin and the Federal Bureau of Investigation. Kapiolani College's New Media Arts program displayed projects by students studying animation and interface design. HTDC was fortunate to have Hawaiian Tel and Blue Planet Software as sponsors this year.

We look forward to the 10th Holiday Science & Tech Fair on December 29, 2009.



Expat making a connection with Lockheed Martin at the Holiday Science & Tech Fair.



Frank Chan of HTDC's MEP, Wayne Karo of Pipeline Micro and Collin Kobayashi of 3D Innovations, talk to students of Jarrett Middle School via live webinar on technology job opportunities.

To promote STEM careers, an HTDC and isisHawaii partnership brought tech professionals to Jarrett Middle School students via a live webinar during the school's Career Day where MIC companies provided information and real life experience to students and teachers.



Liane Kitajima (Archinoetics) speaks with interested attendees at the Holiday Science & Tech Fair.

Statewide Initiatives

HTDC proudly continues to support neighbor island technology initiatives, programs and activities, and applauds the many organizations contributing efforts, ingenuity and innovation programs to increase technology economic development throughout the State of Hawaii.

Economic Development Administration (EDA) Grant

With sincere appreciation and gratitude, HTDC extends a big mahalo to its many partner economic development organizations, and chambers of commerce throughout the State and industry as we successfully completed U.S. Department of Commerce, Economic Development Administration grant 07-79-05532.

With an emphasis on creating a virtual business incubator and an eCommerce services program to help small companies statewide, many new and expanding technology businesses benefited from a variety of resources provided by HTDC and its partners: technical/business assistance providers, access to common office equipment, conference room use, and targeted workshops and seminars.

With the advent of Web2.0 concepts (where the Internet has more interactive tools, such as blogs, web “mashups” of applications, and social networking widgets), many businesses discovered and learned how to apply these tools to both survive and thrive during this difficult economic period.

MAUI



Maui Research & 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 averaged an occupancy rate of 92% in FY2009 and remains HTDC’s hub for supporting technology companies. MRTC also administers a Maui Virtual Incubation Program for those smaller companies which do not require office space.

In June 2009, the facility saw the successful graduation of one incubation company, **Pacific Defense Solutions (PDS)**. PDS supports programs such as the Spaces Based Surveillance (SBSS) program, Maui Space Surveillance Site (MSSS), and the Real-time Optical Surveillance Applications. PDS moved to the newly constructed Park Plaza located in the Tech Park to accommodate its expanding needs.

Also in June, the Kihei Charter School’s STEM program completed its two-year lease at MRTC and graduated to a new location at the Lipoa Shopping Center. The pilot program proved to be such a success and enrollment in high demand that a new location was needed for a more permanent growth foundation. The school was able to find a 10,000 sq.ft. space in the middle of the community that combined both the STEM program and Arts Academy at the Maui Academy of Performing Arts.

EDA-funded Events

- Maui Chamber of Commerce, “eCommerce and new Social Media”
- Maui Economic Development Board, “eCommerce workshop”



Participants at the MEDB eCommerce workshop

HAWAII ISLAND

The Hawaii Innovation Center at Hilo (HICH) is located in a business district on Hawaii Island. The 8,000 square foot facility is a mix-use incubator and helped seven companies in their start-up phase during FY2009, and maintained a 91% occupancy. Similar to MIC and MRTC, HICH manages a Virtual Incubation Program for smaller clientele.

HTDC began working with the University of Hawaii at Hilo (UH Hilo) in early 2009 on a transition plan for HICH as the agreement to manage HICH was ending in August 2009. As of August 2009, the UH Hilo assumed all tenant agreements and continued the incubation program.



Hawaii Innovation Center at Hilo

FY2009 highlights:

H2 Technologies, Inc. joined HTDC’s Virtual Incubation HICH program in 2007 soon after incorporation. Shortly after, they successfully lobbied for a bill H2’s \$50 million SPRB (Act 116, SLH 2008).

