

FINAL REPORT:
2009 HTDV COMPANY FEEDBACK SESSION ON
DUAL USE TECHNOLOGY SECTOR STRATEGIC PLAN

This report provides a summary of the Hawaii Dual Use industry's input to the 2008 Update to the Strategic Plan for the Dual Use Technology Sector in Hawaii sponsored and coordinated by the Hawaii Technology Development Venture (HTDV). It includes an inventory of current assets supporting each element of the 2008 Update captured via environmental scans, and featuring priority action items for 2009 as defined by industry participants. Approximately 80 industry, public sector, and non-profit organization representatives and leaders statewide provided their feedback and input in a September 30, 2009, working session, resulting in the this 2009 update.

BACKGROUND

The 2009 update builds upon six years of activities supporting the Dual Use technology sector, beginning with a simulation exercise in 2003 held at the annual TechEnterprise conference. The conference also led to the development of HTDV and its services to support Dual Use companies through research & development funding and support services. Over the past five years, HTDV has also led a number of initiatives, culminating in a comprehensive 10-year strategic plan for this industry and has supported the emergence of a grass-roots industry-led group which has begun to represent the industry to other sectors with a single voice, beginning with presentations on the size and value of industry activities, revenue generated, jobs created and sustained, and barriers facing the industry. Following are key milestones in the development of this sector's emergence in Hawaii as a specialized industry cluster.

- **2003** The 2nd Annual TechEnterprise Meeting entitled War Games produced key insights, for example that technology companies and venture capitalists use different terminology and a different framework of reference that needed to be bridged; that the Dual Use technology industry lacks monthly gatherings and an industry-specific association; and that the State of Hawaii lacks capital markets and lacks experienced startup entrepreneurs and support expertise.
- **2004** HTDV was launched.
- **2005** The Hawaii Dual Use Industry Road Map was initiated, and was completed by HTDV in 2007.
- **2006** The Dual Use Industry Network was launched (also referred to as the Dual Use Council). In addition, the "First Wednesday" gatherings of Dual Use companies,

intermediaries, and government agencies was launched as a grass-roots, industry-driven forum which has continued.

- **2007** State Follow on Funding (FoF) became law under Act 267, SLH 2007.
- **2008** Startup of Energy Program –the Hawaii Renewable Energy Development Venture (HREDV). Initial funding of \$1.2 million in 2008 with an additional \$3.8 million in 2009, and program will provide \$2.4 million in federal funding in 2009 to invest in pre-commercial demonstration or commercialization of clean energy technology.
- **2008** The first Update to the Dual Use Technology Sector Strategic Plan was released.
- **2008** The first industry-led Informational Briefing was held for the Hawaii State Senate Committee on Economic Development & Taxation defining the economic impact of the industry to the state economy, industry drivers and barriers, outreach by the industry to Hawaii’s education system and students, and an inventory of programs and agencies supporting the industry.
- **2008** State FoF released \$5 million. The first round of investments were made January 2009.
- **2009** HTDV has grown to invest over \$17 million in Hawaii Dual Use technology companies.
- **2009** State FoF program six-month results: 20 products; leading to 16 new hires to date with 50 new hires by calendar year end; 7 companies having commercial products ready for market and 5 having products ready for military transition; at least 7 companies leveraged FOF investment by at least two times; 4 increased their total revenues by 25%.
- **2009** The United States Senate Appropriations Committee proposed funding of \$10.5 million for HTDV, \$9 million for the Center of Excellence for Research in Ocean Science (CEROS), \$24.5 million for the Federal Health Care Network, and \$6 million for HREDV for fiscal year 2010.
- **2009** Second Update to the Dual Use Technology Sector Strategic Plan Session was held.

The September 30, 2009, session was specifically designed to secure feedback and input from the Dual Use technology sector. Participants were engaged in the session with the common objective of gaining a current perspective of the sector’s current state and growth since 2004, and specific follow-up actions required to support the continued development, expansion and sustainability of the Dual Use technology sector¹.

¹ A full list of participants and Action Item templates can be found in the Appendix section of this report.

DESCRIPTION OF SESSION

The Update Session began with an updated overview of the industry, including its size and importance to Hawaii's economy, followed by a review of each priority initiative in the 2008 Action Plan and relevant assets and activities supporting each initiative. This was followed by a gap analysis and identification by participants of key strategic action items to address gaps, with requisite timeframes, metrics and leadership.

Timelines were determined according to each sector, based on the feasible time required to initiate programs in each sector (for example, in the Public Sector Agenda, a 2-year timeframe was identified as legislation usually requires 2 years to execute). The given timelines for each sector's agenda were:

- Dual Use Industry Agenda (Immediate to 2-year timeframe)
- Joint Public/Private Sector Agenda (1- to 5-year timeframe)
- Public Sector Agenda (2-year timeframe)

A format was used to guide the discussion towards specific action items supporting each of these agenda, with specific timeframes, metrics, and leads identified by the participants². In some cases, committees of industry representatives are listed as leads particularly in those initiatives where industry input is sought for key initiatives, while in others, single agencies are identified as the overall lead.

² The format is replicated under Action Item listings and details beginning on page 9 of this report.

