

A Regional Business Plan for Economic Development in the Tampa Bay Region

Prepared for:



tampaBAY
partnership



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EXECUTIVE SUMMARY

The Tampa Bay region (comprised of Citrus, Hernando, Hillsborough, Manatee, Pasco, Pinellas, Polk, and Sarasota Counties) has embarked upon a major effort to build understanding of regional economic strengths and opportunities and to craft an ambitious – yet implementable – plan that will lead to job creation and greater economic resiliency through diversification.

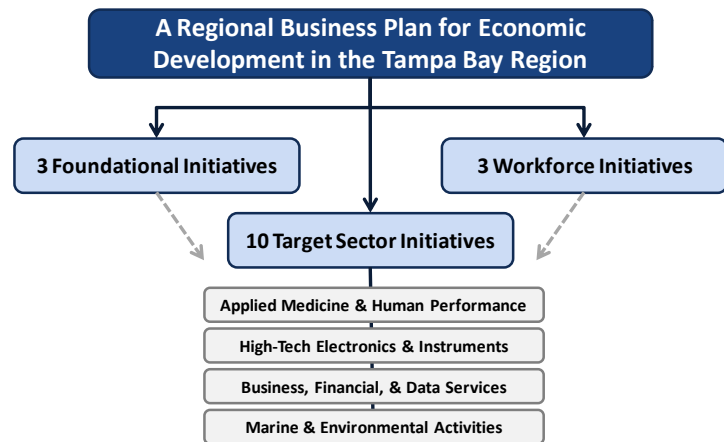
Under the auspices of the Tampa Bay Regional Planning Council and the Tampa Bay Partnership, the region contracted with SRI International to conduct a series of analyses related to the regional economy and workforce, and to prepare an actionable strategy for developing its target industry sectors and workforce, and for promoting overall economic growth and diversification.

The Tampa Bay region’s comprehensive, three-year regional business plan contains three components and sixteen initiatives, as depicted below:

Foundational Initiatives. Three initiatives that address the Tampa Bay region’s overall foundations for economic growth and diversification.

Workforce Initiatives. Three initiatives that support improved workforce availability and skills for building the target sectors and promoting overall economic growth.

Target Sector Initiatives. Ten initiatives that address needs specific to the region’s four target sectors, namely: *Applied Medicine & Human Performance*; *High-Tech Electronics & Instruments*; *Business, Financial, & Data Services*, and *Marine & Environmental Activities*.



FOUNDATIONAL INITIATIVES

Foundational initiatives address weaknesses in the region’s broader foundations for economic growth and diversification. In the Tampa Bay region, stakeholders describe three major “cracks” in the region’s economic foundations:

- The traditional reliance on “place” as the defining attribute used in regional promotion and the accompanying lack of clarity about a cohesive, forward-looking regional identity.
- The fragmentation and gaps within the region’s innovation and entrepreneurship system.
- The tendency to look outward for business expansion (i.e., recruitment to the region), rather than nurturing and growing businesses with existing footholds in the region.

INITIATIVE #1: DEVELOP AND PROMOTE A RENEWED IDENTITY FOR THE TAMPA BAY REGION AS AN INNOVATIVE, INTEGRATED REGIONAL ECONOMY

Most competitive regions around the country are finding that building and promoting a broad-based regional identity (rather than promoting individual communities or counties) is a more effective approach for attracting investor attention and building sustained advantage in today’s increasingly competitive economic landscape. This initiative will continue and deepen unified marketing and promotion activities by the region’s many stakeholders, to convey the Tampa Bay region as a well-rounded, diversified, and innovative place to live and do business.

Activities:

- 1) Conduct an inventory and GIS mapping of the region’s key target sector assets; create a database for use as marketing collateral.
- 2) Develop marketing messages that capture unique regional assets and identity in the four target sectors. Design a region-wide external marketing plan for promoting the target sectors.
- 3) Prepare and implement a regional legislative agenda and communications strategy focusing on key issues related to the target sectors.

INITIATIVE #2: BUILD AN INNOVATION AND ENTREPRENEURIAL ECOSYSTEM TO SUPPORT A MORE RESILIENT REGIONAL ECONOMY

Historically, systematic region-wide support for innovation and entrepreneurship has been somewhat of an “afterthought” in the Tampa Bay region, because innovation has not traditionally served as a central source of economic growth and because small businesses had access to a steady supply of new customers in the form of transplants and tourists. Better coordination and support for innovation and entrepreneurship is needed in order to participate in today’s competitive economy and to prepare the region for the future.

Activities:

- 1) Pursue activities and improvements in the regional innovation and entrepreneurship ecosystem.
- 2) Develop mechanisms for incubators to share info, coordinate, and communicate.
- 3) Conduct activities to facilitate company applications for SBIR/STTR grants.
- 4) Build angel/venture capital info, networking, funding available.
- 5) Facilitate university tech transfer and commercialization process enhancements.

INITIATIVE #3: STRENGTHEN BUSINESS RETENTION & EXPANSION REGIONALLY

Business retention and expansion (BR&E) is vital to job retention and job creation, since existing firms typically create 30-80% of all new jobs in a region. However, many businesses in the Tampa Bay region feel that they have little or no contact with their local economic development organizations. This initiative aims to strengthen local BR&E efforts, and also to achieve benefits and synergies through a more coordinated regional approach that will address unmet business needs and complement/facilitate local BR&E activities.

Activities:

- 1) At the regional level, implement common software system to manage and track relationships with businesses.
- 2) Participate in business outreach activities (e.g., industry associations).
- 3) Organize and recruit for regional CEO roundtables.
- 4) Meet periodically to report on activity and discuss regional initiatives to meet business needs.

APPLIED MEDICINE & HUMAN PERFORMANCE

The goal for the Applied Medicine & Human Performance target sector is for the Tampa Bay region to become a recognized center of excellence for specific, targeted areas of biomedical research that leverage key and unique regional assets – especially in fields related to **senior health/wellness** and **human performance for all ages**. Building on existing and emerging centers of medical excellence in these fields, the Tampa Bay region will develop high-quality **clinical trials** and **destination medicine**. Complementary expertise in areas such as **medical devices and instruments** and **health IT and bioinformatics** will be strengthened by capitalizing on not only life science capabilities, but also the region’s existing strengths in high-tech manufacturing and business/financial services.

INITIATIVE #4: BUILD CAPACITY AND NATIONAL REPUTATION FOR CLINICAL TRIALS IN THE REGION

The Tampa Bay region has most of the resources necessary to offer the entire pathway of high-quality, competitively priced clinical trial services. Destination medicine is also a strong opportunity if the region can become a center of excellence for state-of-the-art clinical trials, supported by the region’s strong tourism assets. This initiative aims to address key gaps in pursuing these opportunities, such as attracting a handful of clinical trials experts in key specialties, increasing physician participation in clinical trials, and raising national awareness of the region’s advantages in clinical trial services.

Activities

- 1) Inventory the region’s clinical trials experience. Identify gaps and current/target areas of specialty.
- 2) Streamline the region’s clinical trials timeline and examine bottlenecks in the clinical trials process.
- 3) Increase participation of the region’s resident physicians in clinical trials.
- 4) Attract and recruit researchers with expertise in conducting high-quality clinical trials; develop and fund incentive packages.
- 5) Market regional clinical trials capabilities nationally to pharmaceutical cos. and contract research orgs.

INITIATIVE #5: ESTABLISH A HUMAN PERFORMANCE AND SENIOR HEALTH/WELLNESS RESEARCH NETWORK AND FORUM

The Tampa Bay region is already home to a multitude of research institutions, programs, companies, and scientists performing world-class R&D in inter-related fields related to human performance and senior health/wellness, but there is little awareness and coordination of this research across the region. This initiative will build connections and collaboration among researchers and practitioners in the Tampa Bay region, in order to expand the amount and profile of region-wide research being conducted in these fields.

Activities

- 1) Organize a human performance and senior health/wellness “researcher’s forum,” and hold periodic in-person networking events.
- 2) Develop, test, and launch a pilot “virtual research network,” for scientists/practitioners in the human performance and senior health/wellness fields.
- 3) Actively promote and recruit researcher and practitioner participation in the “researcher’s forum” and “virtual research network.”

HIGH-TECH ELECTRONICS & INSTRUMENTS

The goal for the High-Tech Electronics & Instruments target sector is for the Tampa Bay region to become a national research and commercialization leader for technologies in the **marine, medical, and defense/aerospace electronics and instruments** niches. This sector focuses on research, design, and manufacturing of high-tech components, electronics, instruments, and devices that serve a number of very different “user” industries – including medicine, defense/aerospace, and marine/environment – but that share a number of commonalities in terms of workforce/skill needs, technology/innovation approaches, manufacturing quality, and business processes. Moreover, products for all three niches have the shared requirements of high (near perfect) reliability in very extreme environments for the purpose of protecting against threats to or loss of life. Major areas of opportunity across the niches in this target sector include developments related to sensing, remote monitoring, wireless communications, and optical technologies, as well as the use of sensors and data/information processing capabilities to embed “intelligence” in specialized devices.

INITIATIVE #6: PROMOTE TANGIBLE BUSINESS OPPORTUNITIES IN AND ACROSS THE MARINE, MEDICAL, AND DEFENSE/AEROSPACE NICHES

The Tampa Bay region has strong growth potential in marine, medical, and defense/aerospace electronics and instruments – not only within each segment, but in the emerging “space” at the intersection of the three niches. To capitalize on this potential, the region should work concertedly to create awareness of these market opportunities and synergies and establish an enterprise-driven mechanism or forum to facilitate interaction and commercial collaboration across these niches, with the goal of helping regional companies build a competitive, front-runner position in this market.

Activities

- 1) Convene an organizing group to define key opportunities at the intersection of these niches.
- 2) Conduct presentations of opportunities at meetings of relevant organizations in the region.
- 3) Identify knowledgeable “neutral” parties to work individually with interested companies; develop a mechanism to embed/replicate support for others.
- 4) Develop a menu of high-impact activities to continue building awareness of opportunities.

INITIATIVE #7: BUILD RESEARCH EXCELLENCE RELATED TO DEVICES THAT CROSS INDUSTRY BOUNDARIES

Although the Tampa Bay region has strengths in advanced electronics/instruments/technologies for the marine, medical, and defense/aerospace markets, there are not significant linkages or collaborative research taking place across regional companies, universities, and research institutes working in these three niches. Over the medium/long-term, this initiative will foster the region’s capacity to conduct collaborative, cutting-edge research in the marine, medical, and defense/aerospace fields, and will position the region at the forefront of applied, commercializable research.

Activities

- 1) Develop an NBIB R21 or R01 proposal.
- 2) Coordinate a proposal for the NSF Partnership for Innovation program.
- 3) Submit integrated proposal to NIBIB PO1 program.
- 4) Form a consortium to apply for an NIBIB Bioengineering Research Partnership (BRP) Grant.
- 5) Build a multi-institution, multi-disciplinary team to apply for the NIBIB Quantum Projects program.
- 6) Form a consortium to develop a proposal for NSF’s Engineering Research Center (ERC) program.