Statewide Initiatives

EDA-funded Events

- Friends of NELHA “High Technology Tax Workshop”
- Green Collar Technologies “eCommerce workshop”
- HTDC “New Social Media Workshop” H&P speakers, Hilo and Kona
- Big Island Chamber of Commerce “Survive the Storm” panel series



Friends of NELHA Executive Director Guy Toyama, along with workshop speakers Patrick Oki and Doreen Griffith (Grant Thornton).

“HTDC helped us to tweak our business plan and re-write our executive summary which is proving helpful. HTDC sponsored a video production for our company which we use all the time and stream on our website. We feel that the video production alone is worth more than our Virtual Incubation fee. H2 Technologies is extremely satisfied with the service received by HTDC and highly recommend their services to all high technology companies in Hawaii and beyond.”

—Guy Toyama, COO, H2 Technologies Inc.



**New Social Media Workshop speakers (back row L-R): Yuka Nagashima, Barbara Hastings, Judi Steinman, Barbra Pleadwell and Christian Englehardt
Front Row: Julie Englehardt**



**(Front L - R): Marco Mangelsdon (ProVision), Barry Taniguchi (KTA Stores), Barbra Hastings (Hastings & Pleadwell).
(Back L - R): Judi Steinman (Hawaii Island Chamber of Commerce), Yuka Nagashima (HTDC).**

KAUAI

EDA-funded Events

- Kauai Chamber of Commerce, “Secrets of Fast Growing Small Business”
- Kauai Chamber of Commerce, “panel series”



Audience listening to panel at the Kauai Chamber of Commerce panel series.



(L - R): Randy Francisco (Kauai Chamber of Commerce), Palmer Hafdahl (Palm’s Hawai’i Architecture), Yuka Nagashima (HTDC), George Costa, Director (Office of Economic Development, County of Kaua’i), Jay Manzano (Unlimited Construction Services, Inc.), and Mark Tanaka (Kauai Realty).

Bringing Home Federal Dollars

Helping Hawaii Companies Win Federal R&D Awards to Develop New Technologies and Innovations

Hawaii SBIR

SBIR / STTR

The federal Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs fund over \$2 billion each year for high risk, innovative research and development of critical need to the U.S. SBIR funds new technologies and innovations that are too early stage to be funded by private investors. Set up as a national competition, small businesses submit proposals to the U.S. Departments of Agriculture, Commerce, Defense, Education, Energy, Health & Human Services, Homeland Security, and Transportation, Environmental Protection Agency, NASA, and National Science Foundation to develop solutions that best address agency needs.

HTDC manages the Hawaii Small Business Innovation Research (HSBIR) matching grant and assistance program, which awarded \$360,000 in state funding to 17 SBIR and STTR projects during July 1, 2008 to June 30, 2009. The 17 projects attracted nearly \$2 million in federal funding in the fiscal year. Additional follow-on funding is anticipated over the next two years as the SBIR projects expand. (See www.htdc.org/sbir for more information on these SBIR projects.)

From 1989 to the end of FY2009, the HSBIR Program has helped 74 Hawaii companies bring in \$76.9 million in federal R&D dollars to the State, and an additional \$58 million in commercialization funding. The State has invested \$5.2 million to assist local firms succeed in the SBIR program, attract additional federal follow-on funds and accelerate commercialization. For every dollar the State has invested in SBIR, Hawaii firms have attracted 15 federal dollars to the State (or \$1 : \$25 when including commercialization funding).

"The Hawaii SBIR matching grants have facilitated our R&D efforts at a time when the biotech industry as a whole has seen declining private investment... Since PanThera was established, in 2006, the Hawaii SBIR matching grants have contributed to a sustained 50% increase in staffing, including hiring University of Hawaii graduates... We greatly appreciate the efforts of HTDC and the Hawaii SBIR program for supporting emerging high technology companies in Hawaii."

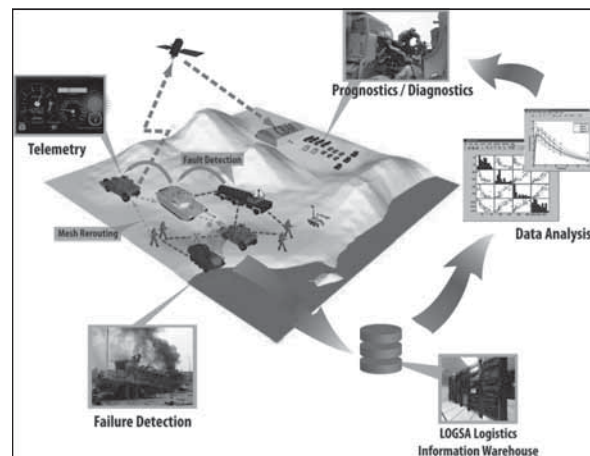
—Gary Bignami, Strategic Development Director, PanThera Biophara LLC.