OVERVIEW OF DUAL USE SECTOR AS AN ECONOMIC DRIVER

The Dual Use technology sector is a recognized driver of the nation's innovation-based economy and also strengthens the capability of military forces and the competitiveness of civilian technology and workforce capacity. While the United States is evidencing a decline of leadership overall in innovation³, the Dual Use sector has grown across regions and across technology disciplines ranging from such diverse industries as life sciences and medical applications to automotive technology, unmanned systems, and sensors.

As an economic driver in the Hawaii economy, this sector has attracted over \$4 billion in revenue to Hawaii and over \$1 billion in research & development funding over the past 10 years. Representing the fastest growing technology segment, this industry has generated over 730% growth in contracts and 73% growth in grants generated by over 100 companies. The sector also generates jobs far above the median salary, at an average of \$68,000 salary level compared with the Hawaii median salary of \$35,000⁴.

Viewed as an ecosystem of local, interdependent elements supporting the Dual Use industry, the Hawaii sector includes the following diverse sources of funding, technology, companies, and stakeholders, comprising a rich environment for growth and sustained competitiveness:

- **Funding Diversity**

- Congress has budgeted \$24.5 million for the Hawaii Health Care Network (AKAMAI) for fiscal year 2010⁵.
- Congress has budgeted \$10.5 million for HTDV for fiscal year 2010⁶.
- Congress has budgeted \$9 million for CEROS for fiscal year 2010⁷.

³ The Council on Competitiveness, Report on United States Share of Global Total on Various Science and Technology Indicators; Atkinson, Robert and Wial, Howard, Blueprint for American Prosperity: Boosting Productivity, Innovation, and Growth through a National Innovation Foundation, Brookings Institution and The Information Technology & Innovation Foundation, April 2008.

⁴ Sources: HIPA 2005 Policy Review; University of Hawaii OTTED; U.S. Department of Commerce Bureau of Economic Analysis; U.S. Department of Commerce Census Bureau; National Science Foundation Science Resources Study Division; U.S. Bureau of Labor Statistics; Milken Institute; National Venture Capital Association; U.S. Patent & Trademark Office; U.S. Office of Management & Budget; U.S. Small Business Administration as reported in 2008 Update on Hawaii's Growing Dual Use Industry, April 3, 2008.

^{5, 6, 7, 8} As approved by the Senate Appropriations Committee, October 6, 2009, subject to a House-Senate Conference and final approval by Congress before it is transmitted to the White House.

- Congress has budgeted \$6 million for HREDV for fiscal year 2010⁸.
 - In 2008, a \$5 million State Commercialization Fund was provided for the Dual Use technology sector as a one-time stimulus fund.
 - In 2008, a \$10 million State Hydrogen Fund was provided as a one-time stimulus fund.
 - Over \$250,000 is invested annually through the Hawaii Small Business Innovation Research (SBIR) matching program. A total of \$260,000 is available through the High Technology Development Corporation (HTDC) for fiscal year 2010⁹.
- **Technology Diversity**
 - Dual use technologies represent diverse fields including Energy, Software, Optics, Biomedical, Bioinformatics, Security, Aerospace, Nanotechnology, Sensors, Medical Technology, and Medical Informatics.
- **Company Diversity**
 - Hawaii houses more than 82 Dual Use technology companies and over 500 technology companies¹⁰.
 - Major Department of Defense (DoD) prime contractors are represented in Hawaii¹¹.
- **Stakeholder Diversity**
 - Support agencies and stakeholders include HTDV, HREDV, CEROS, Pacific Telehealth & Telemedicine Hui (PTTH), the High Technology Development Corporation (HTDC), Hawaii Strategic Development Corporation (HSDC), the Hawaii State Legislature, private-sector Economic Development Boards (EDBs) located in each county, Federal Agencies including the Office of Naval Research
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⁹ As reported by High Technology Development Corporation at <http://www.htdc.org/sbir>.

¹⁰ A 2005 report by Enterprise Honolulu as cited in A Strategic Plan for the Dual Use Technology Sector in Hawaii – 2008 Update p. 12

¹¹ Source: U.S. Department of Defense Office of Small Business Programs

(ONR), the Defense Advanced Research Program Agency (DARPA), the Office of the Secretary of Defense (OSD), the Small Business Administration (SBA), and Hawaii's Congressional Delegation.

Hawaii's ability to sustain and grow this sector is largely based on key competitive advantages that include: Congressional leadership and coordination across stakeholder agencies; an experience base within Hawaii's Dual Use industry based on an early recognition of the opportunities to grow this sector and the groundwork laid over the past six years of targeting and supporting this industry; proximity to federal clients, specifically to military user groups represented in Hawaii by major armed forces commands and in the region and the Commander in Chief of the Pacific; and growing expertise developed by Hawaii companies and support services in Dual Use business capture methods. Its strategy and expertise have been recognized nationally as best practices in innovation¹². This expertise and Hawaii's competitive advantages to date have resulted in approximately \$25 million targeted at Hawaii R&D projects per year; from \$50 million to \$100 million per year in direct congressional support; and over \$1 billion invested over last 10 years in Dual Use technology projects in addition to revenue and job creation data listed earlier¹³.

¹² State Innovation Case Studies: Maximizing Return on R & D Investments in Tough Economic Times, 2009, National Governors' Association.

¹³ Sources: HIPA 2005 Policy Review; University of Hawaii OTTED; U.S. Department of Commerce Bureau of Economic Analysis; U.S. Department of Commerce Census Bureau; National Science Foundation Science Resources Study Division; U.S. Bureau of Labor Statistics; Milken Institute; National Venture Capital Association; U.S. Patent & Trademark Office; U.S. Office of Management & Budget; U.S. Small Business Administration as reported in Hawaii's Dual Use Defense Information Briefing February 26, 2007.

