

HTDC
High Technology
Development
Corporation

Over 28 years of
helping Hawaii's tech
companies succeed

HTDC

**Growing
Tech
Companies
in Hawaii**

- Assistance in business plan development
- Grant Services
- Federal, State, and local funding
- Entrepreneurial training and resources

HTDC

**Hawaii's Small Business
Innovation Research
(SBIR)
Assistance
Program**

We help Hawaii's
companies grow
with federal and
state R&D funding

SBIR **HTDC**

**Online,
All The Time.**

Everything you need
to know about
technology is covered at
www.htdc.org
www.hawaii-business.com
www.sbirassistance.org

HTDC

HTDC 2005 Annual Report

HTDC Programs & Services

Financial Summary

The 2005 Financial Summary

Statement of Funding, Expenditures and Encumbrances for fiscal year July 1, 2004 through June 30, 2005

SOURCES OF FUNDING

Federal Funds	
Hawaii Center for Advanced Transportation Technologies (HCATT)	\$ 2,937,762.00
Manufacturing Extension Partnership (MEP) Program	\$ 374,482.00
Virtual Business Incubator Project	\$ 33,746.00
General Funds	\$ 965,365.00
Special Funds	\$ <u>942,705.00</u>
Total Funds	\$ 5,254,060.00

EXPENDITURES AND ENCUMBRANCES

Hawaii Small Business Innovation Research (SBIR) Grant Program	\$ 270,000.00
Administration	\$ 460,539.00
Federal Programs	\$ 3,345,990.00
State Programs	\$ <u>1,177,531.00</u>
Total Expenditures & Encumbrances	\$ 5,254,060.00

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Profile of HTDC

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). Over the years, HTDC's programs have assisted Hawaii companies in attracting \$56.5 million in federal Small Business Innovation Research (SBIR) and other federal research and development (R&D) monies for small business innovation, with an additional \$58 million in commercialization dollars. HTDC has also administered over \$47 million in federal and private R&D funds for advanced transportation technology. HTDC continues to deliver a broad range of services and programs for Hawaii's technology entrepreneurs. HTDC leverages local, national and international resources to fulfill its statutory duties to:

- develop industrial parks and high technology innovation centers;
- provide managerial, administrative, financial and support services for high technology companies starting up or moving into the State;
- promote and market Hawaii as a desirable location for high technology R&D and business activities;
- collect and analyze information on new and evolving commercial high technology activities; and
- make recommendations on policy and plans for new technology-based economic development.

HTDC Strategic Objectives for 2005

1. Expand and enhance high tech incubation programs;
2. Facilitate federal and dual use opportunities;
3. Focus marketing and promotion on areas with competitive advantage;
4. Provide support to technology companies starting up and moving into the State; and
5. Improve Hawaii's business climate for high tech.

The following is a partial list of HTDC accomplishments during 2005 relative to these strategic objectives:

1. Blue Lava Wireless graduates from Manoa Innovation Center (MIC) after being sold for \$137 million to Jamdat;

2. Oceanit, a current Maui incubator tenant and Hawaii SBIR Grant Program recipient, receives federal SBIR Phase III contract commercialization award of \$50 million from the U.S. Air Force.
3. HTDC opens its Representative Office in China and executes reciprocal Memorandum of Agreements with international technology incubators in Beijing and Shanghai technology parks.
4. HTDC is again selected by U.S. Dept. of Commerce, National Institute of Standards & Technology to manage the Hawaii Manufacturing Extension Partnership (MEP) consulting services program and by the Kauffman Foundation as the Hawaii training center for the FastTrac Entrepreneurship Training Program.
5. HTDC's Hawaii Center for Advanced Transportation Technologies (HCATT) receives Dept. of Defense funding of \$3,096,070 to continue development and evaluation of alternative fuel vehicle technologies for the National Demonstration Center at Hickam Air Force Base.
6. HTDC's Hawaii Small Business Innovation Research (SBIR) Grant Program awards 13 grants to nine local technology companies totaling \$260,000 in funding. The state's program thus far has assisted Hawaii small businesses in attracting \$56.5 million in federal funding and an additional \$58 million in commercial and follow on funding.
7. HTDC develops new marketing materials and publishes them in English, Japanese and Chinese.
8. HTDC expands its Professional Service Providers Program and the new Virtual Incubation Program for start-up tech businesses in the State.

HTDC Strategic Objectives for 2006

1. Provide business opportunities for local technology companies in China, Japan and Korea;
2. Increase collaborations and partnerships with federal programs and private sources;
3. Increase the amount of available and affordable space for start-up technology companies particularly in the life sciences industry;
4. Increase the number of graduates from HTDC's incubation program; and
5. Continue to improve Hawaii's business climate for high tech industry development.

HTDC Programs & Services

Tech Business Support Programs

Continuation of Flavors of Technology

Various awards were presented to the Tech Company of the Year, Top High-Tech Leaders, Technology Hall of Fame, Tech Educator of the Year, Technology Community Service Award, and Technology Hall of Fame Award.

6th Annual Holiday Science & Tech Fair

The annual Holiday Science & Tech Fair, held in December, continues to raise awareness about technology activities here in Hawaii among recent graduates and expatriates coming home for the Christmas holidays. More details are under Tech Jobs Hawaii and its 2005 activities.

Media

HTDC used various media vehicles to help build awareness of its clients, programs, and the technology industry. These vehicles included television and radio appearances, public service announcements about HTDC's workshops and seminars, and press releases to print media. In addition, stories about our programs, events, and successful graduates appeared year round in the local dailies, Pacific Business News, and Internet-based vehicles.

Among other television venues, HTDC's Executive Director Phil Bossert appeared in October on High Tech Hawaii, a cable channel program hosted by UH Chief Information Director David Lassner. The show featured HTDC clients, CEO Art Koga of Blue Cliff, and President and CEO Monty Littlefield of Pipeline Communications and Technology. They both shared their companies' products and experience, and the advantages of being at the Manoa Innovation Center.

Tech Buzz

HTDC's relationship with PacificNews.Net and KHON-TV continues to be a strong strategic marketing partnership. This partnership provides HTDC with media exposure on the bimonthly TV show Tech Buzz, the KHON Morning News on Tuesday mornings, the Flavors of Technology on Oceanic Cable 16, Dot.Biz Talk radio, and in a column in the PacificNews.Net publication.

Tech Buzz and Tech Buzz Morning Show

In its fourth season, HTDC continued to showcase MIC, MRTC, HICH, virtual clients and its other programs. Companies benefit from the on-camera experience and hone their marketing presentations. The following companies and programs were featured this year: XML Star and the SBIR program.

Tech Buzz Hawaii Morning Show on Fox 2 Morning news with Kirk Matthews featured interviews with HTDC CEO Phil Bossert on legislative updates, publicity on HTDC's participation in the 2005 Roadrunner Tech & Internet Expo, FastTrac™ entrepreneurial training courses, the China tech tours, Manufacturing Extension Partnership client PT Hawaii, the Small Business Innovation Research Program, and the Holiday Tech Fair.

Tech Business Support Programs

Flavors of Technology-OC 16

Flavors of Technology on Oceanic Time Warner Cable's Channel 16 features locally available technologies in a fun & fast paced approach. This season, HTDC showcased HTDC client Environmental Waste Management Systems, and SBIR recipient companies at the Natural Energy Laboratory of Hawaii Authority: High Health Aquaculture Inc., Pacific Planktonics and Kona Blue Water Farms.

Dot.Biz Talk Radio on KHVH AM 830

Dot Biz Talk Radio discusses Hawaii's tech businesses and products. Topics presented were information about DragonBridge Capital and its relationship with HTDC by HTDC CEO Phil Bossert, Federal Programs Manager Janice Kato on the Hawaii Small Business Innovation Research conference, and the Holiday Tech Fair.

Looking Forward

HTDC will continue its work to increase awareness about its own programs and services and about Hawaii's tech industry through its technology business support programs.

HTDC Programs & Services

Tech Business Support Programs

Continuation of TechJobsHawaii.org

- **Resume Lists**

When an employer searches the TechJobsHawaii.org resume database, the employer has the added ability to select individual resumes to save for viewing at a later date.

- **Multiple Logins per Company**

TechJobsHawaii.org now allows multiple logins for a single company, ensuring that jobs posted by different members of a company will share the same company description.

- **Site Metrics**

TechJobsHawaii.org now tracks the number of jobs posted, the number of times each job has been viewed, and the number of resumes posted. Since these features were implemented in mid-July, between 20 and 30 new jobs and approximately 80 resumes are posted each month.