Other Federal R&D Funding

HTDC provides Hawaii firms with information and access to other federal R&D programs, such as the Department of Commerce NIST, Technology Innovation Program (TIP). TIP focuses on accelerating technologies that address areas of U.S. critical needs, such as our nation's aging civil infrastructure. Additionally, the American Reinvestment and Recovery Act (ARRA) created many R&D opportunities, and HTDC organized proposal writing and electronic submission training for companies and organizations planning to apply to ARRA.

"HSBIR matching funds and guidance from HTDC's Federal Programs office were critical to Concentris System's winning a Phase II SBIR award this year. As an MIC client, we've received strong support from HTDC at each milestone in our company's growth."

—Tareq Hoque, President and Founder, Concentris Systems LLC



In FY2009, HTDC assisted over 210 entrepreneurs and organizations to access federal funding through organizing training workshops, individual counseling and consulting, and state matching grants, including:

- Three SBIR training workshops with USDA SBIR Program Manager Dr. Siva Sureshwaran and Dr. Robert Hunter
- A Grants.gov and Proposal Writing training day to assist companies and organizations apply to SBIR and ARRA programs
- Two NIST Technology Innovation Program (TIP) information workshops with TIP Director Marc Stanley
- STTR TATRC information workshop to generate STTR topics from Hawaii, co-organized with the Telehealth Hui and UH OTTED

Bringing Home Federal Dollars

Many SBIR companies develop prototypes as a result of their work. While the SBIR awards do not assist companies with developing and implementing a commercialization plan, HTDC's Manufacturing Extension Partnership (MEP) program, fills this gap via assistance for product development, market research, and overall manufacturing challenges.

Manufacturing Extension Partnership (MEP)



The National Institute of Standards and Technology, Manufacturing Extension Partnership (MEP) program has been hosted in Hawaii by HTDC for the last six years. As a federal program aligned under HTDC, HTDC-MEP shares a common goal to support the development and growth of Hawaii's commercial high technology industry and the local manufacturing community.

HTDC-MEP is part of a national network of 59 centers nationwide that are transforming manufacturers (many of which are technology firms) to compete productively, effectively and globally. The MEP program assists small to medium size business become more profitable by providing consulting services in such areas as product development and commercialization, financial analysis, marketing, entrepreneurial training, lean manufacturing training, value stream mapping, growth strategies, export readiness training and energy efficiency planning.

FY2009 accomplishments:

- Achieved greater exposure and presence in neighbor islands business communities by assisting more grass roots businesses to expand and become more profitable, resulting in \$3.58 million in client cost savings, which includes new and retained sales in Maui, Hawaii and Kauai
- Successfully introduced a new concept called Eureka! Ranch that was developed by world-renowned writer and motivator Doug Hall, to two tech companies in Hawaii. Eureka! Ranch increases innovation success rates and provides methodologies for engineers working together within a group to recognize early signs of product failures of a technology, reducing wasted time and money in launching.

Expanding Your Business Through International Sales

In partnership with the Hawaii Foreign Trade Zone #9, HTDC-MEP completed its first Oahu educational workshop to teach local manufacturing companies how to expand their marketing potential by looking at foreign markets as a source of additional sales. The curriculum including learning how to create an export plan and well as doing research on specific countries where companies were interested in exporting. Local experts in transportation and cargo were

also available to provide real life documentation and examples on how to prepare products for exporting. Next workshop is tentatively scheduled for Maui in 2010.



Steve Craven from Kekepana International Services lecturing on developing an export strategy.