OBJECTIVES OF SESSION

The objectives of the Session were to: (a) assess the Hawaii Dual Use industry and its relevance to the State's economy; (b) review the 2008 Update to the Strategic Plan and Action Items; (c) to compile an Environmental Scan of assets in the community relevant to the Strategic Plan; and (d) to secure feedback and input from the industry on specific action plans moving forward to support the industry.

DESIRED OUTCOMES/OUTPUTS

The desired outcomes were drawn from input secured during the discussion period. Under each of the desired outcome statements, specific output action plans were derived. Action plans were required to include timeframes, metrics and leads in order to be included in the final report. Additional comments were captured as well, to indicate key issues to the industry at this point in time that were not action items with fully developed implementation plans.

PARTICIPANTS

Participants in this session were invited from the 2008 Strategic Plan Update session and included HTDV-funded companies, representatives of the Dual Use industry including large defense contractors, support services experts in fields such as accounting, financing, human resources, and intellectual property and contract law that comprise the cluster of companies supporting this industry; policymakers in the fields of economic development, taxation, and education; guilds and membership-based organizations; and government agencies at the federal, state, county, and local level involved in economic development, technology development, and business assistance ¹⁴.

Participants were asked to utilize templates for each of the key agenda (Dual Use Industry Agenda; Joint Public-Private Sector Agenda; and Public-Sector Agenda), focusing on each action item, timeframe, metrics and lead. The participants were provided a number of methods of input including a floor microphone and flipchart sheets for input on action items and other topics, and notecards for questions which were collected at their tables. The parameters of the session were that the session was limited to input and dialogue but not debate or voting. Transparency in the process was maintained by visually capturing all comments on flipcharts and allowing participants to directly add to the flipchart sheets throughout the day, and providing a summary of inputs at the end of the session on-screen in a powerpoint presentation, followed by the development of this final report to be posted on the HTDV website for further review and comments.

¹⁴ A full listing of participants is included in the Appendix of this report.

STRATEGIC PLAN AGENDA ITEMS & DESCRIPTIONS

The following agenda items were reviewed during the 2009 Update Session and were drawn from the 2008 Strategic Plan Update. A description of the 2009 input follows each summary section:

A. DUAL USE INDUSTRY AGENDA: 2009 Update to 2008 Action Items

- **Strengthen Industry, Coordinate Intermediaries**
- **Inventory Companies, Specializations**
- **Collaborative Business Development & Capture Strategy**
- **Business Assistance, Brokering, Mentoring**
- **Interact with Schools, Community**

- **Strengthen Industry, Coordinate Intermediaries:** Key best practices in economic development to support a specific industry include strengthening industry associations or similar private sector organizations that serve as catalysts for the industry's visibility, and coordinating activities of key stakeholders of an industry to avoid duplication and to accelerate support services reaching companies in the desired sector. In Hawaii, a single industry-led and managed group has emerged as the Hawaii Dual Use Network. The 2009 Update Session verified and further emphasized the need identified in 2008 for ways to strengthen the industry and more closely coordinate the efforts of intermediary organizations, particularly under action items related to representing the industry with one voice. As part of the 2009 update, the following were identified as key drivers in this effort:

- ❖ The Dual Use Network, which is completely industry-run, has developed regular and sustained opportunities for industry face-to-face interaction and professional networking, the sharing of best practices among companies and organizations in the sector, and is increasing the visibility and awareness of the sector as an economic driver in Hawaii. As the industry-only voice for this sector, this loosely organized grass-roots network has conducted briefings for federal, state and local agencies, and has developed real-time and archived webcasts of its monthly face-to-face sessions, has held sessions on neighbor islands, and has created an industry briefing that has been accepted and used prolifically across industry supporters and intermediaries.

In addition, the Dual Use sector continues to have many support organizations, guilds, and intermediaries some of which are specific to technology and others of which are specific to support services for small businesses, entrepreneurs, and procurement to include the following agencies. The 2009 Update confirmed that some of the leading support organizations for this sector continue to be:

- ❖ Hawaii Technology Development Venture (HTDV) which was established in 2004 and is a project of the Pacific International Center For High Technology Research (PICHTR) and funded by the Office of Naval Research that utilizes the capabilities of Hawaii-based small businesses in performing high technology efforts related to current and future Department of Navy and Department of Defense programs.
- ❖ Pacific Telehealth & Telemedicine Hui (PTTH) which was formed in 1999 as a joint venture of the Department of Defense and the Department of Veterans Affairs. A subsidiary of the Telemedicine and Advanced Technology Research Center (TATRC) under the U.S. Army Medical Research and Materiel Command, the Hui facilitates interdisciplinary research partnerships with government, academia and industry to advance the development of emerging technologies and improve health care for beneficiaries in the Pacific region.
- ❖ High Technology Development Corporation (HTDC) which is a State of Hawaii-funded agency that oversees statewide technology programs and outreach services to include but are not limited to the coordination of Small Business Innovation & Research (SBIR) and Small Business Technology Transfer (STTR) conferences and programs which are funded by the United States Small Business Administration (SBA).
- ❖ Hawaii Science & Technology Council (HSTC) which is a private, not-for-profit agency funded by membership dues and event sponsorships providing advocacy, enterprise support, the enhancement of research collaboration, sector research, member discount programs, group purchasing, and member events.
- ❖ Hawaii Strategic Development Corporation (HSDC) which is a State of Hawaii-funded organization within the Department of Business, Economic Development & Tourism supporting the venture capital industry in Hawaii charged with attracting external sources of private investment; establishing a fund of funds to raise capital for Hawaii venture funds, expand infrastructure supporting the venture industry and emerging companies; and to assist entrepreneurs through conferences and seminars.
- ❖ Economic Development Boards of Hawaii Island (HIEDB), Kauai (KEDB), Maui (MEDB), and Oahu (EH or Enterprise Honolulu) which were each established in the 1980s as not-for-profit corporations chartered to strengthen and diversify each of their county's economic base. Across all EDBs, the technology industry has been a priority in achieving economic development goals. Each has established its niche based on its competitive advantages and leadership goals: MEDB is recognized for its leadership in developing and delivering successful programs in workforce development, business attraction/retention, and deploying programs to build the pipeline in science, technology, engineering, and math (STEM); KEDB is recognized for its programs in science and technology, diversified agriculture

and aquaculture, health and wellness, renewable energy, visitor industry support and STEM; HIEDB has secured its base in agriculture, astronomy, renewable energy, disaster management training and research and community outreach, while Enterprise Honolulu has focused on a business growth, retention and recruitment program to include renewable energy, technology, life sciences, film and digital media, and diversified agriculture.

- ❖ Hawaii Business and Entrepreneur Mentors (HiBEAM) which was founded in 2000 to help launch and build new technology, biotechnology and life sciences companies by providing them with expert professional advice and access to funding sources. In 2006, HiBEAM expanded its capacity to provide informal, as well as formal mentoring.
- ❖ Hawaii Small Business Development Center Network (SBDC) which is a statewide business assistance organization and part of a nationwide network of over 950 centers across the 50 states and territories of the United States. The Hawai'i SBDC Network is supported by the U.S. Small Business Administration and the University of Hawai'i at Hilo under a Cooperative Agreement and provides online and onsite counseling, tools and events for small companies in Hawaii.
- ❖ Hawaii Procurement Technical Assistance Centers (PTAC) is hosted by the Office of Hawaiian Affairs, Economic Development Division and provides assistance to businesses through professional and specialized training and technical assistance including counseling sessions, seminars and workshops, and matchmaking events

The following Action Items were identified to address the issue of Strengthening the Industry, specifically by creating “One Voice” for the Industry regarding the Value of Dual Use Companies

Desired Outcome – Coordinated communications on behalf of the industry

Action #A.1: Convene an industry group to develop a communications plan

Timeframe: Year 1

Metric: Complete and execute communications plan

Initial Industry Group Participants: Jeff Willams – Willams Aerospace; Steve Brennan – Concentris Systems LLC; Karl Fooks – HSDC/DBEDT; Bob Nakata - Referentia Systems; Yuka Nagashima – HTDC; Elizabeth Corbin – DBEDT; Kevin Miyashiro – Terasys Technologies LLC

Lead: Dual Use Technology Sector Group

Desired Outcome – Coordinated communications on behalf of the industry
Action #A.2: Improved communication, coordination of networking opportunities
Timeframe: Immediate
Metric: Online calendar including Neighbor Island events; Increased joint networking among various Hawaii organizations
Lead: SBA Oahu Transition & Commercialization Center Support project/ HiTEN/EDBs

Desired Outcome – Coordinated communications on behalf of the industry
Action #A.3: Improved communication and coordination with the Legislature
Timeframe: Immediate
Metric: Improved awareness of the Dual Use Technology Sector in State
Lead: Dual Use Network, individual companies to support

- **Inventory Companies, Specializations**

The 2008 Strategic Plan identified the need for a comprehensive catalog of Hawaii Dual Use companies to include company specializations, capacity, leadership, size of company, and project experience. While a number of single-time reports or snapshots had been developed and data has been collected on technology sectors that make up most of the Dual Use technology sector, there had not been a continuously updated catalog of the entire industry. Potential customers of Hawaii defense and Dual Use companies regularly utilize such data to identify and pursue suppliers and partner companies. The 2009 Update verified the need for a directory, building upon the baseline data of HTDV-funded companies which are Dual Use companies by definition.

The following Action Item was identified to address the issue of Inventory of Companies and Specializations

Desired Outcome – Inventory of companies and specializations
Action #B.1: Complete an HTDV Directory of Dual Use companies including capability statements, key company attributes and business points of contact
Timeframe: Immediate
Metric: Complete and disseminate directory
Lead: HTDV

- Collaborative Business Development & Capture Strategy**
 One of the most effective programs that states use is a collaborative business development & capture strategy or program. Given the needs of federal agencies for combined specializations in teams of companies, this approach is inherently advantageous to small Hawaii companies who can benefit from pooling resources, time, expertise, and specializations in targeting business development opportunities.