HTDC continues to utilize the HiTechHawaii.com mailing list each week to notify job seekers of newly posted jobs on TechJobsHawaii.org. The subscriber base for this particular newsletter has grown from 300 in 2004 to nearly 800 in 2005.

Hawaii Technology Business Directory

The Hawaii Technology Business Directory is an online guide to Hawaii's technology companies. HTDC publishes the directory to encourage networking among Hawaii's high technology companies and to help them sell their products and services. You can find the directory by visiting <http://www.htdc.org/directory.asp>.

Hawaii Technology Report

HTDC contracted the Hawaii Institute of Public Affairs (HIPA) to update both HIPA's Hawaii's New Economy statistics and include newly identified high tech growth indicators. The combined report incorporating 2003 data was posted on HTDC's website at <http://www.hitechhawaii.com/webnewsarchive.asp?ID=1669>. The most updated report incorporating 2004 data was printed at the end of 2005 for distribution to state Legislators and state economy stakeholders in early 2006.



Tech Expo

The High Technology Development Corporation and Oceanic Time Warner Cable again presented an opportunity for technology companies and organizations to present their innovations in high technology throughout the State of Hawaii at the 2005 Technology & Internet Expo, which began on March 10, 2005, at the Ala Moana Hotel on Oahu. This was followed by additional Technology & Internet Expo events in Kahului, Lihue, Hilo, and Kona.

HTDC featured its various programs and also included Manoa Innovation Center clients ATCO Software; Blue Lava Wireless; and graduates Nova-Sol and its spin-off, Archinoetics on Oahu; and ATCO Software on Maui, Kauai and in Kona.

China Tech Tour

In June of 2005, HTDC organized and led the second "China Tech Tour" to three technology parks in Shanghai, Beijing and Tianjin for Hawaii tech business executives. This year's tour was in conjunction with DBEDT's 2005 trade mission to China and provided an opportunity for Hawaii tech execs to make presentations about their businesses to Chinese tech businesses and to visit tech businesses and R&D facilities in China.

Flavors of Technology Event

HTDC partnered with the Technology News Network and the Pacific Technology Foundation for the 5th Annual HTDC Flavors of Technology dinner held September 25, 2005. The yearly event is a celebration of the achievements of Hawaii's high-tech companies and supporters.

HTDC Board of Directors and Staff

Chair

Brian J. Goldstein

(term expires 6/30/07)

Chief Executive Officer

Kona Bay Marine Resources, Inc.

First Vice Chair

Jay M. Fidell, Esq.

(term expires 6/30/07)

President

Bendet, Fidell, Sakai & Lee

Second Vice Chair

Carl L. Simons

(Representative for Natural Energy Laboratory of Hawaii Authority)

Secretary / Treasurer

Sharon M. Wong

(term expires 6/30/07)

President

IMS, Inc.

Stacey C. G. Hee, Esq.

(term expires 6/30/06)

Attorney at Law

McCorriston Miller Mukai MacKinnon

Gail Honda, Ph.D

(term expires 6/30/06)

President & CEO

Global Optima, Inc.

Maurice H. Kaya

(Ex-Officio Representative for DBEDT

Director Theodore Liu)

Chief Technology Officer

Dept. of Business, Economic Development & Tourism

James D. LaClair

(term expires 6/30/09)

Vice President – Network Operations

Hawaiian Telcom

David Lassner, Ph.D

(term expires 6/30/09; Representative for UH)

Chief Information Officer

University of Hawaii

Anthony “Tony” Saguibo

(Representative for Hawaii Strategic Development Corporation)

Recording Secretary

Laborers’ International Union of North America,
Local 368

Stanley T. Shiraki

(Ex-Officio Representative for B&F Director Georgina Kawamura)

Deputy Director

Dept. of Budget & Finance

HTDC Staff

Philip J. Bossert, Ph.D, Executive Director & CEO

Kay Yamada, Project Development Manager

Coleen Yoshina, Executive Secretary

Steve Sakuda, Controller

Yvonne Isobe, Senior Account Clerk

Gail Yamasaki, Account Clerk

Laurie Akau, Client Services Manager

Nancy Hiraoka, Client Services Specialist - Service Provider Program

Sandi Kanemori, Client Services Specialist - Business Development

Sandra Park, Client Services Specialist - Workshops & Seminars

Janice Kato, Federal Programs Manager

Robert Mon, Federal Programs Specialist

Kristie Mashino, Manufacturing Extension Partnership, Program Assistant

Mary Ann Lee-Matsui, Manufacturing Extension Partnership Project Consultant

Laura Noda, Manufacturing Extension Partnership Project Consultant

Nina Ann Tanabe, Manufacturing Extension Partnership Project Consultant

Thomas Quinn, HCATT Manager

Kristy Carpio, HCATT Secretary

Sylvia Bollmeier, Contracts Administrator

Dean Yoshida, Network Services Administrator

A Message from the Board Chair



HTDC, an agency that has existed for over twenty years, has always had a relatively low profile; so low that when I joined the HTDC Board of Directors a little over two years ago, many people asked what HTDC does. My response has been that HTDC

provides incubation facilities, services and support to fledgling and developing technology companies.

As the state of Hawaii's only agency dedicated to fostering Hawaii's technology industry, HTDC provides vital infrastructure and services that the private sector cannot and will not provide. One of HTDC's most critical services, for example, is the provision of office space at below market rents, on a month-to-month basis, to tenants with little or no credit history. For the aspiring entrepreneur, securing office space can be one of the most daunting hurdles in starting a technology business. With our agency's help, this mundane yet critical task is greatly simplified. For instance, Dustin Shindo, CEO of Hoku Scientific, states, "A high technology start-up often times can have a very challenging time securing appropriate office facilities on a short-term basis. The availability of HTDC's incubation facilities helped Hoku at a critical time in its earliest stages of development." HTDC's aid in providing office space contributed to Hoku Scientific's ultimate success.

HTDC performs this service well, so well, in fact, that all of its facilities are not only full, but have waiting lists for office space. In essence, HTDC provides the infrastructure or foundation that allows the entrepreneur to focus on growing their business rather than dealing with the mundane but often frustrating chore of securing a place to run their business. As an entrepreneur who has participated in this part of start-up process, I very much appreciate the value of this aspect of HTDC's mission.

It is easy to evaluate HTDC's success in its mission by simply considering the success of some of our past and current clients. Liquidity events include:

- Hoku Scientific (IPO in 2005; NASDAQ: HOKU)
- Blue Lava Wireless acquired by Jamdat (NASDAQ:JMDT) for \$137 million, which was then

bought out by Electronic Arts for \$680 million in December

- Digital Island (became billion dollar company; acquired by Cable & Wireless)
- Aspect Software Consulting (acquired by Microsoft).

Tenants who have "graduated" from our incubators include:

- Inovaware
- Atlantis Cyberspace
- Laser Barcode Solutions
- Oceanic Imaging Consultants.

Hawaii's historically low unemployment rate, its strong economy, and China's economic growth are creating new challenges and opportunities for HTDC and the technology industry. There is more start-up activity than ever, which results in increasing demand for additional incubation facilities both here and abroad. HTDC has responded by:

- Developing the International Incubation Program, kicked off with the execution of cooperative agreements with two of the largest high technology incubators in China (Zhongguancun in Beijing and Pudong Productivity Center in Shanghai).
- Signing a partnership agreement with DragonBridge Capital, a Honolulu-based merchant bank and venture capital fund. DragonBridge's clients soon will open U.S. offices in Hawaii and may also be HTDC incubator tenants.
- Working cooperatively with prospective developers in Kakaako to create new incubation facilities to support both the information technology and life sciences industries.

With continued support from Governor Lingle and the Legislature, we will continue in our efforts to solidify the role of the high technology and life sciences industries in diversifying Hawaii's economy.

Brian Goldstein
HTDC Chair

HTDC Programs & Services

Tech Business Support Programs

Through its technology business support programs, HTDC continually works to increase awareness about its programs and services, as well as about Hawaii's tech industry.

Tech Jobs Hawaii

Over the past several years, the public and private sectors have been hard at work, diversifying our local economy by building a promising high-tech industry.

The Tech Jobs Hawaii Consortium continues to target Hawaii residents living both in and out of the state working in the technology sector by utilizing the www.techjobshawaii.org website.

The Consortium hosts the annual Holiday Science & Tech Fair in December.

2005 Activities

October 21, 2005:

UH College of Engineering Career Day

6th Annual Holiday Science and Tech Fair - December 28, 2005

HTDC's 6th Annual Holiday Science & Tech Fair was held at the Japanese Cultural Center. HTDC partnered with Kamaaina Careers and with private schools Punahou, Iolani and Kamehameha. The event continues to raise awareness about technology activities here in Hawaii among recent graduates and expatriates coming home for the Christmas holiday. The fair provided island-grown talent the chance to explore the many opportunities offered by this dynamic industry. Attendees were able to meet with representatives of participating companies, who shared insight on the qualifications needed to achieve a successful high-tech career; provided information on the varying types of technologies and products; and in some cases, offered employment, mentoring and internship opportunities. This year's event included a networking mixer with the Global Pau Hana group.