BUSINESS, FINANCIAL, & DATA SERVICES

The Business, Financial, & Data Services sector in the Tampa Bay region is comprised of four key niches. The **business process outsourcing (BPO) and shared services** niche includes internalized shared centers or outsourced activities for a broad range of back-office and non-revenue generating processes, such as human resources, sales, marketing, customer service, payment services, finance/accounting, and administration. **Financial transactions processing** focuses on the provision of transactions processing, reserve and liquidity services, and check/clearinghouse services. **Data centers, disaster recovery, and data management** encompasses provision of technology infrastructure for consolidated storage, management, and back-up of large data repositories. **Health IT and bioinformatics** covers electronic medical records and other uses of IT in the provision of medical and pharmaceutical services and conduct of biomedical research and drug discovery. The goal for the strategy and initiatives in the Business, Financial, & Data Services sector is for the Tampa Bay region to serve as the nation's "go-to" location for efficiency-creating, high value, and client-sensitive services for businesses of all sizes.

INITIATIVE #8: PROMOTE THE REGION AS A PREMIER LOCATION FOR SHARED SERVICES ORGANIZATIONS

The Tampa Bay region hosts the shared services operations of some of the nation's best-known brands, and these companies selected the region for its strengths in the quality and availability of good labor (first and foremost), regional costs, and business environment, as well as the pleasant climate. Because a small proportion of major corporations nationwide have embarked upon this transition toward consolidation of non-core functions, the potential for attracting and hosting additional shared services operations in the Tampa Bay region is enormous.

Activities

- 1) Establish a mechanism to communicate with regional shared services operators.
- 2) Define opportunities for promoting the region to corporations seeking to consolidate non-core functions; conduct promotional efforts.
- 3) Articulate the region's value proposition as a location for shared services operations.
- 4) Monitor progress and make adjustments.

INITIATIVE #9: PROMOTE THE REGION AS A PREMIER LOCATION FOR FINANCIAL MANAGEMENT/TRANSACTIONS PROCESSING

The Tampa Bay region hosts the financial management and transactions processing operations of many well-known companies, who were attracted to the region for its quality and availability of good labor, regional costs, and other business-related attributes, as well as the general quality of life. Projected market growth trends indicate a substantial and solid market for this niche – an opportunity that the Tampa Bay region should capitalize upon through business recruitment and expansion efforts.

Activities

- 1) Establish a mechanism to communicate with regional financial mgmt. and trans. processing cos.
- 2) Define opportunities for promoting the region to financial management/transaction processing companies; conduct promotional efforts.
- 3) Articulate the region's value proposition as a location for financial mgmt/trans. processing cos.
- 4) Monitor progress and make adjustments.

INITIATIVE #10: CONVENE, SUPPORT, AND PROMOTE BUSINESS PROCESS OUTSOURCING COMPANIES IN THE REGION

The Tampa Bay region is home to many firms that provide non-core business process outsourcing (BPO) for other companies and institutions – including large BPO firms that serve global Fortune 500/100 companies, as well as small/medium-sized BPO firms that serve a range of sole proprietors and independent contractors, enterprises, and institutions regionally and nationally. This initiative seeks to generate jobs by expanding the Tampa Bay region’s base of BPO firms providing higher-skill and higher-value functions to companies in the State of Florida, nationally, and globally.

Activities

- 1) Establish a mechanism to communicate with regional BPO companies.
- 2) Identify opportunities related to small-, medium-, and large-sized BPO providers; conduct promotional and support activities.
- 3) Articulate the region’s value proposition as a location for large BPO providers.
- 4) Identify and launch steps to support small- and medium-sized BPO providers reach new customers.
- 5) Monitor progress and make adjustments.

MARINE & ENVIRONMENTAL ACTIVITIES

The goal for the Marine & Environmental Activities target sector is to develop commercial and business applications that build upon existing and nascent strategic assets and research capabilities in the marine sciences and environment. Small, but high-growth and high-potential opportunities in the areas of food-oriented *inland aquaculture* and *algae-based and other biofuels* will be pursued as emerging commercial and export opportunities for the region, and will also leverage regional geographic assets and agricultural legacy. The region will tap into and refocus its strong (but currently underutilized) construction and engineering expertise to pursue growing opportunities in *energy conservation and efficiency* projects and applications.

INITIATIVE #11: EXPAND THE COMMERCIAL VIABILITY AND EXPORT PROSPECTS FOR INLAND AQUACULTURE IN THE REGION

The Tampa Bay region has many assets necessary to become a leader in inland aquaculture for seafood production, including ideal weather conditions, availability of inland farmland, a long agricultural legacy, existing ornamental fish aquaculture expertise, strong marine science research capabilities and facilities, and a good geographic location/transportation network. This initiative will provide regional leadership to demonstrate the viability of expanding aquaculture in the region, address key barriers, and support expansion of aquaculture as a commercial, export-oriented activity.

Activities

- 1) Establish contact with and conduct site visits to Tampa Bay region stakeholders who are currently active or involved in aquaculture.
- 2) Conduct a regional feasibility assessment for development and expansion of aquaculture in the Tampa Bay region.
- 3) Identify and conduct a series of follow-on activities that support development and growth of the aquaculture sector. Garner support and leadership for these activities from stakeholders in the sector.

INITIATIVE #12: INVESTIGATE AND SUPPORT THE COMMERCIAL VIABILITY OF ALGAE-BASED AND OTHER BIOFUELS IN THE REGION

Biofuel production and consumption are still in a very early stage in the Tampa Bay region, but there is strong potential for regional development of algae-based biofuels (and possibly other biomass products) building off the region's marine science and technology assets, good climatic conditions, and the increased attention on algae-based biofuels globally. This initiative will provide regional leadership to build research and commercial capabilities in this sector, address key barriers, and ultimately support growth of algae-based (and other) biofuels as a commercially viable activity in the region.

Activities

- 1) Establish contact with and conduct site visits to Tampa Bay region stakeholders who are currently active or involved in biofuels.
- 2) Assess feasibility of the development and expansion of algae-based (and other biomass) biofuels in the Tampa Bay region.
- 3) Identify and conduct follow-on activities to support development and growth of the biofuels sector. Garner support and leadership for these activities from stakeholders in the sector.

INITIATIVE #13: EXPLORE REGIONAL INITIATIVES PROMOTING ENERGY EFFICIENCY & CONSERVATION

In the absence of a state-level framework that generates demand for renewable energy, a primary environment-related opportunity for the Tampa Bay region lies in the area of energy efficiency and conservation – focusing on investments that improve the efficiency of buildings or machinery to reduce energy costs and enhance sustainability. This initiative will support coordinated regional efforts to more effectively promote energy efficiency to homes and businesses, stimulate demand for products and services in this sector, and attract more state and federal funding (as well as private investment).

Activities

- 1) Create a user-friendly centralized online data repository on regional incentives, programs, etc. related to energy efficiency and conservation.
- 2) Create an outreach and educational campaign on energy efficiency for the regional community.
- 3) Develop a regional Energy Efficiency Building Retrofit program.
- 4) Coordinate a regional ENERGY STAR program.
- 5) Apply as a region for federal or state funding for energy efficiency and conservation activities.

WORKFORCE INITIATIVES

Building a resilient, diversified regional economy will increase job opportunities, but only if the region's companies can draw on a strong and talented workforce as a foundation. To develop a workforce with competitive and relevant skills, the Tampa Bay region must facilitate communications among three key groups of stakeholders: target sector employers, jobseekers interested in key career pathways, and the workforce education system, particularly postsecondary institutions with the capacity to provide training relevant to the target sectors.



INITIATIVE #14: EXPAND PARTNERSHIPS AND IMPROVE COMMUNICATION BETWEEN THE FOUR TARGET CLUSTERS AND THE WORKFORCE DEVELOPMENT SYSTEM

To create a competitive regional workforce for the four target sectors, employers must regularly assess their workforce needs and communicate those needs to other actors in the workforce development system. The lack of a two-way line of communication has been a challenge cited by numerous Tampa Bay stakeholders. This initiative supports activities that will build more formalized mechanisms for communication and collaboration across the region's business and academic communities, in order to pinpoint and address the region's cross-cutting workforce needs as the target sectors emerge as drivers of future economic growth.

Activities

- 1) Convene region-wide Target Sector Skill Panels to identify and prioritize future occupations/skills and assess the need for program development and refinement. Communicate with educational institutions to implement changes.
- 2) Inventory the current availability of practical/"on-the-job" career training and awareness-building programs related to the target sectors. Identify gaps and priorities; build partnerships to develop new programs.

INITIATIVE #15: INCREASE COORDINATION, COLLABORATION, AND INFORMATION SHARING AMONG THE REGION'S POSTSECONDARY INSTITUTIONS

An established mechanism for coordination across regional workforce development institutions is key to ensuring that students and workers can move seamlessly through the system, reducing duplication of programs or competition across institutions, and encouraging strategic development of new programs. For the most part, the region's postsecondary institutions tend to be fragmented and are not strategically communicating with one another or with the economic development system. This initiative aims to establish mechanisms for improved cooperation and strategic coordination, as well as to utilize the knowledge generated through this process to improve the marketing and communication of the Tampa Bay region's education and workforce assets.

Activities

- 1) Establish a "Regional Education Coordinating Council" as a mechanism for coordination and dialogue across the region's postsecondary institutions (at all levels).
- 2) Create a region-wide online networking forum or portal as a platform for ongoing, informal dialogue within the workforce system.
- 3) Compile comprehensive information about regional training/education/degree programs related to the target sectors. Link with GIS mapping activities.
- 4) Identify key marketing messages (and related data) about regional workforce/education assets related to the target sectors. Link/coordinate with external promotional efforts.

INITIATIVE #16: INCREASE AWARENESS ABOUT CAREER “LADDERS” AND OPPORTUNITIES IN THE TARGET SECTORS

As existing industries change and new industries emerge, it is important for the workforce development system to keep abreast of new pathways of opportunity available to workers, including the various promotional steps required for advancement, which come with higher levels of pay, skills, responsibilities, and ultimately, higher standards of living (known as “career ladders”). This initiative aims to increase the availability of “career ladder” programs within the region’s workforce development system, as well as the awareness of prospective students of the training programs and jobs available in the foundational and pivotal occupations within the target sectors.

Activities

- 1) Establish a process to identify and develop appropriate career ladder strategies to meet target sector workforce needs.
- 2) Build a region-wide career ladder and job opportunity database and online portal for jobseekers and employers.
- 3) Improve communication and linkages between career offices/advisors at regional educational institutions and the target sector businesses.
- 4) Partner with target sector companies to implement and promote employee career laddering programs.
- 5) Collect data and then develop programs/activities to increase the share of postsecondary graduates who stay and work in the Tampa Bay region.