HTDC-MEP Client Success Example

Client: Trex Advanced Materials

Product: Trex Advanced Materials, located in Lihue, Kauai focuses on researching, developing and manufacturing chemical vapor composites (CVC) SiC products, and fabricated utilizing its patented CVC technology.

MEP assistance: HTDC-MEP partnered with the U.S. Department of Energy's Industrial Assessment Center from San Francisco University to deliver a detailed energy and waste stream assessment to reduce energy consumption. HTDC-MEP also assisted Trex in receiving HSBIR phase II awards to develop and commercialize new technologies.

Results: Anticipated reduction in electricity and waste management cost by 25 percent or nearly \$250,000.



2009 Expanding Your Business through International Sales Graduating Class

Bringing Home Federal Dollars

Hawaii Center for Advanced Transportation Technologies



*Hawaii Center for Advanced Transportation Technologies
Promotes Renewable Energy and Alternative Fuel*

As reported last year, HCATT expanded its portfolio to add renewable energy projects to its ongoing alternative fuel initiatives. A 146kW photovoltaic (PV) array was installed adjacent to the hydrogen station at Hickam Air Force Base to enable the production of renewable hydrogen. The PV array was sized to support the maximum power draw from the electrolyzers producing hydrogen and is capable of providing

State and the U.S. Department of Energy to reduce Hawaii's dependence on imported petroleum from over 90% to 30% by the year 2030. This challenging goal is to be achieved through 40% renewable energy sources and 30% energy efficiency. Since the U.S. Department of Defense (DOD) is the largest energy user in the State, the U.S. Pacific Command (PACOM) established the PACOM Energy Partnership and Strategy Council (PEPSC) to not only achieve its DOD goals for energy security and energy independence, but to also support the HCEI. HCATT also became a member of the PEPSC this past year, and its continuing focus on renewable energy and alternative fuel will be a driving force in the execution of projects that support both HCEI and PEPSC goals.



Hydrogen production and fueling station at Hickam AFB powered by 146kW photovoltaic array

solar energy to produce up to 12 kilograms per day. To supplement the solar energy, five 10kW vertical axis wind turbines will be added in a unique configuration to demonstrate the production of hydrogen from both solar and wind energy. Due to the proximity of a runway that supports both Hickam and the Honolulu International Airport, the shorter and smaller vertical axis wind turbines were selected over the larger horizontal axis wind turbines typically seen in open rural areas.

The significance of this project is the size of the PV array that we installed to make hydrogen derived from a renewable source. We further add complexity to the system by adding wind power into our equation. The project is of significant scale to show feasibility for commercial use. Projects like these keep HCATT aligned with the Hawaii Clean Energy Initiative (HCEI), a partnership between the

Another noteworthy accomplishment this past year is the recognition of HCATT's success over the years by the U.S. Army Tank Automotive Research, Development and Engineering Center (TARDEC). TARDEC, through the assistance of HCATT, initiated alternative energy projects for the Army in Hawaii and chose HCATT to assist in the future management of their program, similar to the existing role HCATT enjoys with the Air Force Advanced Power Technology Office. Initial TARDEC projects include the introduction of hydrogen-powered internal combustion engine vehicles that are being fueled at the Hickam hydrogen station and the planning for a Microgrid project that includes the use of renewable energy and "plug-in" vehicles at one of the major Army installations on Oahu. HCATT's relationship with TARDEC will continue to expand in 2010.

Legislative Initiatives

STATE OF HAWAII LEGISLATURE IN 2009

While 2008 legislative efforts focused on developing awareness and acceptance of changes needed to further grow Hawaii's economy through tech-based economic development initiatives, the 2009 legislative session focused on priorities and planning. With weakened global, national, and state economies, fiscal priorities were foremost in the minds of everyone as we faced tremendous challenges to balancing the State's biennium budget. Highlights were:

Building on Hawaii's Research and Development Infrastructure

- ***Small Business Innovation Research and Small Business Technology Transfer Grant Programs (Act 136)***

Amends HTDC's research and development grant program to catch up to increased federal agencies award amounts. This effectively increases the maximum amount a successful Hawaii company and federal SBIR or STTR Phase I grant awardee can receive in matching funds from the Hawaii SBIR and STTR grant programs.