Information Dissemination

In 2005, HTDC continued efforts to increase awareness of its programs and services through a variety of website enhancements and e-newsletter campaigns.

HiTechHawaii.com Portal

HiTechHawaii.com is Hawaii's high-tech portal website for marketing and promoting high technology in the Islands. As the central access point for technology industries, HiTechHawaii.com brings information about technology industry resources, news, events, businesses, and jobs under one virtual roof. The use of HiTechHawaii.com doubled for the second year in a row, averaging more than 600 visits per day in 2005.

HTDC continues to utilize the HiTechHawaii.com mailing list to disseminate information about Hawaii tech industry news and events. During 2005, the number of HiTechHawaii.com mailing list subscribers grew to more than 1,800.

HTDC.org

HTDC.org continues to provide its visitors with a wealth of information about HTDC's programs and services as well as provide HTDC's clients with access to statewide conference room reservations. In 2005, HTDC began the process of building an online application that will allow service providers to apply to be listed in a new service provider directory, accessible by all HTDC.org visitors.

Awareness of HTDC.org also continued to grow, with its use increasing from an average of 280 visits per day in 2004 to more than 550 in 2005.

TechJobsHawaii.org

Hawaii's expanding technology industry is creating a demand for technologically skilled employees. Five years ago, the Tech Jobs Hawaii consortium formed and created TechJobsHawaii.org to provide a no-cost, direct connection between job seekers, interns and employers. HTDC developed and continues to maintain and enhance the website.

In 2005, HTDC further improved the user experience and administrative functions for TechJobsHawaii.org.

- **One-click Company Job Listings**

Job seekers are now able to view a list of all jobs posted by the same company in one click.

HTDC Programs & Services

Federal Programs

HTDC-MEP Success Stories

HAWAII PLANING MILL, LTD.

Hawaii Planing Mill, Ltd. (HPM) is a major building supply company based in Hilo with three full-service centers and a total of six locations in the state. The company also manufactures metal roofing, trusses, pre-hung doors, and other products.

Several years ago, HPM was straining to keep up with customer demand. The construction boom was in full swing in Hawaii, and the sheer volume of orders for roof trusses and metal roofing had caused lead times to slip. The company had ordered some additional equipment, but knew that it would take more than just capital investment if they wanted to get back to the lead times that customers demanded. In addition, the unemployment rate in Hawaii was the lowest in the nation, and the local pool of potential workers had nearly dried up. Management recognized that they needed to work smarter rather than harder and improve throughput with the limited resources that were available.

Reading about Lean Manufacturing Principles and Value Stream Mapping, HPM Executive Vice President, Thuy Fujimoto, contacted the HTDC-MEP program to find out how HPM could employ some of these principles. The MEP program conducted several training sessions in Lean Manufacturing and Value Stream Mapping with various employees and levels of company management. As a result of the training, production volume has increased by over 100 percent, and the company was able to reduce changeover time by nearly 50 percent.

The company has continued to experience double digit growth rates for the last two years. The application of Lean techniques has enabled the company to meet the incredible increase in demand while not adding proportionally the same number of employees. HPM management is currently using Value Stream Mapping techniques to plan for smart growth as additional equipment and capacity are added. HPM even requested additional Lean training for its employees as it expanded its business.

“HTDC provided very good, practical lean training that enabled our people to quickly get their hands around this unique manufacturing approach. As a result of embracing these methods, we’ve been able to make leaps forward in the efficiency and productivity of our

manufacturing divisions to meet the needs of our customers,” said Mike Fujimoto, president and CEO of Hawaii Planing Mill, Ltd.

ED & DON’S OF HAWAII

Another company to benefit from HTDC-MEP assistance is Ed and Don’s of Hawaii. Ed & Don’s is a manufacturer and purveyor of fine handmade chocolates and ice cream. For months, the candy manufacturer had tried to create its new Lava Rock Chocolates, a blend of crunchy candy, chocolate, and roasted macadamia nuts.

“We just couldn’t seem to get it right...but Hawaii MEP and MEP Project Manager, Nina Tanabe, worked with our production team and had the candy coming out within a month,” said Earl Kurisu, former assistant general manager.

With a background in food science and product development, Nina Tanabe has worked with numerous food manufacturers over the years. Her work experience includes research and product development for major Hawaii food manufacturers.

According to Tanabe, Ed & Don’s problem was of a technical nature. “Basically, their formula just needed to be tweaked a bit and their production methods slightly changed.” As a result of HTDC-MEP assistance, the company was able to quickly overcome the bottleneck in production.

Looking Forward

Assisting companies to attract federal R&D dollars and providing services to growing firms with federal funding has become part of HTDC’s core services towards growing Hawaii’s tech industry. Leveraging federal funding is becoming increasingly critical as HTDC’s state general fund budget continues to be reduced and HTDC works to become more self-sustaining. The federally funded programs have greatly enhanced HTDC’s ability to deliver new business services to the growing high tech market and other high value firms, and increase research and development activity in Hawaii.

In the next year, HTDC will continue to train firms interested in applying for federal research and development funding and to successfully commercialize beyond the R&D phase. Training, mentoring and matchmaking activities will be expanded pending the passage of a bill introduced in the Legislature this coming year that would expand the existing Hawaii SBIR matching grant program to include training activities to help Hawaii companies be more successful in competing for federal funds.

A Report from the Executive Director & CEO



After celebrating our 20th anniversary during 2004, HTDC's staff focused most of its efforts during 2005 on improving and expanding the range of services that HTDC provides to its clients and tenants and expanding the reach of HTDC beyond the borders of the State.

The service improvements include a new tenant services area at the Manoa Innovation Center (MIC) that provides more mailboxes, additional office machines and a much nicer guest reception area and upgrades to the conference rooms shared by all tenants. New landscaping around the facility also gave the exterior a much-needed facelift.

The Hawaii Innovation Center at Hilo (HICH), a partnership between HTDC and the University of Hawaii at Hilo, was finally completed, and almost immediately was fully occupied with start-up companies based in the Hilo area. At the Maui Research & Technology Center (MRTC), long-time R&D tenant Trex Enterprises moved out into its own newly-built facilities and provided space for Oceanit to expand operations for several of its entrepreneurial ventures, as well as freeing up building B to be converted into a larger and more modern data center for the Maui High Performance Computing Center.

In the area of expanding the reach of HTDC, Governor Linda Lingle, former HTDC Chair Jay Fidell and I signed in June a landmark cooperative agreement with the Zhongguancun International Incubator in the Beijing Science & Technology Park, home to more than 12,000 Chinese technology ventures. In September, current HTDC Chair Brian Goldstein and I signed a similar cooperative agreement with the Shanghai Pudong Productivity Center, the international incubator in the Shanghai Science & Technology Park. These two cooperative agreements provide a framework for the international incubation programs at HTDC and the two China parks to support Chinese companies seeking to launch U.S. operations from a base in Hawaii and Hawaii companies seeking to launch China operations from a base in either Beijing or Shanghai. HTDC will provide office space for the two China programs in Hawaii and they in turn will provide office space for HTDC in their parks. We have also initiated efforts to develop similar

cooperative agreements with one or more tech parks in Japan.

As part of entering into these China agreements, HTDC also established a public-private partnership with DragonBridge Capital in Honolulu. DragonBridge is a venture fund focused specifically upon investments in the China technology sector. HTDC will assist DragonBridge in identifying Chinese companies that wish to launch their U.S. operations from Hawaii, and DragonBridge will select some of these companies and invest in their Hawaii operations as well as assist these companies in the complex process of preparing for an IPO in the U.S. This is a win-win relationship for both HTDC and DragonBridge in that we present a stronger presence in China together than either of us would on our own.

HTDC worked with the Hawaii Institute of Public Affairs to publish the 2004 and 2005 editions of the *Hawaii New Economy Index and Recommendations*, and with UH Angels and the Hawaii Strategic Development Corp., to sponsor the Kauffman Foundation's *Power of Angel Investing* workshop. And you will see in the pages of this annual report that HTDC also organized, sponsored, presented or actively participated in a wide variety of additional tech-based events and programs throughout the year.