I. BACKGROUND AND CONTEXT

The Tampa Bay region – comprised of eight counties, namely, Citrus, Hernando, Hillsborough, Manatee, Pasco, Pinellas, Polk, and Sarasota – has embarked upon a major effort to build understanding of regional economic strengths and opportunities and, using this information, to craft an ambitious yet implementable regional business plan that will lead to job creation and greater economic resiliency through diversification. Under the auspices of the Tampa Bay Regional Planning Council and the Tampa Bay Partnership, the region contracted with SRI International to conduct a series of analyses related to the regional economy and workforce and to develop actionable roadmaps for economic growth and workforce development. This report presents SRI’s recommended three-year plan for developing the Tampa Bay region’s four target sectors, as well as the workforce to support these sectors.

Activities Leading to this Regional Business Plan. The plan builds on a series of analytical and regional information-gathering efforts focusing on the Tampa Bay region’s industry clusters and workforce, conducted from June 2010 through February 2011.

For the industry cluster component of the analysis, the SRI team:

- Performed NAICS-based industry cluster analysis to begin to narrow the possible areas of regional opportunity. For details, see *Industry Cluster Analysis of the Tampa Bay Region*: <http://www.tampabay.org/documents/Industry%20Cluster%20Analysis%20of%20the%20Tampa%20Bay%20Region%206%2030%2010.pdf>.
- Conducted market trends research, bibliometric analysis, and innovation asset research, as well as more than 100 interviews in the region (of stakeholders representing economic, business, and workforce development-related organizations and private companies), in order to define recommended target sectors – namely, *Applied Medicine & Human Performance*,¹ *High-Tech Electronics & Instruments*; *Business, Financial, & Data Services*,² and *Marine & Environmental Activities*. For details, see *Recommended Target Sectors for the Tampa Bay Region*: <http://www.tampabay.org/documents/>

¹ In previous reports, SRI referred to this sector as “Health & Human Performance.” The sector name has been changed in this report in order to reflect more clearly the specific focus and regional attributes for this target sector and its key niches (that is, senior health and wellness, human performance, clinical trials and destination medicine, health IT and bioinformatics, and medical instruments and devices).

² In previous reports, SRI referred to this sector as “Data Management, Analytics, & Services.” The sector name has been changed in this report in order to reflect more clearly the key attributes of the region’s assets and the recommended strategy and initiatives for the sector.

[Recommended%20Target%20Sectors%20for%20the%20Tampa%20Bay%20Region%20-%20October%202010.pdf.](#)

- Led focus groups in the region for each of the four target sectors, in order to gain on-the-ground insights into key challenges and opportunities and to elicit ideas for collaborative action.
- Researched effective mechanisms for building strength in the four Tampa Bay region target sectors, including case studies of regions that have implemented regional development efforts in similar sectors. For details, see *Regional Economic Development Case Studies and Best Practices*: <http://www.tampabay.org/documents/Regional%20Case%20Studies%20and%20Best%20Practices%20FINAL%20-%20December%202010.pdf>.

For the workforce component of the analysis, the SRI team:



- Conducted a quantitative analysis of the current occupational structure of the Tampa Bay region's workforce, with associated analysis of the prevalent qualifications, skills and abilities found in the labor pool. For details, see *Workforce Structure and Capabilities in the Tampa Bay Region*: <http://www.tampabay.org/documents/Workforce%20Structure%20%20Capabilities.pdf>.
- Conducted a survey of human resources professionals from over 100 companies in the Tampa Bay region about the quality of the region's workforce skills/preparation, as well as predicted future hiring and skills needs.
- Conducted interviews with over 20 leaders of postsecondary institutions in the Tampa Bay region's workforce development system.
- Conducted an education asset inventory to examine the role that the Tampa Bay region's postsecondary educational institutions play in supporting workforce development for the four new target sectors. That analysis, combined with findings from interviews and the employer survey, as well as analysis of key career pathways for the target sectors, led to an assessment of the region's critical workforce assets and gaps for target sector development. For details, see *Workforce Assets and Gaps in the Tampa Bay Region*: <http://www.tampabay.org/documents/Workforce%20Assets-Gaps.pdf>.
- Conducted three webinar focus groups with key stakeholders in the region's workforce development system and private sector to elicit insights and feedback on initiatives to support and develop the region's workforce assets supporting the four target sectors.

Report Organization. The introduction to *Section II* provides context for the reader regarding how and why the initiatives were identified and what types of information are included for each initiative. *Section II.B* then identifies weaknesses in the region’s overall economic foundations that should be addressed in order to support overall regional growth and expansion within the four target sectors. Specific initiatives (referred to as “foundational initiatives”) are defined to improve these important cross-cutting challenges. *Sections II.C-F* present SRI’s recommended strategies and related initiatives for strengthening and expanding four target sectors in which Tampa Bay region already has demonstrated strengths and in which substantial future opportunities for growth exist. *Section II.G* then presents SRI’s recommended strategies and related initiatives for strengthening the availability, quality, and skills of the Tampa Bay regional workforce, in order to support the region’s goals of economic growth and diversification – especially in the four target sectors.

For each initiative, a three-year implementation schedule is provided, defining the approximate duration of the individual activities that contribute to the initiative and preliminarily identifying the implementing organization for each activity. The appendices provide background information to illuminate certain aspects of the activities contained in various initiatives.

II. RECOMMENDED REGIONAL BUSINESS PLAN FOR ECONOMIC DEVELOPMENT

A. INTRODUCTION

Before delving into the details of the recommended *Regional Business Plan for Economic Development in the Tampa Bay Region*, it is important to “step back” and contemplate the fundamental reasons that the region has embarked upon this research, analysis, and planning effort. When regional leaders first began discussing an effort of this sort – in 2008, as part of the Tampa Bay Partnership’s 2009-2011 strategy – the main focus was on “identifying and supporting the region’s strengths and [...] emphasizing innovation needed to diversify and strengthen our economy and fuel job growth for decades to come.”³ As the national (and regional) economy faltered during 2009 and 2010, the importance of supporting job creation in the short-term (as well as medium- and longer-terms) received heightened attention. Now, at the beginning of 2011, both focuses of the plan remain critical, not only to help improve immediate regional economic circumstances, but also to lay the groundwork for building a different kind of regional economy – one that will be more resilient, flexible, and diversified – to propel the region toward ongoing prosperity.

The sixteen initiatives described in the following sections represent building blocks toward these dual goals – job growth (now and in the future) and renewed and sustained economic strength. As context for reviewing the initiatives and the activities that comprise them, the following should be considered:

- Based on the preceding research and analysis, the sixteen initiatives are the ***highest-priority, most promising,⁴ and most amenable to pursuit on a regional basis***. Accordingly, the sixteen initiatives do not and cannot represent the entire range of what could be done (or even what needs to be done) in the Tampa Bay region to achieve the goals of job creation and economic diversification. Instead, the initiatives that are presented are strategic – addressing those challenges that most affect the region’s prospects or that capitalize on the opportunities that are most likely to result in positive short- and long-term returns for the region.
- The initiatives represent ***a portfolio of strategic actions to support the region’s future***. In the ideal world, the initiatives would be implemented as a set, since they are complementary and mutually reinforcing. However, recognizing the reality that the resources (both financial and human) to be dedicated to this effort may be constrained

³ <http://www.tampabay.org/subpage.asp?navid=7&id=194>

⁴ In terms of direct relationships to the dual goals described above.

under the current economic circumstances, each initiative (and many of the component activities therein) is designed to be self-contained⁵ so that regional leaders can launch initial efforts toward the region’s ultimate goals and add additional initiatives from this portfolio as resources emerge.⁶

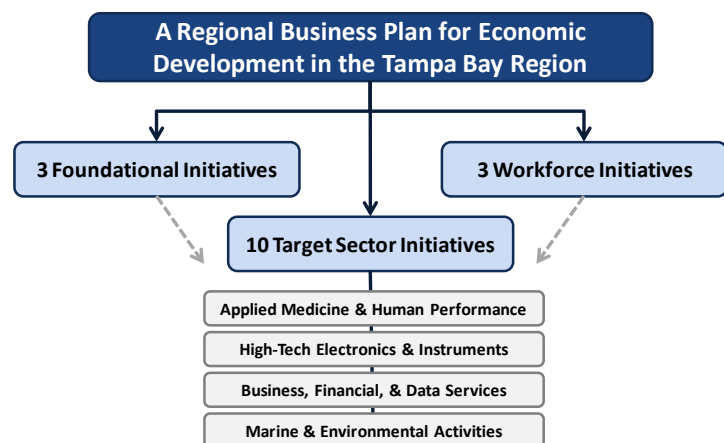
- **The perspectives and insights of regional stakeholders on the initiatives will be critical to their ultimate success.** Such input will deepen the potential impact of the initiatives on the Tampa Bay region and its residents, as well as clarify which initiatives should be pursued first (if resource constraints demand that choices be made) and which individuals and organizations might be tapped as initiative investors or implementers.

This comprehensive regional business plan for economic development contains three components and sixteen initiatives, as depicted below:

Foundational Initiatives. Three initiatives that address the Tampa Bay region’s overall foundations for economic growth and diversification.

Workforce Initiatives. Three initiatives that support improved workforce availability and skills for building the target sectors and promoting overall economic growth.

Target Sector Initiatives. Ten initiatives that address needs specific to the region’s four target sectors, namely: *Applied Medicine & Human Performance*; *High-Tech Electronics & Instruments*; *Business, Financial, & Data Services*, and *Marine & Environmental Activities*.



⁵ The one exception to self-containment is the first activity of *Initiative #1*, upon which several other initiatives draw.

⁶ For this reason, the time frame provided for each initiative refers to the duration of activities once an initiative is launched; these time frames are not meant to imply that all initiatives begin in Year 1.

B. FOUNDATIONAL INITIATIVES

Successful regional economies are built upon six fundamental areas, including: education and workforce; innovation systems; finance and capital; infrastructure (including institutional structures); policy/regulatory environment; and quality of life. The degree to which these economic foundations are solid (or not) affects growth prospects across a region's entire economy. Accordingly, in developing regional strategies, it is often necessary to pair sector-specific initiatives with foundational initiatives that address weaknesses in the region's broader economic foundations. In the case of the Tampa Bay region, stakeholders described three major "cracks" in the region's economic foundations. The initiatives described in this section target the three issues, namely:



- The traditional reliance on "place" as the defining attribute used in regional promotion and the accompanying lack of clarity about a cohesive, forward-looking regional identity;
- The fragmentation and gaps within the region's innovation and entrepreneurship system; and
- The tendency to look outward for business expansion (i.e., recruitment to the region), rather than nurturing and growing businesses with existing footholds in the region.