One of the goals in the 2008 Strategic Plan supported in the 2009 Update session was sustained visibility in Washington, D.C. There is clear need for visibility of Hawaii companies with procurement decision-makers in Washington, D.C. in addition to the visibility that companies have in the field with federal technology users. As an alternative to the discussion of a physical presence, the 2009 Action Plan focused on leveraging a Dual Use mission with decades of missions led by the Chamber of Commerce of Hawaii's Military Affairs Council (MAC). The MAC missions are formally recognized by the U.S. Department of Defense as official meetings, and increase the visibility of Hawaii Dual Use representatives at the highest levels of decision-making. The President of the Chamber of Commerce of Hawaii had proposed in a September 2009 Dual Use Network meeting a briefing of members on the MAC mission specifically to pursue collaboration on future missions to Washington, D.C.

The following Action Items were identified to address the issue of Creating a Collaborative Business Development & Capture Strategy

Desired Outcome – Increased inter-company collaboration for business development and access to major programs; coordinated communications on behalf of the industry
Action #C.1: Establish a Chamber of Commerce (CoC) Defense Dual Use Committee
Timeframe: Immediate
Metric: Meaningful growth for businesses in the defense dual use sector

Lead: CoC

Desired Outcome: Increased inter-company collaboration for business development and access to major programs
Action #C.2: Develop and implement a business development assistance program
Timeframe: Year 1
Metric: Development and implementation of program

Lead: HTDV

Desired Outcome: Increased inter-company collaboration for business development and access to major programs

Action #C.3: Provide training in capture strategy and proposal development

Timeframe: Immediate

Metric: Delivery of at least 2 training sessions per calendar year

Lead: HTDV

Desired Outcome: Increased inter-company collaboration for business development and access to major programs

Action #C.4: Provide an online asset for the identification of business development opportunities

Timeframe: Immediate

Metric: Development and information dissemination of HTDV Federal Support Network

Lead: HTDV

Desired Outcome: Increased inter-company collaboration for business development and access to major programs

Action #C.5: Increase and enhance exposure for SBIR opportunities

Timeframe: Immediate

Metric: Additional proposals for SBIR funding

Lead: HTDC

Desired Outcome: Increased inter-company collaboration for business development and access to major programs

Action #C.6: Workshop on the Mentor–Protégé program; how to work with Prime Contractors

Timeframe: Immediate

Metric: Delivery of 1 workshop in 2010

Lead: HTDV

- **Business Assistance, Brokering, Mentoring**

The 2008 Strategic Plan placed three activities under a single umbrella entitled “Business Assistance, Brokering, Mentoring” leading in 2009 to a separation of distinct action items under each of the three categories. The following action items were added to the original Strategic Plan description specific to Business Assistance services.

The following Action Items were identified to address the issue of providing business support services for day-to day operations

Desired Outcome: To provide business support services for day-to-day operations

Action #D.1 Work with financial institutions on the establishment of a “Pre-qualified Line of Credit” or Loan Program

Timeframe: Immediate

Metric: Implementation of a program to support companies’ working capital requirements

Lead: HSDC/HTDC

Desired Outcome: To provide business support services for day-to-day operations

Action #D.2 Provide Workshops on Best Practices

Timeframe: Immediate

Metric: Delivery of one workshop per Calendar Quarter

Lead: SBA Oahu Transition & Commercialization Center Support Services Program

- **Interact with Schools, Community**

The 2008 Strategic Plan identified continued interaction by the Dual Use Sector as a strategic area, and individual companies have evidenced sustained support for activities in this field. In 2009, no major action items were added to the original Strategic Plan description.

PUBLIC-PRIVATE SECTOR AGENDA: 2009 Update to 2008 Action Items

- Collect Appropriate Data
- Physical Infrastructure: Neighbor Islands, Oahu
- Technology Transfer
- Industry-University Training
- Attract Skilled Kamaaina Back to Hawaii

- Collect Appropriate Data

The 2008 Strategic Plan identified gaps in Hawaii's ability to measure important Dual Use indicators. In 2009, a number of participants identified the Hawaii State Science & Technology Strategic Plan and individual agencies as sources of data to include the Hawaii Science & Technology Council and the Department of Business, Economic Development & Tourism Economic Analysis Division. No major action items were added in 2009 to the original Strategic Plan description.

- Physical Infrastructure: Neighbor Islands, Oahu

The 2008 Strategic Plan put together these two groups of neighbor islands, which have mature physical infrastructure and Oahu. During the 2009 update, participants clarified that the Neighbor Island Industry Infrastructure continues to build largely through the sustained and focused efforts of the Neighbor Island EDBs (HIEDB, KEDB, MEDB). It was further clarified that Oahu is about to embark on creation of physical infrastructure and industry infrastructure development. At this time, there were no major action items in 2008 to the original Physical Infrastructure component for Neighbor Islands; just for Oahu.

The following Action Item was identified to address the issue of Creating Physical Infrastructure on Oahu

Desired Outcome: Oahu-based facility assets to support the growth and sustainability of the Dual Use Industry

Action #E.1: Provide input to Oahu Technology & Commercialization Center Master Plan process

Timeframe: Immediate, culminating in participation in 30 October 2009 event

Metric: Meaningful input for the design and planning of a facility

Lead: Community Links Hawaii (project manager for US Department Of Commerce Economic Development Administration-funded Oahu Transition & Commercialization Center Master Plan)

Enhance Technology Transfer

The 2008 Strategic Plan identified barriers to University of Hawaii's ability to efficiently and effectively transfer technology to the private sector as a strategic area. In 2009, no major action items were added to the original Strategic Plan description.

- Industry-University Training

The 2008 Strategic Plan identified Industry-University Training as a strategic area, and individual companies have evidenced sustained support for activities in this field. In 2009, no major action items were added to the original Strategic Plan description.