Technology continues to grow as an important new sector of Hawaii's economy. All three of HTDC's incubators are full with waiting lists and the new virtual incubator program is growing. HTDC is working to develop additional space both for new start-up companies and for the growing list of Hawaii-based R&D firms moving into the State from the mainland U.S. and foreign countries. The HTDC tech team has accomplished much this past year, but it will take both increased effort and additional resources if the growth of this vital new tech economy is to be sustained and take its place as a key industry in Hawaii's future.

Philip J. Bossert, Ph.D.
Executive Director & CEO

HTDC Programs & Services

Incubation Programs & Facilities

Incubation Programs

HTDC provides an array of client services, facilities, and equipment for new and early-stage technology companies. HTDC's incubators are designed to nurture and develop entrepreneurial ventures. Its Tech Center Program provides referrals through the Professional Service Provider Program to private sector business experts and service providers; business and technology workshops; business reviews by trained management consultants; subscription to electronic newsletters; and access to facilities and equipment.

Virtual Incubation

Start-up companies that do not require office space at an incubation facility can still benefit from HTDC's client services through the Virtual Incubation Program. Since the 2004 launch of HTDC's Virtual Incubation Program, nearly 20 technology start-up companies have benefited from the program. The Virtual Incubation Program provides technology start-up companies the opportunity to utilize the business development services and facilities of HTDC's statewide incubation program without having to lease office space in one of HTDC's technology centers. Virtual Incubation Program benefits include:

- Access to private sector business experts in HTDC's Professional Service Provider (PSP) Program at discounted rates;
- Participation at reduced rates or at no cost in HTDC's workshops, seminars, special functions and networking events;
- Company business reviews by trained management consultants;
- Use of fax machines, photocopiers, and mail services;
- Access to an online reservation system that allows clients to book conference rooms, training rooms, and office equipment at HTDC's technology centers on the islands of Oahu, Kauai, Maui and Hawaii;
- Individual mailbox and physical mailing address at one of HTDC's technology centers.

Current virtual clients are individually named on the HTDC client company websites alongside tech center

clients and enjoy the benefit and appearance of a tech center client. Virtual clients enjoy the benefits of all incubation programs offered by HTDC for a minimal fee of \$100 per month.

Professional Service Providers

HTDC's Professional Service Provider (PSP) Program is designed to provide HTDC's client companies with the business support and consulting resources needed to accelerate their transition from incubator companies into vibrant and successful businesses. The PSP program is based on public-private sector partnerships between HTDC and experienced business professionals, who have agreed to provide value-added services at reduced costs to support the success of our client companies. Through a matchmaking process, HTDC's client companies can access these consultants and professionals for assistance in such areas as law, accounting, marketing, human resources, and business plan development.

Noteworthy Activities

Through the year, more of our clients were able to consult with HTDC's PSPs on such topics as legal advice and counsel, Act 221/215 clarification, and business strategies. Our clients also took advantage of various no-cost workshops offered by providers such as the Manufacturing Extension Partnership on eCommerce; Robert Hunter on SBIR, Dean Choy on employment law, and Leighton Chong on intellectual property. The service providers presented brown bag workshops and seminars in their areas of expertise (see Workshops & Seminars) on Oahu and on some of the neighbor islands. HTDC plans to have more extensive and in-depth workshops featuring its providers in 2006 with monthly subjects of interest to its clients. HTDC plans to roll this out, in conjunction with its videoconferencing capabilities, to the neighbor islands.

A growing number of meetings between providers and clients took place and led to actual match-ups, while most of the providers have renewed for another year. We are optimistic that many more mutually beneficial matches will be made as we become more effective in our matchmaking.

HTDC is working on implementing an online directory and database module for providers, both in the Professional Service Program and those who may be interested in being listed as a resource.

HTDC Programs & Services

Federal Programs

Continuation of Ongoing Projects

Force for the delivery of one of these advanced powertrain dump trucks to Hickam. This vehicle will be put into operation and evaluation with the Civil Engineering Division at the air base.

Future Initiatives

Lithium Battery Powered Step Van — HCATT will develop a lithium battery-powered step van for operation at Hickam. Currently, HCATT is evaluating candidate battery technologies to determine the ideal application for the step van.

Fleet Expansion — HCATT will continue to grow the fleet of vehicles and equipment at the National Demonstration Center with a focus on electric drive technology, to include pure battery powered, fuel cell/battery hybrid, and other hybrid electric vehicles.

National Fuel Cell Bus Program — The U.S. Department of Transportation has initiated a program to develop and demonstrate technology for use in future fuel cell buses. HCATT is coordinating with two other regional consortia to participate in this program. Potential projects will make use of existing capabilities already in place under the Air Force funded program.

Hydrogen Economy Development — HCATT is collaborating with the Hawaii Natural Energy Institute at the University of Hawaii to support the transition to a hydrogen-based economy in Hawaii. Planned projects include stationary and transportation applications for fuel cells.

Economic Development Administration

HTDC continued to deliver a Statewide Virtual Incubation multi-year program under the \$300,000 Department of Commerce's Economic Development Administration (EDA) grant that was awarded to HTDC in 2004. The term of the grant ends on May 31, 2007.

Under this grant, HTDC is developing, operating and supporting a statewide virtual business incubator serving the main islands of Hawaii, Kauai, Oahu and Maui. The incubator targets new and expanding technology businesses in areas of the state that have not previously received business incubation services. Services include technical assistance in areas such as financial management and business planning; virtual office space, including website development and support; and access

to copiers and fax machines and physical space and web conferencing/video teleconferencing facilities for meetings and presentations as needed. (For more information on these activities, please see Incubation Programs and Facilities section.)

The mission of EDA is to lead the Federal economic development agenda by promoting innovation and competitiveness, preparing American regions for growth and success in the worldwide economy. Through the NTA Program, EDA works toward fulfilling its mission by funding research and technical assistance projects to promote competitiveness and innovation throughout the United States. By working in conjunction with its partners, EDA helps states, local governments, and community-based organizations to achieve their highest economic potential.

HTDC-Manufacturing Extension Partnership Program

HTDC managed the Manufacturing Extension Partnership (MEP) program under a third year cooperative agreement with the Department of Commerce's National Institute of Standards and Technology (NIST).

HTDC-MEP is part of a nationwide network of resource centers transforming manufacturers to compete globally, supporting greater supply chain integration, and providing access to technology for improved productivity.

Core MEP services delivered by HTDC-MEP consultants in 2005 included lean training (producing more with existing resources by eliminating wasteful activities), growth planning, product development consulting, financial analysis, marketing, and entrepreneurial training for new manufacturing businesses. In the last 12 months, the MEP program trained 160 businesses and entrepreneurs via direct consulting and workshops.

The national program again faced significant federal budget cuts in fiscal year 2005, but the program will receive full funding of \$106 million in the coming fiscal year. The Hawaii program attracts \$437,066 in federal funds to which HTDC provides a two-to-one cash and in-kind match. HTDC-MEP has four full-time project manager positions, including a project manager in Hilo, and a program assistant.

HTDC Programs & Services

Federal Programs

Hawaii Center for Advanced Transportation Technologies

HTDC established the Hawaii Center for Advanced Transportation Technologies (HCATT), formerly the Hawaii Electric Vehicle Demonstration Project, in 1993 to represent the Hawaii Consortium in the Defense Department's Electric and Hybrid Vehicle (EHV) Technology Program, sponsored by the Defense Advanced Research Projects Agency (DARPA). DARPA established the EHV Program with seven regional consortia to accelerate the development of dual use, clean fuel technologies for both the military and commercial transportation sectors.

Success under the DARPA Program led to continuing collaboration with the other six consortia in the Department of Transportation (DOT) Advanced Vehicle Technologies Program (AVP). Currently, HCATT continues its work with the U.S. Air Force Advanced Power Technology Office (APTO) through its development of advanced alternative fuel vehicles and supporting infrastructure for evaluation at the National Demonstration Center at Hickam Air Force Base (AFB). These efforts are aimed at production and commercialization of advanced transportation technologies with military and commercial applications.

Ongoing Projects

National Demonstration Center at Hickam Air Force Base — In pursuit of dual use technologies, HCATT collaborated with the U.S. Air Force APTO and created a National Demonstration Center for Alternative Fuel Vehicles at Hickam AFB to evaluate advanced transportation technologies. Initially, the project evaluated light- and heavy-duty electric drive vehicles and battery charging systems. Currently, HCATT is developing fuel cell vehicles and hydrogen infrastructure for Hickam AFB. HCATT delivered a fuel cell/battery-powered hybrid electric bus in 2004 and followed with a fuel cell/battery powered hybrid electric step van in 2005. This is the beginning of a fuel cell vehicle fleet that HCATT will continue to develop for demonstration at Hickam. The next major project for Hickam is the installation of an on-site hydrogen generation system to support the operation of the present and future fuel cell vehicles.