STRATEGIC INITIATIVES TO ADDRESS REGIONAL ECONOMIC FOUNDATIONS

INITIATIVE #1: DEVELOP AND PROMOTE A RENEWED IDENTITY FOR THE TAMPA BAY REGION, AS AN INNOVATIVE, KNOWLEDGE-DRIVEN, INTEGRATED REGIONAL ECONOMY

Rationale: When asked about the Tampa Bay region's greatest assets for economic development, not surprisingly nearly every person first mentions location, weather, and quality of life. For decades, the Tampa Bay region has grown and prospered on the basis of its sun, beaches, and nice weather – which attract people both to vacation in the region and also to relocate to the region. However, these assets are no longer enough to sustain a thriving regional economy and to bring new jobs and investment. As the region seeks to develop new target sectors – sectors that are highly innovative and driven by knowledge and technology – it is critical to develop a renewed vision of what the region wants to be known for. This vision should encompass traditional strengths (sun, sand, weather), but should also present a new image of a well-rounded, diversified, and innovative regional economy. A critical element of this identity-building initiative is to build a more integrated, cross-region approach to external promotion and marketing. In spite of growing and concerted efforts to view and promote the Tampa Bay region as a single region, the reality is that there are still numerous county- and city-based

economic and business development organizations operating across the region. As is natural given the way these organizations are defined and how their success is measured, the region's economic development organizations continue to conduct marketing based on more narrowly-defined geographic boundaries, and sometimes even compete on an intra-regional basis.⁷ Most competitive regions around the country are finding that building and promoting a broad-based regional identity (rather than promoting individual communities or counties) is a more effective approach for attracting investor attention and building sustained advantage in today's increasingly competitive economic landscape. Therefore, this initiative should continue and deepen regionally-minded efforts to encourage the region's many stakeholders to work together more effectively to market and develop the Tampa Bay region in a more integrated, mutually beneficial way.

Objective: Articulate and launch a series of regional marketing and promotion activities that convey to outside audiences a more unified vision of the Tampa Bay region as a well-rounded, diversified, and innovative place to live and do business.

Activities:

- 1) Conduct a region-wide inventory and GIS mapping of the Tampa Bay region's key business, industry, and research assets within the four new target sectors. A number of leading, innovative regions around the country have found GIS-based mapping of key industry cluster assets to be a highly effective tool not only for building a unique and targeted promotional agenda and marketing collateral, but also for bringing together regional stakeholders and developing a more refined and deeper understanding of the region's true assets and capabilities.⁸ By participating in the inventory/mapping process, the region's economic development stakeholders can organize around a common effort and become engaged in a tangible process that may motivate ongoing participation in other strategic initiatives. Data and information about the region's key business and industry assets is currently incomplete and fragmented across many county and community organizations;

⁷ For this reason, it will be critical for the Initiative 1 Work Group to include and reach out to the leadership of city and county governments, which control their localities' economic development budgets; such outreach should be aimed at developing support for regional economic development efforts, through in-kind or financial contributions.

⁸ For examples of the types of industry-focused GIS maps that can be developed through this activities, see: North Carolina Marine Science asset map (<http://www.ncmarinescience.com/>); Wake County/Raleigh, NC Advanced Medical Technologies asset map (<http://www.raleigh-wake.org/files/AMT%20map%201.12.09.pdf>); Minnesota Biosciences asset map (<http://network.biobusinessalliance.org/biomap.asp>); Austin Bio Companies map (<http://www.bioaustin.com/biomap.html>). The asset map could potentially also include available investment sites and buildings related to the target sectors.

aggregating this information will help regional stakeholders understand who is truly operating in the target sectors and will build a solid foundation for what the region *as a whole* has to build upon and promote for developing these sectors. This is not a start-from-scratch data-gathering effort, as much of the information needed for this activity already exists through SRI's previous analytical reports and – in a very fragmented way – across a variety of other reports/studies/guides held by the region's many city- and county-based organizations. The need here is to collect and aggregate the existing information, fill in the missing pieces, and then put it to strategic use to support other target sector promotion and development initiatives.

Key steps in the target sector asset inventory/mapping process include:

- Form a subcommittee of stakeholders, comprised of individuals who fill public relations or marketing roles within their organizations, to lead this activity and deploy the necessary resources (e.g., volunteers, in-kind donations of qualified personnel from their organizations, paid consultants) to complete the following steps of the activity.
- Use SRI's previous reports and analysis on the target sectors as a starting point to compile an inventory of the region's major assets related to the four target sectors. This inventory should include business/industry assets within each of the four sectors, as well as research/innovation and academic/training assets.
- Fill in the "gaps" and incomplete information for each of the target sectors by asking economic development organizations, chambers of commerce, and other organizations within the region's counties and cities to conduct additional inventory work regarding companies in the four target sectors within their own jurisdictions. It may be useful to set up a standardized inventory template or database to gather this information in a streamlined way. Data-gathering should especially focus on identifying key assets/companies/research institutions in specific niche areas that are being focused on in other initiatives within this plan. These include:
 - What companies/organizations are conducting clinical trials in the region?
 - What companies/organizations are conducting R&D or developing services/products focusing on human performance and/or senior health/wellness?
 - What companies/organizations are conducting or applying R&D to create electronics and instruments for marine, medical, or defense/aerospace markets?
 - What companies are active in shared services, business process outsourcing, or financial management or transactions processing?

- What companies/organizations are working in or doing research related to aquaculture?
 - What companies/organizations are doing work related to biofuels (algae-based or other biomass products)?
 - What companies/organizations hold expertise or develop products/services related to energy efficiency and conservation?
- Compile the data into a user-friendly, searchable database tool that is linked with GIS mapping capabilities.
 - Develop a regional GIS map of target sector assets that can be used as a promotional tool on a regional website or in other marketing materials.



Purpose: To provide a comprehensive visual representation of the Tampa Bay region's assets – highlighting private companies – in the four target sectors, and to use this mapping exercise as the foundation for building a regional promotional campaign for the target sectors.

- 2) Identify and distill the assets and attributes that best describe the Tampa Bay region within the four target sectors. Develop a strategic, targeted set of marketing messages that capture the unique assets and identity of the Tampa Bay region for its four target sectors. Prepare and implement an external marketing plan for promoting the four target sectors on a region-wide basis. Elements of this plan should include the following:
 - **Positioning** (i.e., developing a positive image of the Tampa Bay region among potential investors) – for example, identification of specialized trade media in which to advertise and/or target for article placement.
 - **Network development** (i.e., ensuring that prominent associations and individuals involved in the target sectors are aware of the assets of the Tampa Bay region) – for example, seeking to attract relevant associations or local chapters to host meetings in the region, and thus familiarize members with regional target sector assets.
 - **Direct marketing** (e.g., trade shows, marketing missions, etc.) – for example, identification of key national/global events for the target sectors and supporting a regional presence at these events.
 - Preparation of new or revised **marketing materials** (print or web-based) to be adopted and used by the Tampa Bay Partnership and the region's economic development organizations when promoting the four target sectors – for example, development of a

dedicated web portal or website for each target sector (prominently highlighting the sector's regional asset map) and creation of a short brochure describing major assets.

Once a well-defined plan is in place, identify who will be in charge of implementation and how. Implement the marketing plan and monitor results. Refine marketing tactics over time to respond to what is working or not working, to expand or widen the approach, or to reach new audiences. For example, once a set of solid marketing messages, materials, and activities are in place and underway, regional stakeholders may want to develop a broader strategy to promote the Tampa Bay region internationally.

Purpose: To develop and launch an action-oriented plan for promoting the region's target sectors and reaching key audiences with new strategic marketing messages about the Tampa Bay region.

- 3) Prepare and implement a regional legislative agenda and communications strategy focusing on key issues related to the region's new target sectors, so that regional stakeholders can convey a consistent and positive message about the Tampa Bay region when conducting lobbying and advocacy efforts at the state level.⁹

Purpose: To convey consistent messages to state government leaders and conduct proactive lobbying efforts to attract increased state-level attention and resources to the Tampa Bay region's target sectors, and also to address key issues or challenges hindering development of the target sectors.

⁹ This activity is already ongoing in the region through the Tampa Bay Partnership's *Focus IV: A Broader Advocacy and Leadership Model*. However, the region may wish to undertake specific discrete steps in coordination with or drawing upon the other activities in this initiative.



Foundational Initiatives

Initiative 1: Develop and Promote a Renewed Identity for the Tampa Bay Region, as an Innovative, Knowledge-Driven, Integrated Regional Economy

Owner(s): To be determined

Objective:

- To articulate and launch a series of regional marketing and promotion activities that convey to outside audiences a more unified vision of the Tampa Bay region as a well-rounded, diversified, and innovative place to live and do business.

Activities	Implementers	Time Frame											
		Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Conduct an inventory and GIS mapping of the region's key business, industry, and research assets; create a user-friendly database; and map target sector assets for use as marketing collateral.	Initiative 1 Work Group IT specialists to be recruited as needed												
2. Develop marketing messages that capture unique regional assets and identity in the four target sectors. Design an external marketing plan for promoting the four target sectors on a region-wide basis.	Initiative 1 Work Group Target Sector Work Groups Marketing/promotion specialists to be recruited as needed Tampa Bay Partnership Local economic development organizations												
3. Prepare and implement a regional legislative agenda and communications strategy focusing on key issues related to the region's new target sectors.	Initiative 1 Work Group Target Sector Work Groups Tampa Bay Partnership Local economic development organizations												

INITIATIVE #2: BUILD AN INNOVATION AND ENTREPRENEURSHIP ECOSYSTEM TO SUPPORT A MORE RESILIENT REGIONAL ECONOMY

Rationale: The culture of innovation and entrepreneurship in the Tampa Bay region has been influenced indelibly by the region’s historical dependence on population growth and tourism (and related expansion of construction and other service sectors) as economic drivers. In short, for the most part, systematic region-wide support for innovation and entrepreneurship has been somewhat of an “afterthought,” because innovation has not traditionally served as a central source of economic growth and because small businesses had access to a steady supply of new customers in the form of transplants and tourists. Important standalone efforts to promote innovation-based growth and business formation certainly exist in the region – and should be tapped in implementation of this initiative.¹⁰ However, the recent U.S. recession has changed, perhaps forever, the underlying dynamics of growth in the region, and a new, integrated approach to innovation and entrepreneurship in the Tampa Bay region is needed.

The main innovation and entrepreneurship issues described by regional stakeholders involved in the process of identifying target sectors and developing the plan for the region are profound, complex, and involve multiple institutions. Therefore, sustained, substantial attention – and time – will be required to solve the major challenges, which stakeholders cite as:

- **Fragmentation of efforts**, particularly with respect to entrepreneurship. In general, stakeholders reported either lack of cohesion among existing innovation and entrepreneurship activities, or, even more worryingly, a lack of knowledge that efforts of any notable scale were taking place in the region. Among potential users of innovation or entrepreneurship services, the apparent absence of coordination among multiple entities translates into lack of awareness or confusion, while among support organizations themselves, this situation creates the potential for duplicative or even competing activities.
- **Access to capital** for startups and small firms. Funding is a critical issue for entrepreneurs across the country (and the world), but the traditional direction of funds among the region’s high net worth investors toward real estate is mentioned as one reason that early stage capital is particularly scarce in the eight Tampa Bay region counties. The overall venture capital context in Florida likewise offers little promise of funding to potential entrepreneurs

¹⁰ Among the entrepreneurship support organizations in the region are: the Florida Virtual Entrepreneur Center, <http://www.flvec.com>, which provides links to local (city or county), state, and national resources for starting a business, expanding a business, and relocating a business; the region’s Small Business Development Centers, including locations in Bartow, Clearwater, Homosassa, Sarasota, and Venice, as well as USF-affiliated facilities in Brooksville, Lutz, St. Petersburg, and Tampa (see <http://floridasbdc.org/Home/Location.asp> for links to each center’s website); and USF Connect, <http://www.usfconnect.org/default.asp>, which provides business development services such as technology transfer, financing, marketing, and management.