The following Action Item was identified to address the issue of Increasing the Inventory of Potential Employees for the Dual Use Sector through Industry-University Internships

Desired Outcome: An adequate pool of potential qualified employees to fill critical gaps

Action #F.1: Develop, coordinate, and administer internship opportunities

Timeframe: Year 1

Metric: New and ongoing internship opportunities

Lead: SBA Oahu Transition & Commercialization Center Support Services Program

- Kamaaina Return

The 2008 Strategic Plan identified a recruitment program designed specifically to recruit Hawaii expatriates with technical and management skills back to Hawaii to work in the Dual Use sector as a strategic area. In the 2009 update, this action item was expanded and updated with insight drawn from neighbor island experience working with a private-sector company on a targeted recruitment program.

The following Action Item was identified to address the issue of Increasing the Inventory of Potential Employees for the Dual Use Sector through a Recruitment program for Kamaaina to return

Desired Outcome: An adequate pool of potential qualified employees to fill critical gaps

Action #G.1: Identify lead organization(s) for Kamaaina "Come Home"

Timeframe: Year 1

Metric: Increased pool of prospective talent to contribute to Dual Use companies

Lead: SBA Oahu Transition & Commercialization Center Support Services Program/
HiTEN/Economic Development Boards

PUBLIC SECTOR AGENDA: 2009 Update to 2008 Action Items

- Infuse Math/Science into Education: Preschool to Graduate School; Labor Pool
- Private Investment
- Business Climate: Opportunities & Constraints
- Technology Brand

The 2009 Strategic Plan Update added no major action items were added to the original 2008 Strategic Plan description, with the exception of an announcement inviting the industry to participate in a Pre-Legislative Session Meeting with the Senate and House Committees on Economic Development & Taxation.

APPENDIX

- A. ORIGIN OF UNITED STATES DUAL USE PROGRAM
- B. PARTICIPANT LIST
- C. ENVIRONMENTAL SCANS
- D. ADDITIONAL INPUT

APPENDIX A: ORIGIN OF UNITED STATES DUAL USE PROGRAM

In the 1990s, the United States Department of Defense (DoD) launched and managed a program designed to facilitate military and civilian innovation. The program was entitled the Dual Use Science and Technology (DU S&T) Program "Many of the technologies being actively pursued by industry to meet the demands of the commercial marketplace will also provide a military advantage on the battlefield," explained Dan Petonito, then-program manager of DoD's Dual Use Science & Technology Program. The term "Dual Use technology" refers to technology and techniques developed initially for military or related uses, which are modified or found to be commercially viable to produce for commercial markets.

Dual Use Science and Technology Investment Strategy Conferences were held across the nation to provide detailed information on the latest solicitation seeking proposals from companies beginning in eight focus areas:

- * Information systems and technology
- * Distributed training systems
- * Affordable sensors
- * Medical technologies
- * Environmental monitoring
- * Fuel efficiency and advanced propulsion
- * Aircraft sustainment
- * Advanced structural systems for high-speed sea-based vessels

These target areas have since been expanded. At these strategy conferences, program managers from the Air Force, Army and Navy funding research and development (R&D) projects addressed commercial technology needs and the process for participating in the program. In order to facilitate partnerships, the DoD developed streamlined contracting procedures, and to implement cost sharing between its DU S&T Program, the military services, and industry. Networks of Partnership Intermediaries have evolved to support DoD Dual Use acquisition efforts and program.

APPENDIX B: 2009 UPDATE SESSION PARTICIPANT LIST

Last Name	First Name	Company/Organization
Asselbaye	Amy	Office of Congressman Neil Abercrombie
Bellinger	Reb	Makai Ocean Engineering
Bossert	Chaoying	Pipeline Micro Inc.
Bowers	Bernice	Oahu Tech & Commercialization Center
Breman	Joe	International Underwater Explorations
Brennan	Steve	Concentris Systems LLC
Carroll	Andra	Hawaii Small Business Development Center
Chang	Mun-Won	Hawaiya Technologies
Cheung	Ken	Oceanit Laboratories
Chinn	Kevin	Cellular Bioengineering, Inc.
Chock	John	BAE Systems
Chong	Leighton	Ostrager Chong Flaherty & Broitman, NYC
Chua	Bee Leng	Hawaii Pacific University
Chun	Michael	Decon Gel
Collier	David	U.S. Marine Corps
Collignon	Larry	U.S. Marine Corps Forces Pacific Experimentation Center
Couture	Allen	Naval Undersea Warfare Center Detachment Hawaii
Coy	Michael	Cellular Bioengineering, Inc.
Downes	Nancy	Referentia Systems
Downs	Hunter	Archinoetics
Downs	Traci	Archinoetics
Fabozzi II	Donald	iWave Solutions LLC
Fooks	Karl	HSDC / DBEDT
Friedl	Bill	BDI Maritime
Fujioka	Lynn	Isis Hawaii
Fukunaga	Carol	Hawaii State Legislature
Gibson	Lisa	Hawaii Science & Technology Council
Goodin	Kelli	Pukoa Scientific
Hallof	Debbie	Business Advisory Group
Hiyane	Lynn	ALTRES Staffing
Horan	Kimberly	ALTRES Staffing
Ishikawa	Jon	Sopogy Inc
Johnson	Rex	HTDV / PICHTR
Kalopodes	Erin	HTDV/ PICHTR
Kaya	Maurice	HREDV / PICHTR
Kim	Caroline	Hawaii Small Business Development Center
Kitajima	Ian	Oceanit Laboratories
Kitajima	Lianne	Fatigue Science
Konkola	Paul	Eyekon Systems LLC
Krueger	Jeff	Advanced Fusion Technologies
Leong	Aaron	Naval Undersea Warfare Center Detachment Hawaii