Hydrogen Fueling Station — HCATT contracted with HydraFLX Systems to design and develop a hydrogen fueling station that would be modular and deployable, for transport on a flatbed truck or tactical aircraft to any location in the world. The station consists of three modules: a fuel processor, which is an electrolyzer provided by Teledyne Energy Systems; a pressure management system, developed by HydraFLX Systems; and a pressure storage module, consisting of Dynetek hydrogen storage tanks. Although the station installed at Hickam will not be relocated, it will serve as a model for the rest of the Air Force for building deployable systems. This project leads both the State and the Air Force in the application of fuel cell vehicles and hydrogen infrastructure.

Hydrogen Powered Fuel Cell Step Van — HCATT converted an internal combustion powered Workhorse/Utilimaster Step Van to a fuel cell/battery powered van which incorporates an Enova Systems 120 kW electric drive system, a Hydrogenics 65kW proton exchange membrane (PEM) fuel cell power system, two Dynetek 5000 psi hydrogen storage tanks, and advanced batteries. The van will be used by the 15th Maintenance Squadron to support flight line maintenance operations at Hickam. This step van has a fuel cell dominant hybrid electric drive system, whereas the fuel cell bus delivered last year has a battery dominant drive system.

Ground Support Equipment — Development of new hybrid propulsion systems to support flight line operations continues at the National Demonstration Center. HCATT is working with Concurrent Technologies Corporation to develop and deliver a fuel cell powered aircraft tow tractor for operation by the Hawaii Air National Guard at Hickam. Additionally, a fuel cell powered light cart is under development to support flight line operations.

Lithium Battery Technology — HCATT continues to investigate advanced battery technologies in pursuit of a battery system that will meet consumer demands for greater range on a single charge in light-duty vehicles. The battery chemistry that will most likely meet this requirement is lithium, and HCATT is collaborating with the Electrochemical Power Systems Laboratory at the University of Hawaii in the evaluation of lithium-ion batteries provided by two different manufacturers.

Hybrid Electric Dump Truck — Hybrid electric refuelers and dump trucks for the Air Force are being developed under a project with Volvo Powertrain Systems. HCATT developed an agreement with the Air

HTDC Programs & Services

Incubation Programs & Facilities

List of PSPs

HTDC is honored to have over 40 high caliber service providers from diverse disciplines participating in our Professional Service Provider Program. We appreciate our service providers' commitment and dedication to helping our companies succeed.

For the most up-to-date listing of providers, please visit <http://www.htdc.org/incubation/psp/providers.html> or to view providers by category, visit <http://www.htdc.org/incubation/psp/>.

- Attitude & Response Management Systems — Denny McDonough
- Business Plans Hawaii — Valerie Koenig
- Carlson Communications — Doug Carlson
- Ching, Yuen & Morikawa — William W.L. Yuen
- Dean Choy, A Limited Liability Law Company
- Dreammasters, Inc. — Ryozo Ariyoshi
- Susan K. Eichor
- Edwards & Brewer LLC — Gary Edwards and Lisa Brewer
- Fujita & Miura Public Relations
- Furniture Plus — Charles M. Black
- Godbey Griffiths Reiss Chong — Seth Reiss and Leighton Chong
- Goodsill Anderson Quinn & Stifel – Lori Hiraoka and Ric Galindez
- Ted H.S. Hong — Attorney
- Dr. Judith K. Inazu
- Hawaii Business Research Library — Ruth Corn
- Insight Consulting & Training LLC - Sherri Okinaga and Cynthia Kitagawa
- Lester J. Hee, CPA — Accountant
- Jackson & Co., LLP – Bill Wigert
- High Technology Development Corporation — Manufacturing Extension Program (HTDC-MEP)
- Robert M. Hunter, PLLC
- KMH LLP — Alan M.L. Yee
- Law Offices of Jack R. Naiditch, Inc.
- The Limtiaco Company — Diane Peters-Nguyen
- Mauka Makai Web Services – Bruce Campbell
- Mindwind Labs — Burt Lum
- Miyamoto Strategic Counsel — Craig Miyamoto
- Net Enterprise — Benny Mateo
- NipponBC — Ryozo Ariyoshi
- Oceanit Information Technology Solutions (ITS) Division
- Pacific Business Services, Inc. — Russell Seeny
- The Pacific Law Group — Darryl M. Taira
- Pacific Light Studios — Raymond Wong
- Pen-for-Rent — Howard E. Daniel
- PricewaterhouseCoopers LLP — Martin Kao and Jonathan Townsley
- Preview Hawaii — Shawn and Carrie Riley

- RevaComm — Elden Ito
- Spunge — Chris Lucero
- Starr Tech Interactive, a subsidiary of Starr Seigle Communications — Mary Fastenau
- TeamWorks — Eric Scott
- Kevin T. Wakayama — Attorney
- West Island Productions – Paul Y. Nishijima
- John Wooldridge — IP Attorney
- XMLstar — Debasis Bhattacharya
- Russell R. Yamada, Attorney at Law, A Law Corporation

Workshops & Seminars

HTDC continues to sponsor seminars and training events throughout the year for our client companies. The events are held at the Manoa Innovation Center, the Maui Research and Technology Center, the Hawaii Innovation Center at Hilo and at sister locations on Kauai and Kona.

Working together with the Professional Service Providers, staff coordinates these educational presentations for the benefit of our client companies and other technology companies. The topics range from intellectual property and marketing to tax incentives and eCommerce.

Client companies and the general business community are also invited to participate in events offered by HTDC's federal and business development programs such as the HSBIR, FastTrac Entrepreneurship Training and HTDC Manufacturing Extension Partnership (MEP) programs.

In January, HTDC brought to Hawaii "Research Parks 101," a workshop endorsed by the Association of University Research Parks, an international professional organization representing research parks around the globe. Co-sponsored by the University of Hawaii's John A. Burns School of Medicine (JABSOM) and the State's Hawaii Community Development Authority, this one-day workshop helped Kakaako stakeholders to integrate research park concepts into an effective biotechnology strategy for Hawaii. Keynote speakers were Dr. Edwin Cadman, the Dean of JABSOM, and Hawaii Senate President Robert Bunda.

HTDC Programs & Services

Incubation Programs & Facilities

HTDC sponsored the Kauffman Foundation's *Power of Angel Investing* workshop in collaboration with co-sponsors, the UH Angels and the Hawaii Strategic Development Corporation on October 13. The all-day event proved beneficial in providing valuable content and networking opportunities for Hawaii's entrepreneurs, angel investors, and venture capital investors.

List of Workshops & Seminars

January 10 in Kauai

Act 221 Tax Incentives, presented by Kurt Kawafuchi, 12 attendees

January 11 in Hilo

Act 221 Tax Incentives, presented by Kurt Kawafuchi, 14 attendees

January 12

Research Parks 101
51 attendees, all non-clients, 12 staff

January 25

Employment Law Overview, presented by Dean Choy; 12 attendees, 5 tenants; 2 non-tenants

February 15 in Hilo

Milkbone Marketing, presented by Marty Parisien, 40 attendees, 1 tenant, 36 non-tenants

February 18

Elevate Your Presentation and Media Skills, presented by Doug Carlson, 15 attendees

February 24 in Maui

PR and Marketing for Your Company, presented by Diane Peters-Nguyen, 8 attendees, 1 tenant and 7 non-tenants

March 18

Milkbone Marketing, presented by Marty Parisien, 16 attendees, 3 tenants, 13 non-tenants

March 31

IP Licensing, presented by Lawrence Udell and James Ferguson, 20 attendees, 2 tenants, 17 non-tenants

April 4 in Hilo

Growing Your Business and Creating Customer Value, presented by Professor Brooke Dobni, 21 attendees

April 13 in Kona

SBA Presentation, presented by Small Business Administration staff; 20 attendees

May 24 in Kauai

eCommerce 101, presented by Bill Wiedmann; 10 attendees, 9 non-tenants

August 8

Commercial Leasing, presented by Andrew Roth and Kelli Wilinski of Colliers and Monroe, 8 attendees, 5 tenants

September 9

Marketing Online, presented by Marty Parisien, 17 attendees; 3 tenants, 14 non-tenants

October 13

Power of Angel Investing
30 attendees, 4 staff

November 5, 2005 in Kauai

Tax Workshop, by Director of Taxation Kurt Kawafuchi
15 non-tenants, 3 staff

November 18

Family Business Seminar, presented by Dr. George Vozikis, 12 attendees

November 22

State of the Web 2005, presented by Kevin Hughes
6 attendees, 1 graduate, 3 staff

November 30 in Hilo

Commercializing Your Intellectual Property, presented by Leighton Chong, Richard Cox and Robert Hunter
10 attendees, 1 client, 2 staff

Business Reviews

HTDC offers business reviews by its MEP management consultants to incubation and virtual incubation clients. The consultants assess the company and offer guidance in marketing, financing, business planning, business growth, and other business areas. HTDC client companies can take advantage of this program every six months. Clients have found the objective views and comments of the business review to be invaluable in steering their companies toward greater efficiency and prosperity.