– the state received less than 1% of total U.S. venture capital investment in 2008, and over the last 13 years has never attracted more than 3.75% of the nation’s venture capital.¹¹

- **Limited commercialization of the region’s R&D.** Translation of research and its outputs into viable, market-worthy products, processes, or services is a difficult, uncertain, and often daunting prospect. Yet the competitive regions of the future are likely to be those that harness for commercial purposes the new ideas and technologies developed and “residing” in their local research institutions and companies. Stakeholders recognized the advances made by the region’s main research university (the University of South Florida, USF) but expressed the view that the university’s research – along with that of, for example, major defense contractors and newer academic institutions (such as USF Polytechnic) – should be further and more systematically leveraged to support the region’s economic growth and diversification.

Objectives:

- Improve coordination and awareness of innovation and entrepreneurship support activities in the region.
- Expand startups’ and small businesses’ information about investment funding options and, ultimately, their access to early stage capital.
- Strengthen the capacity of regional institutions to translate research into commercial ventures.

Activities:

- 1) Configure an organizational structure to coordinate activities and improvements in the region’s innovation and entrepreneurship ecosystem. As outlined in the following activities, many organizations play important roles in the Tampa Bay region’s innovation and entrepreneurship ecosystem. However, unlike a state (or even a country), which might designate a lead agency to hold responsibility for coordinating innovation and entrepreneurial programs, there is no mechanism or authority within the Tampa Bay region to assume or serve a definitive coordinating role. Accordingly, at least at the beginning of the activities described below, a voluntary council will likely be needed to fill this role, with the organizations involved in implementing this initiative being the logical council members. Over the longer term, a permanent structure or coordinating body for these activities should

¹¹ *SSTI State Venture Capital Dashboard*, http://www.ssti.org/vc/florida/all.php#dollar_share, last accessed December 1, 2010.

be identified¹² – for example, council organizational functions might be incorporated into the Tampa Bay Partnership, while a sub-group of council members might be responsible for defining operational details and processes.

Purpose: To create a framework for maintaining knowledge about and coordinating the Tampa Bay region’s innovation and entrepreneurship activities.

- 2) Create sustained mechanisms through which the region’s incubators share information, better coordinate activities, and develop shared messages and a common strategy for communicating about regional incubation support in general and about individual incubators’ activities in particular. Four business incubators operate in the region to support technology- or innovation-based entrepreneurship, and a fifth is in the planning stages.¹³ However, knowledge about each incubator’s activities and focus is very limited among regional stakeholders, a lack of knowledge that would presumably be shared by potential entrepreneurs in the region. Improved visibility and coordination would help the incubators serve a key role as an entrée for information resources and potential support for emerging entrepreneurs, even those that do not apply or qualify for tenancy at the incubator. As a first step to improving coordination, the initial recommended mechanism is to institute a quarterly meeting (generally by conference call, but preferably in-person at least once per year) in which the leaders and communications staff of each incubator discuss topics such as the following: developments at the incubator (e.g., new tenants, potential new tenants); types of requests for information and support from entrepreneurs that contact the incubator; satisfaction with external support resources¹⁴ (e.g., for business plan development, legal advice, fundraising); tenant partnering or mentoring needs; upcoming events at which the region’s incubation support system should or will be presented, etc. It may also be useful for this group to discuss ideas or plans for additional incubators in the region, and to reach out to the institutions planning any new incubators, in order to provide support or assistance to direct new activities towards gaps not currently filled by the existing incubators.

¹² In comments on the draft of this plan, one suggestion for an organization to play this coordinating role was the Tampa Bay Technology Forum (<http://www.tbtf.org>). However, given its focus on technology-based innovation and information technology-oriented companies, the forum (as it currently is configured) may have too narrow a mission to assume responsibility for broad innovation and entrepreneurship support in the region.

¹³ The four existing incubators include USF’s Tampa Bay Technology Incubator, STAR Technology Enterprise Center, and USF Polytechnic’s Blue Sky West and East incubators. A fifth incubator, associated with Mote Marine Laboratory, is planned.

¹⁴ That is, providers external to the incubators that the incubators contract with to supply services to tenants or to which they refer tenants to obtain services.

Purpose: To improve the visibility of and regular communication among the region's five incubators, contributing to a strengthened overall entrepreneurship support system within the Tampa Bay region.

- 3) Support and expand activities to facilitate applications for SBIR/STTR grants by companies in the region. The region's companies already do very well in terms of SBIR/STTR awards compared to the rest of Florida; SRI's analysis revealed that in 2009, the Tampa Bay region accounted for nearly half of the SBIR/STTR awards in the state. This track record is impressive, but nonetheless should be built upon,¹⁵ especially since early stage funding is extremely scarce in the region and since these federal awards are the single largest source of early-stage funding to assist in commercialization of ideas by small businesses. Within this activity are three key steps.
 - First, conduct analysis of awards to companies in the Tampa Bay region during the past three years, with the aim of answering questions like: What (if any) support was accessed by successful¹⁶ SBIR/STTR awardees in their applications? What entities supplied this assistance? What additional support would have been helpful? This step may involve conducting strategic interviews or focus groups with recent awardees in the region (as well as with companies that applied for but did not win awards).
 - Second, examine the Florida High-Tech Corridor's (FHTC) successful SBIR/STTR support program in order to identify complementarities and differences with any existing support provided by Tampa Bay region organizations to SBIR/STTR applicants.
 - Third, based on these two previous steps, design and launch a tailored program (that complements the existing FHTC program) to provide additional types of assistance (e.g., coordinating potential research partnerships between companies and academic institutions not covered by FHTC's program) to potential SBIR/STTR applicants in the eight-county region.

Purpose: To further capitalize upon external funds in order to grow the Tampa Bay region's innovation and entrepreneurial capacity, strength, and impact.

¹⁵ There is room for improvement not only in the region but also the State of Florida, when SBIR/STTR data is compared to the United States as a whole. In 2009, the State of Florida ranked 11th for both number of total SBIR/STTR awards (160) and value of funding (almost \$48 million). However, these figures represent just 13% and 12%, respectively of the number and value of awards to California (the state hosting the most SBIR/STTR awardees) and just 2% of total awards (by number and value of funding) across the United States. (Source: *SBA Tech-Net*, http://tech-net.sba.gov/tech-net/public/dsp_search.cfm, last accessed December 2, 2010.)

¹⁶ If information is available, it would also be useful to analyze data regarding the types of assistance accessed by unsuccessful SBIR/STTR applicants.

- 4) Build the depth and diversity of angel and venture capital information, networking opportunities, funding, and other resources available to the region's startups. The first step within this activity involves, simply put, examining what is already happening in the region and the state. Outside of Sarasota and Manatee Counties, for instance, there is little or no awareness of the activities of the Gulf Coast Venture Forum's Sarasota (GCVF-Sarasota) chapter (or the related Tamiami Fund). Yet, with two recent meetings in 2010 and four scheduled meetings in the first four months of 2011, GCVF-Sarasota appears to be the most active venture forum in the region. Finding out how their activities are structured – and how they might be tailored or leveraged for expansion in the region – is important to help resolve the scarcity of funding for entrepreneurship. Likewise, details of the Tamiami Fund's investment priorities and criteria should be identified. Several other organizations reportedly provide investment capital or investment capital information in the region, but were absent from SRI's discussions with interviewees about the innovation and entrepreneurship environment; outreach to these organizations – e.g., the Winter Park Angels, the Florida Mezzanine Fund, and the Florida Venture Fund – should be initiated in order to identify how their work might contribute to the regional effort to expand information about and availability of investment capital. The region should also seek to fully understand the resources available to its companies through the Florida Opportunity Fund and, if it is approved and funded, the proposed Florida Seed Capital Fund, as well as take advantage of information sources such as the National Association of Seed and Venture Funds (<http://www.nasvf.org>) and National Council of Entrepreneurial Tech Transfer (<http://www.ncet2.org>), which offer online courses such as the Seed Funding and Venture Capital Course Certificate Program.

Based on this information, design and launch a tailored program for expanding the information about funding sources available to businesses seeking funding and, ultimately, the early stage investment capital that can be accessed by such firms. Examples of the kinds of activities that might be pursued under this program include: supporting the extension of GCVF-Sarasota's monthly forums to other parts of the Tampa Bay region; supporting the creation of new local forums modeled on GCVF; helping prepare entrepreneurs to meet with angel and venture capitalists, etc.

Purpose: To begin to organize and galvanize the Tampa Bay region around the important lack of early stage funding in the region, and to lay the foundation for continued, long-term efforts to address this substantial weakness in the region's innovation and entrepreneurship ecosystem.

- 5) Work with university officials to facilitate technology transfer and commercialization processes. The importance of research universities as regional economic actors and contributors is a firmly established tenet of economic development. Given the relative “youth” of the Tampa Bay region’s research universities (compared to leading national players in technology transfer and research commercialization, such as MIT and Stanford), the research-based, economic development potential of institutions like USF has yet to be fully realized. Ongoing dialogue between the region’s universities and economic development officials is needed in order to ensure that the region’s technology transfer and research commercialization systems reflect best practices.¹⁷ While enhancement of technology transfer and commercialization systems can only take place within the individual universities, regional economic development leadership can support and facilitate this process by helping universities assess processes and identify gaps/weaknesses, and/or by providing information inputs and knowledge about best practices. Once regional leaders are satisfied that systems are in place to maximize the value of university research for economic development, explore options to expand technology transfer and commercialization activities with other research organizations, public and private (e.g., including major defense contractors).

Purpose: To facilitate increased technology transfer and commercialization in the Tampa Bay region, in order to obtain maximum leverage (in terms of economic impact) from the research conducted at the region’s universities.

¹⁷ See, for example, the following documents for descriptions of effective technology transfer and commercialization practices: Southern Growth Policies Board, *Innovation U: New University Roles in a Knowledge Economy*, 2002, <http://www.southerngrowth.com/pubs/pubs.html#tech>, and Innovation Associates, Inc., *Technology Transfer and Commercialization Partnerships*, 2007, <http://www.innovationassociates.us/>.

Foundational Initiatives

Initiative 2: Build an Innovation and Entrepreneurial Ecosystem to Support a More Resilient Regional Economy

Owner(s): To be determined.

Objectives:

- To improve coordination and awareness of innovation and entrepreneurship support activities in the region.
- To expand startups' and small businesses' information about investment funding options and, ultimately, their access to early stage capital.
- To strengthen the capacity of regional institutions to translate research into commercial ventures.