Leong	Lori	HTDV / PICHTR
Lid	Viil	University of Hawaii
Masumoto	Harold	HTDV/PICHTR
Matsumoto	Keith	HTDV
Matsunaga	Dana	Referentia Systems
Mendez	Sonya	Williams Aerospace
Miyashiro	Kevin	Tetrasys Technologies LLC
Nakata	Robert	Referentia Systems
Nishimoto	Daron	Pacific Defense Solutions
Nishimura	Erin	Archinoetics
Ontai	Guy	Alaka'I Consulting & Engineering
Ontai	Guy	Alaka'I Consulting & Engineering
Owen	Cathy	Nanopoint Inc.
Pham	Thoai	Central Pacific Bank
Polson	Cranston	Hawaii Hydrogen Carriers
Qu	Weilin	University of Hawaii
Reed IV	Thomas	Oceanic Imaging Consultants, Inc.
Rolland	Philippe	Referentia Systems
Shore	Robert	DBEDT
Skog	Jeanne	Maui Economic Development Board
Toyama	Guy	H2 Technologies, Inc.
Tribble	David	Referentia Systems
Troy	Paul	Hawaii Oceanic Technology, Inc.
Tsuda	Jerry	Central Pacific Bank
Ushijima	Andrea	Pukoa Scientific
Wallenstrom	Jon	Forest City
Weintraub	Amy	Isis Hawaii
Williams	Leilani	Williams Aerospace
Williams	Jeffrey	Williams Aerospace
Yoshioka	Mattie	Kauai Economic Development Board

APPENDIX C: 2009 ENVIRONMENTAL SCANS

The following elements were identified during the session as assets in the community and/or existing conditions that directly impact each of the agenda items.



Figure 1: Overview of Environmental Scan Areas

Dual-Use Sector: Environmental Scan UPDATED

Strengthen Industry Association, Coordinate Intermediaries	Inventory Companies, Specializations	Collaborative Business Development & Capture Strategy
<p><input type="checkbox"/> Networking opportunities for Dual Use decision makers</p> <ul style="list-style-type: none"> •Dual Use Council •First Wednesday Group •HiTEN •NCMA •Tech Enterprise •AFCEA/IEEE/MTS/Other Professional Organizations •Pacific Operationa S&T Conf. •Oceans •Statewide BiAnnual SBIR Conference Mauui : Federal Network <ul style="list-style-type: none"> Tech Ohana AMOS Conference Kauai: Federal Network <ul style="list-style-type: none"> KEDB Science & Tech Comm HS&TC: Second Friday tech download Virtual Communities <ul style="list-style-type: none"> TechHui Manoa Geeks 	<p><input type="checkbox"/> Directories of teams, companies by specialization</p> <ul style="list-style-type: none"> •HTDV Directory •HSTC Directory •HSTC Database •DBEDT/HTDV Ocean Resources Directory •HREDV Directory 	<p><input type="checkbox"/> Business Development & Capture expertise</p> <ul style="list-style-type: none"> •HTDV company assistance •ARRA opportunities •DoD Mentor-Protege program •Tech Enterprise •HTDV Exhibit •CEROS Industry Day •HREDV Industry Day

Figure 2: Environmental Scan Private Sector

APPENDIX C: 2009 ENVIRONMENTAL SCANS cont'd

**Dual-Use Sector:
Environmental Scan UPDATED**

Business Assistance, Brokering, Mentoring	Interact with Schools, Community	One Voice re: Value of Dual Use
<input type="checkbox"/> Support services specific to dual use needs particularly in HR, Accounting, Government Certifications	<input type="checkbox"/> Defense & Dual Use focus	<input type="checkbox"/> Support for Dual-Use industry voice
<ul style="list-style-type: none"> •SCORE •SBA Govt Contracting Program launch •HREDV, HTDV •HTDC-MEP •Workforce Dev Programs •SBA/SBDC resources •Matchmaking with Supply Chain vendors •HiBeam – mentoring, partnerships 	<ul style="list-style-type: none"> •Aloha Ike program by KEDB; Ke'Alahele by MEDB to seed tech in schools •Tech Careers, GeoTech, IGED etc by Women in Technology •Shidler, DOE Hawaii High School Business Plan Competition •Kauai – Hi Sci. Tech. Committee - Teachers meet with industry monthly, discussing job requirements and job opportunities •UH Career Fair (College of Engineering) 	<ul style="list-style-type: none"> • April 08 Legislative Briefing •2008 Strategic Plan •Webcasts by Defense & Dual Use Council •Ad hoc presentations •HTDV Outreach programs •Earned media coverage