HTDC Programs & Services

Federal Programs

Continuation of SBIR Hawaii Matching Grant Awardees

- ***Referentia Systems, Inc.** (Honolulu, Oahu): To develop a command and control system simulator to train people to make better decisions in the field. This simulator will allow students to interact with different scenarios, such as a bio-terrorism attack, and learn to make consistently effective decisions.
- ***Referentia Systems, Inc.** (Honolulu, Oahu): To create a 3D model generator for air-to-ground targeting from a variety of inputs, allowing aircraft to approach from any angle.

FAST Award

HTDC continued to provide technical assistance training to encourage companies to compete in research and development programs such as SBIR and conducted outreach in the area of university tech transfer.

In the last quarter 2004, HTDC became third-year recipients of the U.S. Small Business Administration's Federal And State Technology Partnership (FAST) award. The \$95,000 grant greatly assisted HTDC this past year to increase promotion of the SBIR/STTR program in Hawaii and to educate and train local firms in competing for federal R&D funding. The FAST grant allowed HTDC to conduct intensive training on Maui, Kauai, Hawaii and Oahu in December at HTDC's 9th Biennial Hawaii SBIR/STTR Conference. Thirteen Federal SBIR managers and representatives from eight agencies presented SBIR program information and met one-on-one with 192 entrepreneurs and R&D firms. Training on proposal writing, attracting private investment, and mentoring was also offered. Other activities under FAST included one-on-one SBIR proposal training with PBC, Inc., proposal reviews from experienced SBIR consultant Robert Hunter, a SBIR webpage redesign, and the creation of a SBIR community and networking mechanism through the Global Pau Hana social networking website. Additionally, HTDC worked more closely with UH OTTED and other stakeholders seeking to increase technology spin-offs from the university.

Hawaii SBIR Outreach and Training Activities

- 1/25 SBIR Workshop (in Kona): "Funding & Commercializing Your Innovation" – Ritchie Coryell, Bob Hunter, Neil Sims, Ann Park & Janice Kato
- 3/10 Oahu Tech & Internet Expo: SBIR trade booth promotion
- 4/13 SBA/SBIR Workshop (Kona)
- 5/4 Maui Tech & Internet Expo: SBIR trade booth
- 5/25 SBIR Commercialization Seminar (Oahu) by Jenny Servo of Dawnbreaker
- 10/13 Power of Angel Investing Workshop
- 10/25 Kona Tech & Internet Expo: SBIR Intellectual Property presentation by Dr. Robert Hunter
- 10/26 Flavors of Technology OC16 TV show: Video profiles of local SBIR companies High Health Aquaculture, Black Pearls/Kona Blue Water Farm and Pacific Planktonics
- 11/29 Tech Buzz KHON TV news show: SBIR Conference briefing by Janice Kato
- 12/1 Hawaii SBIR Conference promoted by Janice Kato on KHVH, Mike Buck Dot Biz radio show
- 12/4-9 Hawaii 9th Biennial SBIR/STTR Conference (Oahu, Maui, Kauai, Hawaii): presentations by SBIR program managers from the Departments of Agriculture, Commerce; Defense (Army, Chemical & Biological Defense, Missile Defense Agency, and Navy); Energy; Health and Human Services; Homeland Security and Transportation; NASA; and the National Science Foundation; also proposal writing workshops by Mark Henry of PBC; intellectual property workshops by Bob Hunter; funding/commercialization presentations by Brad Bertoch of the Wayne Brown Institute, Ed Young of the Hawaii Technology Development Venture, and John Chock of the Hawaii Strategic Development Corporation; technology transfer presentation by Dick Cox of the University of Hawaii, Office of Technology Transfer and Economic Development; and presentation on the Hawaii SBIR Assistance program by Janice Kato and Robert Mon.

HTDC Programs & Services

Federal Programs

HOW THE FEDERAL SBIR PROGRAM WORKS

The federal SBIR program is a three-phase program to help firms conduct research and development that addresses critical national needs. The federal government funds the first two phases. In Phase I, the company explores the technical merit or feasibility of an idea or technology. SBIR agencies generally award up to \$100,000 for a six-month effort. In Phase II, the company expands upon Phase I results and generally receives up to \$750,000 over a two-year period to perform R&D work and evaluate the project's commercial potential. In Phase III, the small business is responsible for securing funding from industry or other non-SBIR federal sources to further mature and commercialize the project. The likelihood of projects transforming into commercial applications is an important consideration.

The eleven U.S. agencies with the largest extramural research and development budgets participate in SBIR. They are the Departments of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, Homeland Security and Transportation, NASA, NSF and the Environmental Protection Agency. Over two billion SBIR dollars are awarded to small businesses annually.

SBIR Hawaii Matching Grant Awardees, July 2004 - June 2005

SBIR Project Summaries (companies that have won their first ever SBIR award are denoted with an asterisk)

- ***21st Century Systems, Inc.** (Honolulu, Oahu): To produce technical plans for an intelligent-agent controlled simulation environment that will enable greatly enhanced flexibility and robustness in the generation and execution of complex scenarios to support operational testing and training.
- ***Archinoetics** (Honolulu, Oahu): To develop a sensor suite to detect gravity-induced loss of consciousness (GLOC) and eliminate this cause of aircrew injury and loss of life.
- ***Archinoetics** (Honolulu, Oahu): To develop a near infrared spectroscopy (NIRS) device to spatially identify areas of pulmonary dysfunction, the presence of foreign bodies in the lung field, and provide breathing and cardiac frequency information.
- **Kuehnle AgroSystems Co. LLC** (Honolulu, Oahu): To demonstrate the technical feasibility of chloroplast genetic engineering in an industrial alga, *Dunaliella*.
- **Makai Ocean Engineering** (Waimanalo, Oahu): To investigate whether Ocean Thermal Energy Conversion (OTEC) is a technically, economically and environmentally viable way to produce hydrogen.
- **Oceanit Laboratories Inc.** (Honolulu, Oahu): To provide real-time vertical wind profiles to aid in precision air delivery and data collection in support of long and short range unmanned aerial variant employment.
- **Oceanit Laboratories Inc.** (Honolulu, Oahu): To develop a "quicksan" receiver instrument that will detect radio frequency (RF) signals being broadcast nearby. Special operations forces require this technology to identify and locate potential adversaries. The receiver will tell the operator what kind of device is being used, and where.
- **Oceanit Laboratories Inc.** (Honolulu, Oahu): To develop a miniature radar Sense-Through-The-Wall (STTW) system that operates at a frequency that can penetrate walls to measure motion and vital signs of individuals on the other side. The Doppler shift in the return signal can also reveal the number and relative positions of the individuals inside the room. The operating frequencies are common to normal communications signals such as cordless and mobile phones and are thus difficult to discern as being generated by a surveillance system. This is important intelligence information for forces preparing to breach and enter the space.
- ***Onomea Scientific LLC** (Papaikou, Hawaii): To develop a fish metrology system for open ocean aquaculture that will provide an accurate estimate of the average mass of individual fish, allowing correct setting of the feed rate, and more profitable operation.
- **Pacific Island Technology** (Honolulu, Oahu): To produce, test and characterize a compact LWIR hyperspectral imager that is smaller and lighter than previously fielded instruments and directly applicable to UAV-based Department of Defense (DoD) applications. The first step is demonstrating that the development of this sensor is technically feasible. Success is highly probable as no new component level technology development is required.
- ***Pacific Planktonics** (Kona, Hawaii): To investigate the feasibility of producing high value ornamental reef fish, and reducing the cost of farming these fish.

HTDC Programs & Services

Incubation Programs & Facilities

Support Services

HTDC offers a variety of other programs and services to support its client companies:

CEO Forum

HTDC formed the High Technology CEO Forum, an executive-level networking program where information technology decision makers could meet, exchange ideas and discuss topics of interest in an informal and closed setting. The goal of these roundtable discussions is to provide CEOs with an expanded network of advisors and colleagues who can share their experiences and resources. The group discussed common issues such as workforce development and legislation to see how they could, as a “collective” voice,” reshape the way things are currently done. The CEO Forum met several times this year and will continue to meet in 2006.