Activities	Implementers	Time Frame											
		Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Structure and coordinate activities and improvements in the region's innovation and entrepreneurship ecosystem.	Initiative 2 Work Group				Establishment				Ongoing Coordination				
2. Create and sustain mechanisms for the region's incubators to share information, coordinate activities, and communicate consistently.	Initiative 2 Work Group Incubator leaders and communications staff	Activity Initiation				Continuation and Expansion of Activity							
3. Support and expand activities to facilitate applications for SBIR/STTR grants by companies in the region.	Initiative 2 Work Group Florida High Tech Corridor	Analysis				Design				Launch and Implementation			
4. Build angel and venture capital information, networking opportunities, funding, etc., available to startups.	Initiative 2 Work Group Incubators	Exploration/outreach				Analysis/Design				Initial Launch			
5. Work with university officials to facilitate technology transfer and commercialization processes.	Initiative 2 Work Group USF and USF Polytechnic Economic development partners	Best Practices Review				Identification and Implementation of Changes							

INITIATIVE #3: STRENGTHEN BUSINESS RETENTION & EXPANSION REGIONALLY

Rationale: Many of the businesses in the Tampa Bay region interviewed by SRI observed that they had little to no contact with their local economic development organizations. From a workforce perspective, business retention and expansion (BR&E) is vital to job retention, as well as job creation, because existing firms typically create 30 to 80 percent of all new jobs.^{18, 19} Keeping existing businesses is often easier than recruiting new firms, and building strong relationships with local businesses may also improve the region's ability to attract new businesses. Local businesses may participate in recruitment efforts, and, as the region better understands and responds to the needs of existing businesses, it will in turn become a more attractive location for new businesses. While local economic development organizations are primarily responsible for BR&E, there are benefits and synergies achieved by developing regional initiatives to complement and facilitate local BR&E efforts. Also, there may be issues related to BR&E that may only be addressed at the regional level.

Objectives:

- Strengthen business retention and expansion in the Tampa Bay region by increasing outreach activities to businesses and coordinating assistance for them.
- Understand local and regional business and industry needs and dynamics.
- Where appropriate, develop and pursue regional initiatives to address unmet business needs.

Activities:

- 1) Local economic development organizations (county- and city-level) across the Tampa Bay region should commit to visiting a targeted number of businesses in their area of jurisdiction

¹⁸ Net new job growth statistics cited in Henry Cothran, University of Florida IFAS Extension, "Business Retention and Expansion (BRE) Programs: Why Existing Businesses Are Important," <http://edis.ifas.ufl.edu/pdf/FE/FE65100.pdf>.

¹⁹ Business retention and expansion efforts (BR&E) are broader than activities typically conducted via "economic gardening." The concept of economic gardening revolves around support for second stage companies (those that are beyond the startup phase but are not yet mature) and the organizations that help them grow. (See, for example, <http://www.edwardlowe.org/secondStage/economicGardening.elf>, for a description of economic gardening.) In Florida, the Florida Economic Gardening Institute at the University of Central Florida (<http://www.growfl.com>) works with the Edward Lowe Foundation to apply this concept to second-stage companies throughout the state. The BR&E initiative recommended for the Tampa Bay region is intended to involve a much wider range of enterprises than solely second-stage companies. Responding to stakeholder input that communications and interaction between companies of all sizes and their local economic development organizations is infrequent or absent, this BR&E initiative aims to strengthen ties with and amongst existing business of all sizes.

per year. These site visits will serve multiple purposes, including: demonstrating to existing businesses that the community appreciates their contributions to the region's economy; identifying barriers to growth and problems that may lead businesses to relocate elsewhere; creating awareness and assisting businesses in using existing BR&E incentives and programs; and strengthening ties with businesses and building relationships with individual company executives.

This is a region-wide BR&E outreach and assistance program that should be implemented by the economic development organizations at the county/city level across the region. However, these efforts will be more effective and useful if they are conducted in a more coordinated and consistent way across the region, so that information about can easily be exchanged regionally, and so that local-level economic development organizations can more easily communicate and coordinate their services (rather than competing with one another). Regional coordination and guidance could address the following issues:

- Prioritize businesses to visit based on criteria such as: whether they are in the target sectors; whether they create wealth by exporting goods/services outside the region; whether they have a history of making, or a willingness to make, capital investments regionally; whether they incorporate technology into products and processes; whether they operate in an industry eligible for existing economic development programs and resources; whether they can trace their beginnings to the local community; whether they desire economic development assistance to stay and grow in the region; etc.
- Designate business liaisons (staff within economic development organizations) to conduct the visits and act as a single point of contact for businesses within the economic development system. Business liaisons can gather information from businesses about their employment and training needs, infrastructure requirements, financial issues, etc.²⁰ A common interview or information-gathering protocol could potentially be developed for the entire Tampa Bay region and used as a baseline to collect information at the local level.
- If businesses request assistance, business liaisons should work with the businesses to develop tailored Customer Action Plans. A Customer Action Plan is a list of action items to connect businesses with existing resources and programs offered by local and regional partner service organizations. These plans can be used to assist businesses in areas such as: business management; financial assistance/capital; market development

²⁰ As mentioned by a representative of Hillsborough Community College on the draft of this plan, community college corporate training center personnel may also be well-suited to participate and assist in site visits, needs assessment, and provision of assistance.

and research; product development; site location, preparation, and infrastructure; technology; workforce; and government needs.

Purpose: To build greater numbers and depth of direct relationships between the Tampa Bay region's businesses and its economic development organizations, in order to better understand and serve their needs. To market existing economic development incentives and programs and proactively assist businesses to leverage these resources, in order to support growth and expansion.

- 2) The region could purchase, tailor and implement a common software system for business liaisons to manage and track their relationships with businesses, including Customer Action Plans, and to share industry or business intelligence that will support retention and recruitment efforts.²¹
 - One such software system is the ExecutivePulse Business Intelligence System,²² an online customer relationship management (CRM) software system with database and communication features specifically designed for economic development activities such as BR&E. The kind of software enables economic development organizations to manage and track all interactions with businesses, communicate and collaborate with partner organizations, monitor service delivery, and produce reports and data analysis of local and regional trends.
 - Business liaisons could use the common software system to email requests to regional partner service providers according to the actions outlined in the Customer Action Plans. Business liaisons can also use the software to track the responses of the service providers to ensure that the actions are fully resolved.
 - This software could also be used to aggregate business data in order to identify and monitor business trends and needs locally and regionally, as described in Activity #5.

²¹ Reviewers of the draft of this plan noted that in some cases, data or information collected by individual economic development organizations must be kept confidential; for a regional system to be effective, clarity among organizations about the types of information to be shared will need to be developed.

²² For more information on the ExecutivePulse™ Business Intelligence System, please refer to <http://www.executivepulse.com>. For practical and financial reasons, decisions about what type of software system might be used on a regional basis should take into account what CRM software is currently used by the majority of regional economic development stakeholders. For instance, the Tampa Bay Partnership uses Maximizer, which could readily be modified to “tag” companies by target sector or to add other user defined fields that would contribute to BR&E efforts. In short, this activity should, to the greatest degree possible, leverage the existing CRM systems that predominate in the region, rather than attempting to embark upon a potentially costly switch to new CRM software across the region.

Purpose: To provide a common software system across the region for business liaisons to manage and track their relationships with businesses. This system can also aggregate data across businesses in order to identify and monitor business trends at the local and regional levels.

- 3) To build contacts/relationships with companies and connect them to business assistance programs and other resources, the region’s local economic development organizations (county- and city-level) should commit to participating in other business outreach activities. They should become regular participants in forums and organizations where the region’s businesses are active, such as industry associations (and especially in forums that relate to the four target sectors). For example, local economic development partners could commit to attending local-/regional-level industry association meetings at least twice a year per association.

Purpose: To build relationships with businesses to better understand the needs and dynamics of their industries, particularly the region’s four target sectors. This will help inform local and regional economic development initiatives to strengthen these industries.

- 4) The Tampa Bay Partnership, in partnership with local economic development organizations, should organize regional CEO roundtables for the four target sectors as well as across all industries.²³ The economic development partners should strategically target, personally invite, and heavily recruit CEOs of companies that are key players in their industry segments (based on findings from mapping activity in *Initiative #1*) – especially focusing on the largest, multinational, and highest-profile companies in the region. These CEO roundtables will help to foster understanding of sector needs and dynamics regionally by building relationships between CEOs and the economic development partners, as well as to strengthen ties and synergies within the sectors regionally by enabling peer networking.

Purpose: To engage strategically at a high level with key regional businesses in order to better understand the needs and dynamics of their industries (especially the region’s four target sectors), and to foster peer networking between industry leaders. This will help inform and strengthen local and regional economic development initiatives to support these industries.

- 5) The region’s local economic development organizations should meet periodically to report on their BR&E activities, including success stories and challenges, and to discuss business

²³ This activity could draw upon, and would complement, the Partnership’s existing CEO Direct initiative.

needs that may need to be addressed at a regional level. Topics to be pursued in these meetings could include the following:

- Examining data analysis generated by the region-wide CRM software, such as synthesizing information about local and regional trends in business needs and other issues. The advantage of using a regionally-implemented CRM system is that business intelligence will be aggregated across the region. This will help to identify business needs and barriers to business growth at the local and regional levels (in particular those needs/barriers that may not be as prominent at the local level when disaggregated), as well as other local and regional trends. (Data gathered from this initiative could also be used to further identify the Tampa Bay region’s competitive advantages, which could be employed to market the region to businesses outside of the area. Data could also be analyzed by target sector at the regional level to monitor industry trends and needs.)
- Identifying BR&E issues that need immediate attention (“red flags”) and systemic, region-wide issues that will require more time and effort to address.
- Developing action plans to address identified BR&E issues and determine what gaps in BR&E efforts need to be addressed at the local level versus at the regional level; then prioritizing regional initiatives to pursue based on urgency of issue being addressed, interest level, resource availability and expected impact. Examples of regional actions/initiatives to consider include: regional advocacy for policy changes or funding to improve business retention and expansion; an international business expansion initiative to provide global trade assistance to increase exports from the region (refer to *Appendix 1* for examples of activities); consulting services for small businesses, coordinated at the regional level; etc.
- Sharing success stories, best practices, and lessons learned.

Purpose: To identify business needs and barriers to growth at the local and regional levels, which are currently not addressed by existing programs. Explore various regional initiatives to complement and facilitate local BR&E efforts. Underlying questions to address in this activity include: what gaps exist in BR&E efforts to meet business needs; what regional initiatives could fill those gaps; how to prioritize those initiatives; whether there are enough regional resources, interest, and momentum to pursue those initiatives; and what next steps to take.

Foundational Initiatives

Initiative 3: Strengthen Business Retention & Expansion at the Regional Level

Owner(s): To be determined.

Objectives:

- To strengthen business retention and expansion in the Tampa Bay region by increasing outreach activities to businesses and coordinating assistance for them.
- To understand local and regional business and industry needs and dynamics.
- To develop and pursue, where appropriate, regional initiatives to address unmet business needs.