- ***Funding for SBIR and STTR Grant Programs (Act 162 – State Biennium Budget)***

Appropriates funds for the operating and capital improvement budget of the Executive Branch for fiscal years 2009-2010 and 2010-2011. To balance the budget, general funding for the SBIR and STTR grant programs was reduced by 28% or \$100,000 effective July 1, 2009. Many of the 65+ local technology companies supported by these smaller bridge grants will lose some of their ability to meet with federal program managers to effectively compete with mainland counterparts. Hawaii has been particularly successful at developing innovative products in agriculture, advanced wireless communications, and remote sensing devices.

- ***Funding for Hawaii Center for Advanced Transportation Technologies (Act 162 – State Biennium Budget)***

Appropriates over \$3 million in federal program funding from the U.S. Air Force, making the total federal funding for this project \$6,163,000. Additional funding from the U.S. Army and U.S. Department of Transportation totals \$1.1 million, pending approval and allotment.

Planning to Enable and Sustain Growth for Tech-Based Economy

- ***Development of a Hawaii State Science and Technology Plan (Act 137)***

Hawaii Experimental Program to Stimulate Competitive Research, with the assistance of HTDC, shall develop a statewide science and technology plan that: (1) evaluates the effectiveness of past and current science and high

technology legislation, including legislation relating to industry development, incentives, oversight and sustainability; (2) plans for the direction of Hawaii's science and high technology sector, including: (a) a list of goals established for the science and high technology sector in the state, (b) a plan to reach the established goals, and (c) a timeline for implementation and completion; (3) criteria to measure the growth of emerging growth industries in the science and high technology sector; (4) guidelines for future science and high technology legislation to assist the legislature in maintaining an overall framework to guide the development of science and high technology in the state; and (5) recommendations or proposals for science and high technology legislation to meet the goals established in the plan.

- ***Initiatives to Reorganize DBEDT and Administratively Attached Agencies***

House and Senate leaders introduced proposals to reorganize DBEDT to improve the effectiveness and efficiency of its mission and the missions of DBEDT's attached agencies and divisions. HTDC was among the agencies specifically mentioned. The House initially proposed HTDC be administratively attached to the Department of Accounting and General Services, the Senate countered that proposal by suggesting we be attached to the University of Hawaii. Each proposal had merits, but more time was needed to research the pros and cons, and to develop consensus among stakeholders, including the HTDC board of directors, and legislative policy managers. Since the end of the 2009 legislative session ended, HTDC has been researching best practices; however, future proposals for reorganization may be guided by the outcomes in the final statewide science and technology plan (see below), and the State's financial situation might postpone any further exploration unless a reasonable amount of cost savings can be realized by any type of reorganization for DBEDT and its attached agencies.

Legislative Initiatives for 2010

- Help bring together stakeholders in tech and law makers to explore options for roles the state government can and should take with respect to tech-based economic development, including capital formation.
- Per House Concurrent Resolution 312, SLH 2008, restart discussions with the University of Hawaii Manoa Chancellor's office to extend the MIC land lease (expires April 2015).
- Change method of financing (MOF) for one federal funded position from 80 percent to 100 percent federal funds to reflect current allocation of position responsibilities due to increased federal program contracts and workload.

Financial Information

	FY 2009	FY 2008
Revenues and Other Funding		
State General Fund	\$ 964,799	\$ 999,994
HTDC Special Fund	2,497,386	2,502,869
Federal Funds	2,970,006	534,000
Total Revenues & Other Funding	\$6,432,191	\$4,036,863

Expenditures by Program

Federal Projects including Cash Match Contribution	2,825,000	2,851,790
Federal Project Support	236,346	162,228
SBIR Grants	360,000	260,000
Technology Centers	1,318,963	1,426,756
Administration	611,233	629,876
Technology-based Economic Development	201,121	347,372
Public Relations/Marketing	0	4,442
Others	27,905	31,107
Total Expenditures	\$5,580,568	\$5,713,571

Excess (deficiency) of revenues and other financing sources over expenditures	851,623	(1,676,708) ⁽¹⁾
Beginning fund balances	2,846,998	4,207,187
Adjustments to fund balance:		
Prior year accrued obligations disencumbered	1,462	200,615
Other adjustments	(17,284)	115,904
Ending fund balance	\$3,682,799	\$2,846,998

⁽¹⁾ Federal funds for FY2007 HCATT projects were not received until late in that fiscal year, therefore some of the corresponding contracts to complete specific projects were not executed until FY2008. The timing of the contract encumbrances in FY2008 contributes significantly to the overall "deficiency of revenues over expenditures" for the fiscal year.