Client Networking Events

HTDC provided networking events at the Manoa Innovation Center, the Maui Research & Tech Center, and the Hawaii Innovation Center at Hilo throughout the year. The purpose for these events is to bring together the various clients in each center for socialization and networking. The networking events enable the clients and staff to get to know each other and become familiar with their businesses and the services provided by HTDC. These networking events have been very well attended and often result in business deals and further collaborations.

Online Reservation System

HTDC clients have access to an Internet-based online reservation system to reserve conference rooms, projectors, and other facilities and equipment at any of the facilities in HTDC’s statewide incubation program. By using the online system, clients can quickly and easily reserve a conference room, view a summary of the company’s conference room usage for the month, and receive an update on any charges incurred for facility or equipment usage. This efficient system provides an up-to-date snapshot of conference room schedules and eliminates the need to place phone calls to the facility on room availability.

Tech Ohana

Through partnerships with local Economic Development Boards and Chamber of Commerce organizations statewide, HTDC provides Tech Ohana events as a way to bring information and networking to each island’s technology industry. This type of event features an informative presentation with networking and refreshments afterwards. Speakers range from business services to panel discussions. The events in Kona, Maui and Oahu are very well attended.

Looking Forward - Incubation Programs

HTDC proceeded with its plans to expand the existing Hawaii incubator program into an international tech and business incubator by formalizing affiliations with China. During the Governor’s visit to China in June 2005, HTDC executed a cooperative agreement with Zhongguancun International Incubator (ZII) to allow reciprocal office and incubator space in both HTDC and ZII locations. In September 2005, HTDC executed a similar cooperative agreement with Shanghai Pudong Productivity Center (SPCC) in the Shanghai Zhangjiang Technology Park. These two offices will operate as HTDC’s legal representative office in China.

Critical to the success of HTDC’s international incubator program is a public-private partnership formalized between HTDC and DragonBridge Capital, LLC (DBC). DBC is a merchant bank founded in Hawaii in 2005 that will facilitate the venture funding of Chinese companies involved with the international incubator program.

Similar cooperative agreements are contemplated with Japanese entities to expand the international incubator program to Japan. The international incubator model can be relevant for many foreign locations, and the model may be transferable to foreign areas conducive to facilitating high tech business in Hawaii.

HTDC Programs & Services

Incubation Programs & Facilities

Manoa Innovation Center



Best Practices Incubation Program

The flagship of HTDC's Incubation Program, the Manoa Innovation Center (MIC), located near the main research campus of the University of Hawaii in verdant Manoa Valley, brings together the best of Hawaii's intellectual and physical resources. MIC's primary role is to serve as an incubator for new and early-stage technology companies. Tenants enjoy advanced connectivity, state-of-the-art facilities, and shared support services in an environment that is especially designed to promote the continuous exchange of ideas and information. MIC began its 13th year of operations in 2005, facilitating the growth of technology companies by providing business development services, synergistic and strategic partnerships, extensive networking activities, and professional marketing opportunities.

The Client Services Program, launched at the end of 2003, enhances the incubation experience at all HTDC facilities. By providing incubation tenants and virtual clients statewide access to business development services, strategic partnerships, networking and marketing opportunities, shared support services, and business mentoring, the Client Services team helps support Hawaii's growing high tech businesses

Noteworthy Activities & Infrastructure Improvements

Noteworthy Activities

2005 Annual Flavors of Technology awards Company of the Year to Hoku Scientific Inc. and its President and CEO, Dustin Shindo:

Dustin Shindo grew his local company from a three-person operation at MIC in 2000 to a successful venture that ultimately led to national recognition in the fuel cell membrane market, development of a new facility, and an initial public offering of his company stock. HTDC proudly recognizes Hoku Scientific as a successful 2003 graduate of MIC.

Hoku Scientific Goes IPO – August 5, 2005

Hoku Scientific becomes the first local company to initiate a public stock offering since 1999. Hoku Scientific's initial stock offering price of \$6 per share climbed to a high of about \$13.43 per share during the first three months after its stock offer opening.

Hoku Scientific's Grand Opening and Blessing of its New Scientific Facility – October 17, 2005

After just four years of existence, Hoku Scientific celebrated the grand opening of its new \$6 million headquarters in Kapolei, at which time the company employed about 20 employees.

Blue Lava Wireless Sold to Jamdat for \$137 million - April 2005

Over three years after Henk Rogers initially started his company at MIC, he successfully sold it to a Los Angeles gaming company called Jamdat Mobile Inc. Rogers successfully secured an agreement from the new owners of Jamdat precluding them from moving the company's operations from the Hawaiian islands.

2005 Annual Flavors of Technology Hawaii's Top High Tech Leaders

Barry I. Inouye – The Chief Executive Officer of Inovaware was recognized at this event. Inovaware graduated from MIC in 2004.

HTDC Programs & Services

Federal Programs

The High Technology Development Corporation has long supported the federal Small Business Innovation Research program as a means to increase high-value research and development activity in the State. The SBIR program is especially helpful to local companies that develop new commercial innovations and technologies because the program provides federal seed investment for very early-stage ideas that are typically too early stage to be of interest to private investors. Prior to HTDC's support of SBIR in 1989, there were only three known companies participating in SBIR. Since then, many local companies actively participate in the program and are successfully attracting millions of dollars and creating high quality jobs.

SBIR and HSBIR

Hawaii Small Business Innovation Research (HSBIR) Matching Grant Program

The Hawaii SBIR matching grant program was created by Hawaii State Legislature in 1989 under Act 196. This program encourages local companies to participate in the federal SBIR program, which provides research and development grants and contracts to small businesses. The Hawaii matching grant provides up to \$25,000 to each Hawaii company that has won federal SBIR Phase I awards and has good potential to expand the project, create quality jobs, and increase R&D activities in Hawaii.

The purpose of the Hawaii SBIR Matching Grant program is to help Phase I companies better compete for Phase II awards, in order to increase the amount of research and development activities in the state, create quality job opportunities for Hawaii residents, and ultimately advance commercialization.

Basic eligibility requirements for the matching grant include:

- the company is registered to do business in Hawaii
- the research work for Phase I and II is conducted in Hawaii
- the company can show the probability of positive economic return if the project is successful.

Matching grants of up to \$25,000 will be awarded depending upon the availability of funds and application score. Each of the following criteria are equally weighted:

- 1) importance of the project's innovation and research activity to Hawaii's economic future;
- 2) potential for job creation in Hawaii;
- 3) expected overall positive economic impact for Hawaii;
- 4) likelihood of the project's commercial success; and
- 5) importance of the HSBIR matching grant to the project's success.

In FY 2005, the Hawaii SBIR matching grant program awarded \$260,000 to nine local companies that won 13 Phase I awards worth \$1.2 million and four Phase II awards worth \$7.6 million. In total, since 1989, 56 Hawaii companies have won 245 SBIR awards worth over \$56.5 million from the federal SBIR program and have received \$3.7 million from Hawaii's SBIR Matching Grant Program. More than \$58 million in Phase III (non-SBIR program) funding and revenue has been attracted by the firms as a result of their SBIR work. For every State dollar invested in the program, Hawaii companies have attracted over \$15 in federal SBIR funds or \$30 for every State dollar invested when commercialization dollars are included.



HTDC Programs & Services

Incubation Programs & Facilities

Looking Forward

In March, the University of Hawaii announced its plans to develop a Medical Technologies Incubation Center in JABSOM Phase II. In June, Kamehameha Schools, a contributing sponsor of “Research Parks 101,” announced their plans to develop a premier Life Sciences Catalyst Project on Ala Moana Boulevard fronting JABSOM. The UH announced the selection of a developer for its Cancer Research Center of Hawaii earlier this year and recently announced the developer for JABSOM Phase II. While completion of these projects is several years ahead, we look forward to expanding the HTDC incubation and innovation statewide network to Kakaako and continuing our work to create a bio and infotech industry in Kakaako.

Commercial Dual-Use Industry — HTDC continues to promote the development of a dual-use commercialization innovation center in Hawaii to support Hawaii’s growing private sector commercialization of dual-use technologies and to support the transfer and commercial development of technologies and skills from Pearl Harbor Naval Base and other similar facilities throughout the State. Potential technologies today include AirSentinel, medical situation awareness applications, biosensor patches, personal fatigue and performance prediction, anti-terrorism protection, nanofiber gel for radiological injuries, precision optical technologies, remote sensing devices, nanosatellite networks, marine sensors, biodiesel production from micro algae, and submicron air filtration and extraction of toxins.

Manoa Innovation Center — HTDC currently operates the first and largest incubation facility on Oahu. Adjacent to the University of Hawaii’s Manoa Campus, this special tech facility is the perfect environment for the University of Hawaii to transfer and commercialize technologies developed by its professors and faculty. To continue this successful relationship, HTDC has been working with the University in hopes of extending its Manoa Innovation Center land lease with the University for an additional term.