Activities	Implementers	Time Frame											
		Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. (Ongoing) Conduct business site visits. Collect information regarding business needs. Provide business assistance.	Local economic development organizations												
2. At the regional level, implement common software system to manage and track relationships with businesses.	Tampa Bay Partnership Local economic development organizations												
3. (Ongoing) Participate in business outreach activities, e.g., industry associations.	Local economic development organizations												
4. (Ongoing) Organize and recruit for regional CEO roundtables.	Tampa Bay Partnership Local economic development organizations												
5. (Periodic) Meet periodically to report on activity and discuss regional initiatives to meet business needs.	Tampa Bay Partnership Local economic development organizations												

C. INITIATIVES FOR APPLIED MEDICINE & HUMAN PERFORMANCE²⁴

DESCRIPTION & CONTEXT

The goal for the Applied Medicine & Human Performance target sector is for the Tampa Bay region to become a recognized center of excellence for specific, targeted areas of biomedical research that leverage key and unique regional assets – especially in fields related to **senior health/wellness** and **human performance for all ages**. Building on existing and emerging centers of medical excellence in these fields, the Tampa Bay region will develop high-quality **clinical trials and destination medicine**. Complementary expertise in areas such as **medical devices and instruments** and **health IT and bioinformatics** will be strengthened by capitalizing on not only life science capabilities, but also the region’s existing strengths in high-tech manufacturing and business/financial services.

Through this strategy, the Tampa Bay region seeks to:

- Leverage the Tampa Bay region’s active research, publishing, and patenting activity in life sciences; the high-profile institutions providing clinical trials and world-class patient care in key areas of specialization (e.g., cancer, neurogenerative disorders, diseases and conditions related to aging, orthopedics, diabetes, and eye/ear conditions); and the many private companies in the region with capabilities that complement and provide applications for regional research strengths (e.g., medical devices, equipment, and instruments; orthopedics, mobility, and rehabilitation; and clinical trials).
- Take advantage of national demographic trends and turn regional age demographics into an asset by making the Tampa Bay region a test-bed for R&D, products, and services that address the future aging population.
- Tap into regional expertise in high-tech manufacturing, IT, business services, and financial services, to build regional capabilities in life sciences fields and technologies that draw upon these competencies.
- Support enhanced communication and collaboration among the Tampa Bay region’s private, academic, and nonprofit life sciences institutions and companies, in order to grow a strong, innovative life sciences community with a set of specialties/focuses, and to overcome the

²⁴ In previous reports, SRI referred to this sector as “Health & Human Performance.” The sector name has been changed in this report in order to reflect more clearly the specific focus and regional attributes for this target sector and its key niches (that is, senior health and wellness, human performance, clinical trials and destination medicine, health IT and bioinformatics, and medical instruments and devices).

fragmentation and competition that currently exist in the region's life sciences/medical industry.

- Provide definition for the Tampa Bay region's strengths and assets within the life sciences and medical fields, so that the region can build its reputation and differentiate itself from other regions around the country that host strong life sciences/medical industry clusters.

A Tampa Bay Region Success Story: Applied Medicine & Human Performance

USF Partnership with The Villages

A recently initiated partnership between **The Villages**, a nationally known health-community that is home to over 80,000 retirees, and the **University of South Florida (USF)** has been lauded as an important opportunity to improve community health and to launch a long-term population health study with national implications. USF will open a small office in the Villages, from which university researchers will study indicators such as the incidence of diabetes and how residents view their own health. USF physicians will participate in medical rounds and engage The Villages community through educational outreach; the participating researchers plan to use the information gathered through the study to recommend potential improvements for the community.

Both The Villages and USF will contribute resources to the project, with the plan of securing additional funding through federal and private grants. The project promises mutual benefits: it is an opportunity for the USF medical school to build its reputation regionally, and it provides additional resources toward The Villages' goal of becoming "America's healthiest hometown." The study is also expected to produce results that are nationally relevant, including new models of care for elderly and aging populations. "This will be a great example of how academic physicians and private physicians can work together to identify and implement best practices on behalf of residents and our patients," says Lee Huntley, CEO of The Villages Health System.

KEY SECTOR PARTICIPANTS

Participants in Applied Medicine & Human Performance sector activities should include a wide cross-section of stakeholders from the private, public, and academic institutions in the sector. Ideally, participants would represent the core niche areas within the target sector, but participants from outside these niches that complement or have a stake in the sector are also important contributors. Participants should include the following:

- Private companies involved in targeted niche activities (senior health/wellness, human performance, clinical trials and biomedical research, health IT and bioinformatics, and medical instruments) or complementary life sciences/medical activities (e.g., general medical services, health insurance, pharmaceutical-related activities, sports training/human performance, etc.);

- Regional hospitals and medical centers;
- Nonprofit biomedical research institutions; and
- Academic institutions that provide training for medical personnel (e.g., medical schools, community colleges and technical schools providing training for nurses and medical technicians, etc.).

VISION & OUTCOMES FOR STRATEGIC INITIATIVES IN THIS SECTOR

The strategic initiatives proposed for the Applied Medicine & Human Performance sector seek to leverage and expand upon the Tampa Bay region's already-strong base of world-class biomedical research assets and institutions, by:

- 1) Supporting increased collaboration and communications among the region's scientific and business communities in the key niches of human performance (for all ages) and senior health/wellness, in order to enhance regional capabilities to conduct ground-breaking, collaborative research and innovative product/service development.
- 2) Developing resources to support the entire pathway of high-quality, competitively-priced pre-clinical/clinical trials within the region, in order to build a regional reputation that will attract researchers, companies, and patients for the region's state-of-the-art clinical research capabilities.



Through these initiatives, the region seeks to accomplish the following outcomes within this target sector:

- An increase in the number of partnerships and joint research studies among the region's private businesses, nonprofits, and academic institutions in the senior health/wellness, human performance, or other biomedical research fields.
- An increase in the overall amount of applied biomedical research and clinical trials being conducted in the region, especially in the fields of human performance and senior health/wellness.
- Establishment of the capability to offer the entire pathway of pre-clinical/clinical trial services within the region.
- Over the longer term, a more well-developed national reputation for applied and clinical research, especially in the fields of human performance and senior health/wellness.

A Tampa Bay Region Success Story: Applied Medicine & Human Performance
Center for Retina & Macular Disease

Recognizing the market void for Phase 2 retinal clinical research and trials, the **Center for Retina & Macular Disease** was started in 1991 by Dr. David Misch. The Center's location in Polk County was attractive because it enjoyed certain advantages over traditional biotechnology clusters in the northeastern United States, such as proximity to the right patient demographics and the absence of nearby competition from a major R&D university. By networking with surrounding pharmaceutical companies and integrating its clinical research program into a private clinical setting, the Center has expanded its operations globally; has cultivated its brand and reputation; and has led the way toward new treatments for macular degeneration, diabetic retinopathy, and other retinal diseases. The Center has succeeded because of its ability to offer passage through the entire pathway of the clinical trials process.

The Center for Retina & Macular Disease has conducted about 68 trials over the last three years and has opened up eight total offices in the Tampa Bay and Central Florida region, staffed by world-class researchers from Harvard University, Duke University, Washington University of St. Louis, University of Pennsylvania, Johns Hopkins University, and the Mayo Clinic. In 2007, the Center started the Florida Retina Symposium to gather leading optometrists to discuss retinal disease issues. Since 2006, it has also lectured on retina topics for Nova Southeastern University's Optometric Program. Currently, the Center is recruiting additional star scientists from around the nation to increase its sub-specialties into diabetes, orthopedics, and cardio thoracic.

STRATEGIC INITIATIVES IN APPLIED MEDICINE & HUMAN PERFORMANCE

INITIATIVE #4: BUILD CAPACITY AND NATIONAL REPUTATION FOR CLINICAL TRIALS IN THE REGION

Rationale: The Tampa Bay region has most of the resources necessary to offer the entire pathway of high-quality, competitively priced clinical trial services: a large aging population (which would be appropriate for clinical trials in diabetes, orthopedics, cardio thoracic, etc.), animal models²⁵, and high-quality hospitals and doctors. Technicians could be trained through USF-Polytechnic and other local institutions.²⁶ One key missing link is a handful of experts in high-quality clinical trials to help direct and focus these resources effectively. In addition, destination medicine may present a high-potential economic opportunity if the Tampa Bay region can attract state-of-the-art clinical trials and become a center of excellence; the region's strong tourism assets would also enhance the area's ability to attract patients who are seeking unique, world-class treatments that are not available elsewhere.

Objectives:

- Attract experts in high-quality clinical trials to the Tampa Bay region, in specialties such as eye/ear conditions, neurogenerative disorders, cancer, orthopedics and prosthetics, brain/neurological conditions, and physical therapy/rehabilitation.
- Increase physician participation in clinical trials.
- Identify and address gaps to establishing the region as a competitive clinical trials services player.
- Raise national awareness of the region's competitive advantages in clinical trials services.

Activities:

- 1) Conduct an inventory of the Tampa Bay region's clinical trials experience – specifically, current and past clinical trials; the key academic/nonprofit research centers, hospitals and contract research organizations involved in conducting clinical trials; names of specific researchers and their areas of expertise; clinical trials support services organizations; characteristics of patient population; participating physicians and hospitals; animal models; etc. Based on the inventory:

²⁵ Although one stakeholder suggested that an investment would have to be made in animal care facilities.

²⁶ For instance, a reviewer of the draft plan suggested that Hillsborough Community College potentially could establish a two-year program to train clinical trials technicians.

- Identify gaps that need to be addressed in order to provide the entire pathway of high-quality, competitively priced clinical trial services, such as: types of experts that need to be recruited to direct high-quality clinical trials in particular areas, development of animal care facilities, recruitment of physicians to participate, etc.
- Identify the key areas of specialty for clinical trials that are currently undertaken within the region and the areas that might be targeted in future clinical trials (e.g., some of the region’s known medical specialties, such as cancer, neurodegenerative disorders, diseases and conditions related to aging, orthopedics, diabetes, and eye/ear conditions).

Purpose: To define precisely the Tampa Bay region’s clinical trials experience and identify areas for future opportunities.

- 2) Streamline the region’s clinical trials timeline. Examine bottlenecks in the clinical trials process, such as institutional review board (IRB) review. Determine what measures to put in place at the regional level to minimize bureaucracy and streamline processes, and create action plans around each measure. If appropriate, one possible idea to explore is the formation of a commercial institutional review board²⁷ to expedite approval of clinical trials. Another idea to explore is providing financial incentives to implement electronic health records software, which may also increase efficiency in participation in clinical trials.

Purpose: To streamline and remove bottlenecks in the Tampa Bay region’s clinical trials timeline. Optimized processes will assist in recruitment of expert researchers and physicians, as well as in marketing the region to pharmaceutical companies and contract research organizations.

²⁷ Commercial (also called “independent”) institutional review boards are contracted agencies that are not affiliated with specific institutions (e.g., those conducting the research) and that are paid to conduct reviews of research that involves human subjects. Traditionally, institutional review boards were comprised of volunteers affiliated with the institution or organization conducting the research (for example, a university or hospital) and usually located in or near the study site. As the proportion of clinical trials conducted at universities has declined, and the corresponding proportion of trials conducted in private settings has increased, the use of commercial institutional review boards has also expanded.