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 and Virtual Incubation. 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.

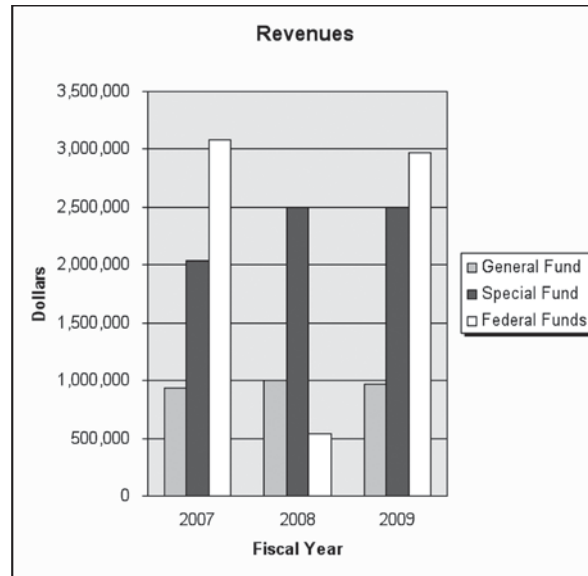
Financial Information

Revenues:

The State's general fund appropriation has decreased over the years, but was fairly steady in FY2007 and FY2008. The downturn of the State and national economies prompted restrictions on spending in FY2009. Spending restrictions of approximately \$105,000 was offset by a one-time increase funding for the HSBIR grant program, resulting in a slight decrease in overall general fund spending in FY2009.

FY2007 special fund revenues were lower than usual at MRTC due to the relocation of anchor tenants to a new building within the tech park or graduating from the center to commercial space outside of the tech park. Rents from the technology centers stabilized in FY2008 and FY2009.

Federal funds received in fiscal years fluctuate, depending on the timing of the awards, specific projects being funded and value of the projects. Federal funding varied significantly between the years due to these factors. Such is the case with HCATT's funding from the U.S. Air Force where the award for approximately \$2.4 million was received in FY2007, but awards for FY2008 funding of approximately \$2.4 million and FY2009

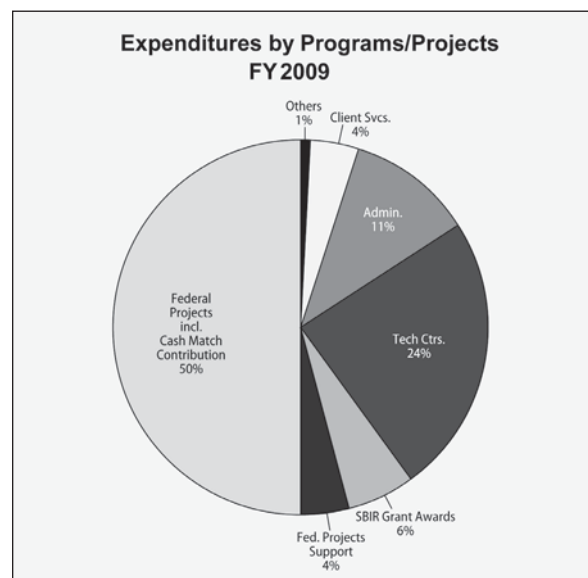
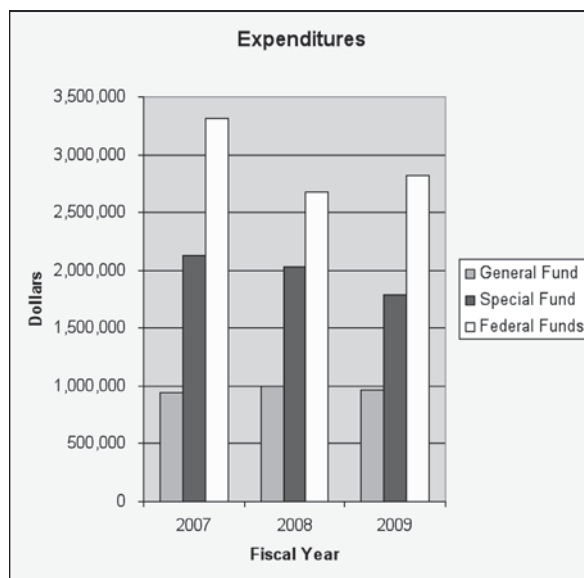