Figure 3: Environmental Scan Private Sector cont'd

APPENDIX C: 2009 ENVIRONMENTAL SCANS cont'd

**Public/Private Sector:
Environmental Scan UPDATED**

Collect appropriate data	Physical Infrastructure: Neighbor Islands	Physical Infrastructure: Oahu
<input type="checkbox"/> Sector Data	<input type="checkbox"/> Industry infrastructure	<input type="checkbox"/> Industry Infrastructure
<ul style="list-style-type: none"> • Hawaii Science & Tech Council's database and reports • SOH Dept of Taxation reports on Act 221/215 • HTDV database on individual dual use companies 	<ul style="list-style-type: none"> • Maui Research & Technology Center • Premier Place • West Kauai Technology & Visitor Center • Hawaii Innovation Center at Hilo • NELHA • PMRF • Ke Alahele/ The MEDB Center • Institute for Astronomy – opening infrastructure to dual use 	<ul style="list-style-type: none"> • 2009 EDA-funded Charrette and Master Plan for Oahu Transition & Commercialization Center • UH ARL (facility restricted) • SBA initiatives in Cluster Development • Manoa Innovation Center • Mililani Tech Park

Figure 4: Environmental Scan Public/Private Sector

APPENDIX C: 2009 ENVIRONMENTAL SCANS cont'd

**Public/Private Sector:
Environmental Scan UPDATED**

Tech Transfer	Industry-University Training	Attract Kamaaina
<input type="checkbox"/> Vehicles for efficient tech transfer	<input type="checkbox"/> Industry-University linkages	<input type="checkbox"/> Technical Skill Base: Hawaii returnees
<ul style="list-style-type: none"> •HTDV UH Technology Development Program •HNEI Energy Programs •OTTED 	<ul style="list-style-type: none"> •HPU New Venture Challenge, Pappas Series, HPU Global Entrepreneurship Program •Asia-Pacific Homeland Security (including Dual Use) Conference •UH Tech Showcase •Chaminade Hogan Program 	<ul style="list-style-type: none"> •Recruitment of expatriates in targeted technology fields •Individual company efforts •ALTRES and other professional staffing resources •Kamaaina Careers (a business specializing in bringing kamaaina back to Hawaii)

Figure 5: Environmental Scan Public/Private Sector cont'd

APPENDIX C: 2009 ENVIRONMENTAL SCANS cont'd

**Public Sector:
Environmental Scan UPDATED**

Infuse Math / Science Into Education (education system)	Infuse Math / Science into Education (labor pool)	Private Investment
<input type="checkbox"/> Graduates proficient in math, science, tech, communication skills	<input type="checkbox"/> Labor pool experience in technology, project management	<input type="checkbox"/> Private investment: \$500k - \$1million working capital
<ul style="list-style-type: none"> •Preschool through Graduate School (Robotics, LEGO, Robofest, Botball, MATE-BIRR, HURC, GeoTech, Excite Camp, IGED, Project EAST, EPIC, interns) •STEM Forums •Specialized Outreach_(JABSOM, Project Niu, DoD, NASA programs) 	<ul style="list-style-type: none"> •ALTRES and other professional staffing support •Professional Development & training for teachers •Kauai - Focus on Professional development for teachers •Kauai - Teachers meet with industry monthly, discussing job requirements and job opportunities 	<ul style="list-style-type: none"> ▪ Act 215/221 Discussion ▪Hawaii Angels ▪Limited off-island VC exposure ▪HSDC ▪EUTF Opportunity

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Figure 6: Environmental Scan Public Sector

APPENDIX C: 2009 ENVIRONMENTAL SCANS cont'd

**Public Sector:
Environmental Scan**

Business Climate - Opportunities	Business Climate - Constraints	Tech Brand
<input type="checkbox"/> A Supportive Tax / Business Climate	<input type="checkbox"/> Long-Term Business Climate Barriers	<input type="checkbox"/> A clearly articulated, credible technology brand
<ul style="list-style-type: none"> •No Internet Tax •Hawaii improved from #22 to #24 in Business Tax Climate Index •GET exemptions for at-risk federally funded projects • Some Quality of Life elements (environment) 	<ul style="list-style-type: none"> • Increased/increasing GET • Individual tax rate • Labor costs • Transportation costs • Land and permitting costs • Cost of living • Overall business costs • Education Infrastructure • Lack of Skilled Labor 	<ul style="list-style-type: none"> • Defense & Dual Use brand offered via HTDV-coordinated booth, product sheets, directory

Figure 7: Environmental Scan Public Sector

APPENDIX D: ADDITIONAL INPUT

➤ **Legislature:**

- Strengthen Public Sector funding and agency support (HTDC, HSDC, County EDBs) for technology sectors.
- Give state agencies specific industry-driven targets to achieve, and measure accomplishments each year, publish.

➤ **Intermediaries:**

- Add Hawaii-based Testing & Evaluation efforts focusing on military exercises in Hawaii as prep for overseas exercises and as marketing outreach by inviting military officials, partner companies, potential investors to see demos, meet companies

➤ **Community Links Hawaii (CLH) Oahu Transition & Commercialization Center Master Plan:**

- Design into center office and light industry use combining space for companies shared common resources and support services such as:
 - an electronics shop
 - fabrication vendor sites
 - large bay for light manufacturing and integration
 - office support
 - workout centers
 - innovation centers with virtual conferencing and facilitation services,
 - multimedia centers
 - meeting rooms
 - common labs and classrooms for both adult continued education and K-12 programs (e.g. robotics, engineering, UAVs)
 - low-cost parking
 - subsidized rent for first number of years of each tenant's rent with growth targets and transition to market rates.