Maui Research & Technology Center — HTDC continues to seek solutions to finance the development of a third building at its Maui Research & Technology Center in Kihei’s Technology Park. The sustained growth of a diverse technology industry in Maui requires development of more research and office space if HTDC is to continue to assist the industry in Maui.

Kalaeloa “Center of Excellence” (former Barbers Point NAS) — Working with the State’s Hawaii Community Development Authority, HTDC is helping to identify a public-private technology research and development project. Kalaeloa’s unique location and amenities, availability of land, and growing need for good jobs in West Oahu, offers great potential for development of high tech industry niches such as alternative energy and commercialization of dual-use technologies.

HTDC Programs & Services

Incubation Programs & Facilities

Infrastructure Improvements

MIC Completes New Front Office in Suite 100

MIC's Tech Center and Virtual clients can now enjoy the convenience of having a reception area with mailroom, copier, and fax machine access. The new reception office provides clients with a conference room and facility management office all in one suite. HTDC clients have exclusive use of the shared areas of this business center with 24/7 access.

New Security Camera and Card Access Key System

An upgraded key system with the addition of new security cameras were installed at the end of 2005. These new improvements will not only provide increased security for the entire building, but also additional flexibility, efficiency and monitoring capabilities for all tenants and facility management.

List of Current MIC Tenants

21st Century Systems — decision support system software development

ADXPO~ — remnant media exchange software

Amagata U. S. A^^ — Software development

Applied Computer Electronics Custom Design~ — biosensor devices

Asia Pacific Environmental Technology~ — waste transformation & reusable energy

Atco+ — activity desk software development

BlueCliff^~** — customization of Open Vista for the medical industry

Blue Lava Wireless — gaming software

Blue Planet Software — gaming software

Environmental Waste Management Systems** — wastewater engineering

GL Scientific — instrumentation fabrication

Go-2-Group^~** — production line automation software development

Guide.Net — software, Internet

High Technology Development Venture^^ — Federal grant program

Ikayzo^ — IT consulting/development in web application localization

Kamakura — risk management software

Kuenhle Agro Systems — biotech – plant/animal

Mauna Kea Infrared — infrared instrumentation

Mobicore* — Gaming software

On'e Technology~ — network security products

Oceanic Imaging** — deep sea mapping

Safe Water Systems, LLC* — wastewater engineering

Sanjole — WiMax test equipment development

Tropical Ventures — energy efficiency solutions

Wakweb~ — search engine development

Quantum Leap Interactive — collaborative software

^ indicates a new tenant in 2005

+ indicates virtual client

* indicates successful tenant graduate

** indicates successful virtual graduate

^^ indicates Phase-In Clients

~ indicates a new virtual client in 2005

Anchor Tenants

University of Hawaii Office of Technology Transfer & Economic Development (OTTED)

The Research Corporation of the University of Hawaii

UH Projects

Psychosocial Rehabilitation

PanStarrs (University of Hawaii Department of Astronomy)

Maui Research & Technology Center

Maui Research & Technology Center (MRTC) continues to provide Maui high tech entrepreneurs with office space and business assistance. With the development of its new data center in building B of MRTC, the Maui High Performance Computing Center (MHPCC) will become a tenant of MRTC and further expand its role as a critical component contributing to the growth and success of Hawaii's high tech sector.

Over the past few years, MRTC's occupancy has been consistently high with little or no fluctuation. The recent construction of a new building adjacent to MRTC developed by the Maui Economic Development Board (MEDB) creates new market dynamics that will allow some MRTC tenants, including MEDB (a current tenant), to relocate to the new building. This movement allows existing MRTC users to expand into much needed additional space as well as creates unique opportunities for businesses that will now be able to occupy newly available space at MRTC.

HTDC Programs & Services

Incubation Programs & Facilities

Noteworthy Activities

2005 Fifth Annual Flavors of Technology Technology Hall of Fame Oceanit

Dr. Patrick Sullivan - Founder & Chairman

Celebrating Oceanit's 20th year in business, Dr. Sullivan has taken this thriving company from a small start-up to one of the largest and most diversified technology employers in Hawaii with over 100 worldwide engineers, scientists, and support staff on three islands. Oceanit has also successfully spun off companies such as MOSAIC, Hoana, and Nanopoint.

Community Service Awards Oceanit

Oceanit received the 2005 American Red Cross Community Heroes Award in the business category. Oceanit coordinated a statewide relief effort comprising over 20 organizations, resulting in donations worth over \$50,000 in manpower and services and over \$20,000 in cash. Oceanit also sent 20-foot containers of medical supplies, food, water, and clothing to devastated regions in Sri Lanka and Indonesia.

In addition, Oceanit:

- Ranked ninth among the 25 Best Places to Work in Hawaii
- Received the John Kelly Environmental Achievement Award for "Environmentally Conscious Company of the Year" sponsored by the Surfrider Foundation.

Hawaii's Top High Tech Leaders

Curtis Leonard – Oceanit, Operations Manager / Program Manager

Joanne Ebesu, Ph.D – Oceanit, Senior Biologist

Trex Develops New Building

In September of 2005, Trex Enterprises graduated from MRTC and relocated into a newly built and furnished facility dedicated and especially designed for Trex operations.

List of Current MRTC Tenants



Client Companies

Activity Smart~ — reservation software solutions for the travel industry

Flycor** — proprietary information technology products and applications for use in the travel industry and high performance computing/massively parallel processing products

HawaiiWave High Speed Wireless Networks — high speed wireless and digital guest service R&D company

Loea Communications* — ultra-high bandwidth wireless Internet connectivity

Maui Gateway-Local* — Internet service provider

Maui Scientific Research Center — scientific research in a wide variety of fields

Maui Sky Fiber* — first broadband 3G wireless Internet service provider in the United States

Mosaic Optical Laboratory — designer and manufacturer of custom and proprietary optics

NBT 168 Technik LLC — travel and hospitality services

Oceanit Laboratories, Inc. — engineering, scientific and technical services

Pacific Disaster Center — federally supported information processing center for federal, state and local emergency managers in Hawaii, Asia, and the Pacific and Indian Ocean regions

Smart House Control+ — design, systems integration, and proprietary solutions in the home automation field

TC Kokua — multi-mode customer contact center

TREX Enterprises* — R&D in laser radar, remote sensing and advanced imaging applications

XMLstar LLC+ — online software solutions and IT development projects

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HTDC Programs & Services

Incubation Programs & Facilities

Anchor Tenants

Hawaii Small Business Development Center (SBDC) Network — business counseling, training and education

Hawaii SBDC Network Business Research Library — business research and technical information services for firms at the MRTC

Maui Economic Development Board (MEDB) — provides leadership and vision in the Maui community for the responsible design and development of a strong and diversified economy and a strong proponent for the development of technology on the island of Maui

University of Hawaii Center, Maui Community College — delivers higher education programs (Associate, Baccalaureate, and Graduate levels), customized training, and videoconferencing facilities.

Hawaii Innovation Center at Hilo



In late 2004, HTDC partnered with the University of Hawaii at Hilo to open a multi purpose business incubator now called the Hawaii Innovation Center at Hilo (HICH). Located in the downtown Hilo business district, HICH is ideally situated just minutes from the University of Hawaii at Hilo campus and the University of Hawaii at Hilo's University Park of Science and Technology. Big Island entrepreneurs and start-up companies at HICH have access to valuable incubation facilities, programs and services, including a conference room with Internet access, photocopier/fax/scanner, mail and copier room, projector and other presentation equipment, and onsite building maintenance and janitorial services. Client

companies also have access to HTDC's value-added programs and services, including:

- Professional Service Provider (PSP) Program
- workshops and seminars;
- business reviews; and
- networking events.

List of Current HICH Tenants

Client Companies

ARA Wealth Management Group[^] — Financial planning services

Digilore[^] — helps companies to capture, retain and continuously refresh explicit and tactic knowledge and delivers it on demand

H2K Driver Training Services[^] — CDL and student/adult driver education

Pat and Associates[^] — court reporting services to the public

Pacific Pro Tech[^] — ISP Services, computer servicing, upgrading and networking installation

Island Planet One Productions+^{}** — creates high quality 2D computer animation and provides training in this field.

Pre-Paid Legal Services[^] — family, business, group pre-paid legal service programs.

Robert Belcher, CPA[^] — accounting services for small businesses.

Ted Hong, Attorney at Law[^] — law practice with an emphasis on employment law

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Anchor Tenants

Hawaii Island Economic Development Board (HIEDB) — supports balanced, sustainable economic development in the context of broad community goals and objectives



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