funding of approximately \$5.8 million were delayed until the beginning of the following fiscal year.

Expenditures:

With HTDC's limited financial resources and anticipated downturn of the economy further limiting resources, HTDC reflected on its existing projects, reassessed the benefits to its mission and the Governor's initiatives, and reallocated its resources for better alignment. FY2009 expenditures reflect the shift towards a focused use of general and special funds for mainly core services and programs. The agency's focus in FY2009 was to conserve incoming revenues and limit spending, to preserve the most effective programs and introduce new ones that leveraged partnerships and other sources of funding.

HTDC also strived to build up cash reserves which will be needed for anticipated large physical plant expenditures for the technology centers in the upcoming fiscal year. Special fund expenditures in FY2009 decreased mainly due to payroll savings from several vacant positions, deferring or eliminating expenditures by reprioritizing projects and partnering on projects. The special fund also benefited in FY2009 by having the EDA Virtual federal grant reimburse the fund for expenses initially advanced to the project until the amounts were recouped from the federal grant. The reimbursement reduced special fund expenditures in FY2009 by approximately \$153,600.



HTDC Board of Directors & Staff

BOARD OF DIRECTORS (as of June 30, 2009)

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(term expires 6/30/11)
Rush Moore LLP



ERIC B. YEE
(Representative for HSDC)
Vice President & Senior Private Banking Officer
Central Pacific Bank

Special Thank You

Margaret Ahn, Deputy Attorney General, Department of Attorney General

Mark Anderson, Deputy Director, Department of Business, Economic Development and Tourism

James LaClair, Vice President, Network Operations, Hawaiian Telcom

Robert Piper, former Deputy Director, Dept. of Budget and Finance

Anne Sylvester, Attorney

Mahalo to Our Resource Partners

Association of IT Professionals

Chamber of Commerces

Hawaii Island Chamber of Commerce (Judi Steinman)

Kauai Chamber of Commerce (Randy Francisco)

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Department of Taxation (Kurt Kawafuchi)

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Hawaii Small Business Development Center Network (Kurt Corbin, Caroline Kim)

Hawaii Strategic Development Corporation (Rick Hess, Karl Fooks)

Hawaii Telecommunications Association

Hawaii Venture Capital Association (Bill Spenser)

HIBEAM (Rachel Ogdie)

HITEN

Pacific Business News (Larry Fuller, Mary Beth Lohman)

Pacific Center for Advanced Technology Training (Scott Murakami)

Pacific International Center for High Technology Research

(HTDV, HREDV – Edward Young, Maurice Kaya, Keith Matsumoto)

Technology News Bytes (Lincoln Jacobe)

Think Tech Hawaii (Jay Fidell)

TRA (Dr. Ed Winter)

U.S. Department of Commerce NIST Technology Innovation Program (Marc Stanley)

U.S. Department of Commerce - Economic Development Administration (Gail Fujita)

USDA SBIR Program Manager (Dr. Siva Sureshwaran)

University of Hawaii

Pacific Asian Management Institute and Center for International Business
Education and Research (CIBER)

College of Engineering (Peter Crouch, Song Choi)

Office of Technology Transfer & Economic Development (Dan Ishii, Ann Park)

Workforce Development Council (James Hardway)



HTDC Staff

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Submitted in December 2009, and published pursuant to HRS Chapter 206M-3.5

This report has been cataloged as follows:

High Technology Development Corporation.

Report—High Technology Development Corporation. Honolulu: 1983-.

Annual.

1. High technology - Hawaii
2. Industry and state - Hawaii

HD62.37.H33.2009