- 3) Increase participation of the region's resident physicians in clinical trials, through mechanisms such as the following:
- Conduct focus group(s) with physicians in the region to understand barriers to participation and possible incentives to offer in order to encourage participation.²⁸
 - Define a physician value proposition for participating in clinical trials (e.g., additional revenue stream, staying up to date on clinical research, scientific recognition, etc.).
 - Conduct workshops to educate physicians in targeted specialties regarding clinical trial participation (i.e., benefits, processes, opportunities, etc.).
 - Provide financial incentives to implement electronic health records software, which facilitates participation in clinical trials (e.g., through identification of potential trial subjects, patient enrollment and screening, data collection, compliance with study protocols, and data submission).
 - Connect physicians with firms providing clinical trials support services (e.g., paperwork and form completion, legal review, budget evaluation, protocol compliance, etc.).

Purpose: To increase physician awareness of clinical trials and facilitate participation of Tampa Bay region physicians in clinical trials.

- 4) Attract and recruit researchers with expertise in conducting high-quality clinical trials that are related to the region's existing clinical trials, but that expand and deepen the nature of region's clinical trials capacity:
- Determine desired expert characteristics/profile (e.g., researcher with extensive experience and successful track record in conducting high-quality clinical trials, entrepreneurial, application-oriented). Consult with current clinical trials experts in the region to confirm this profile and refine it to ensure that recruitment efforts focus on complementary sets of expertise.
 - Based on this profile and areas of specialty identified above, develop a prospect list of researchers around the country to approach for recruitment. Enlist the assistance of the region's clinical trials experts in identifying targets (both specific individuals and types of expertise) for the recruitment process.

²⁸ In order to understand thoroughly physicians' perspectives on the pros and cons of participating in or leading clinical trials, these focus groups should include physicians that have not participated in (or led) such trials, as well as those that have.

- Consult with current clinical trials experts in the region to understand the factors that attracted them to the Tampa Bay region and what types of incentives would attract other experts. Develop, and seek funding for, incentive packages.

Purpose: To strengthen the Tampa Bay region’s clinical trials capacity by recruiting researchers with additive knowledge and experience to the region.

5) Market the region’s clinical trials capabilities to pharmaceutical companies and contract research organizations around the country:

- Develop marketing materials and pitch. Develop a regional profile highlighting key assets (e.g., population demographics, number of hospitals and physicians, availability of animal models, university training programs); showcase successful examples of high-quality clinical trials in the Tampa Bay region; and emphasize the region’s value proposition in terms of competitive costs, resources to offer the “soup to nuts” entire pathway of preclinical/clinical trials, and efficiency and speed of processes. Conduct research to understand value proposition offered by competitor regions.
- Using information from Activities #1 and #2, create a regional centralized clinical trials website providing information to clinical trial sponsors, with a listing of current and past clinical trials, clinical trial centers and service providers in the region, as well as general information on clinical trials processes and timelines.
- Develop target list of representatives at pharmaceutical companies and contract research organizations nationwide, based on areas of specialty identified in Activity #1. Reach out to these targets via email and telephone.

Purpose: To market the Tampa Bay region to pharmaceutical companies and contract research organizations around the country in order to attract clinical trials to the region and to enhance the region’s national reputation in clinical trials.

Applied Medicine & Human Performance Strategy

Become a recognized center of excellence for specific, targeted areas of applied biomedical research.

Initiative 4: Build Capacity and National Reputation for Clinical Trials in the Tampa Bay Region

Owner(s): To be determined.

Objectives:

- To attract experts in high-quality clinical trials to the Tampa Bay region, in specialties such as eye/ear conditions, neurogenerative disorders, cancer, orthopedics and prosthetics, brain/neurological conditions, and physical therapy/rehabilitation.
- To increase physician participation in clinical trials.
- To identify and address gaps to establishing the region as a competitive clinical trials services player.
- To raise national awareness of the region's competitive advantages in clinical trials services.

Activities	Implementers	Time Frame											
		Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Conduct an inventory of the Tampa Bay region's clinical trials experience. Identify gaps. Identify key areas of specialty (current and target).	Target Sector Work Group (or designated committee thereof)												
2. Streamline the region's clinical trials timeline. Examine bottlenecks in the clinical trials process.	Target Sector Work Group (or designated committee thereof)												
3. Increase participation of the region's resident physicians in clinical trials.	Target Sector Work Group (or designated committee thereof)							Focus groups		Workshops and incentives			
4. Attract and recruit researchers with expertise in conducting high-quality clinical trials. Develop and fund incentive package.	Target Sector Work Group (or designated committee thereof) Other expert clinical researchers in the region							Development of prospect list and incentive package					Attraction and recruitment



<p>5. Market the region’s clinical trials capabilities to pharmaceutical companies and contract research organizations around the country.</p>	<p>Target Sector Work Group (or designated committee thereof)</p>			<p>Development of marketing materials, website & target list</p>	<p>Marketing and outreach</p>
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INITIATIVE #5: ESTABLISH A HUMAN PERFORMANCE AND SENIOR HEALTH/WELLNESS RESEARCH NETWORK AND FORUM

Rationale: The Tampa Bay region is already home to a multitude of research institutions, programs, companies, and scientists performing world-class R&D in fields related to human performance and senior health/wellness. Key related specialties in the region include eye/ear conditions, neurogenerative disorders, cancer, orthopedics and prosthetics, brain/neurological conditions, physical therapy/rehabilitation, and so on. However, there is not currently widespread awareness within the region (even within the scientific community) about what research is taking place, nor are there mechanisms/incentives to encourage and support collaboration – and some stakeholders believe there is a level of fragmentation and competition in the region’s life sciences/medical industry that inhibits a more collaborative approach. Since many of the unique discoveries and opportunities in these fields can have impacts that cross over diverse applications (e.g., advances in neurological research can apply to aging Alzheimer’s patients, traumatic brain injury among athletes, and even soldiers returning from combat), more extensive and formalized communication and collaboration within the Tampa Bay region’s life sciences community would be valuable to support new research tracks and develop paths for testing and commercialization of advanced research in these inter-related fields.

Objectives:

- Build connections and collaboration among researchers and practitioners in the region’s human performance and senior health/wellness-related fields.
- Expand the amount and profile of research being conducted in the region in human performance- and senior health/wellness-related fields.

Activities:

- 1) Organize a human performance and senior health/wellness “researcher’s forum,” which would hold periodic in-person networking events to further develop connections among researchers (and possibly business executives and practitioners) working in the human performance and senior health/wellness fields. Possible events would include regular speaker series, roundtables, networking luncheons/dinners, or other events to help researchers network with one another, share research findings and ideas, explore emerging research and commercialization opportunities, share information and experiences about applying for research grants, and so on.

The “researcher’s forum” would not be a formalized group, but would be an open network/event series that would draw participation from a broad cross-section of

researchers in the region – and ideally participation would grow over time, as researchers experience the value that can be gained from them. To establish the “researcher’s forum” as a permanent, ongoing entity, sector stakeholders would need to identify an institution, person, or committee to take the leadership role in organizing/hosting events, identify/recruit participants, and so on, as well as an ongoing source of funding support.

Purpose: To establish a permanent, ongoing series of networking events for researchers in the human performance and senior health/wellness fields, which would become valued opportunities for the Tampa Bay region’s scientific community to make connections and learn from others’ research experiences in these fields.

- 2) Develop, test, and launch a pilot “virtual research network,” which would allow scientists (and practitioners) in the human performance and senior health/wellness fields to network, exchange ideas and information, and possibly engage in collaborative research through a dedicated, online, user-friendly platform. The initial version of this virtual network could potentially include the following functions:
 - Provide a platform for the region’s researchers, scientists, and practitioners from academic, nonprofit, and private institutions and companies to engage with one another and share information and ideas about their research and key developments in the fields of human performance and senior health/wellness. This function could potentially draw upon social networking technologies or other platforms for online communication and sharing.
 - Provide a centralized channel for regional researchers to seek out collaborative opportunities and joint research initiatives and partners, and especially to facilitate greater collaboration between academic researchers and private companies.
 - Provide information about grants, awards, and funding sources and opportunities for research and testing of ideas in these fields, and share experiences in applying for and winning these awards.

In order to establish this network, sector stakeholders would need to identify an organizational sponsor/host, funding sources, and IT requirements for building the “virtual research network,” as well as a system to manage, revise, and keep the platform up-to-date on an ongoing basis. The platform would initially be launched as a trial/pilot version, and then could be refined and expanded over time as user-ship expands and as new value-added functions are identified.

More sophisticated and advanced applications and capabilities that could be explored for the virtual network in the future might include the following.²⁹

- Online management tools for joint research projects and programs, web conferencing tools, and other efficiency-enhancing tools for researchers.
- Access to shared research applications and processes, state-of-the-art analytical tools, IP management and technology transfer tools, compliance and regulatory policies, and other tools.
- Establishment of a distributed/grid computing network to support research efforts.
- Development of online curriculum resources for training future medical providers in human performance and senior health/geriatrics specialties, including utilization of virtual simulation tools for training purposes.
- Establishment of a region-wide common electronic medical record system that can be accessed by private companies, researchers, and public agencies to enhance patient care.
- Pooling of data from research, clinical trials, and health IT-based initiatives to leverage these resources for future, sophisticated research and analytics.
- Development of telemedicine capabilities through the network.

Purpose: To build a virtual platform where the Tampa Bay region’s scientific and business community can actively engage in conversations and collaborations around research and commercialization topics in human performance and senior health/wellness.

- 3) Once the “researcher’s forum” and “virtual research network” are established, promote and recruit participation from the region’s scientific and business community that are active in the human performance and senior health/wellness fields. These kinds of networking forums are most successful and useful when they engage a broad cross-section of stakeholders who play varying roles in their fields. In particular, sector stakeholders, working group members, and/or the Tampa Bay Partnership and partner economic development organizations should make concerted efforts (through in-person meetings or other recruitment efforts) to ensure that high-profile/high-volume published/patented researchers in human performance and senior health/wellness fields are participants in the

²⁹ For a very sophisticated/advanced example of this kind of network and its capabilities, stakeholders may want to explore the Texas BioGrid Virtual Research Park and Healthcare Collaborative Network, sponsored by the University of Texas at Arlington (<http://biogrid.uta.edu/>).

forum and virtual network, so that they can bring their experience and thought leadership to support other researchers in the region. In addition, leadership of the region's many assisted care living facilities should be engaged to provide practitioner input into the key concerns or research issues that are emerging or that predominate in course of their day-to-day work with the region's elderly or performance-impaired populations.

Purpose: To establish a vibrant and engaged community of researchers, practitioners, and other players in the human performance and senior health/wellness fields who are engaging in increasingly joint and collaborative research and commercialization activities, and to expand regional stakeholder participation in these activities over time.

Applied Medicine & Human Performance Strategy

Become a recognized center of excellence for specific, targeted areas of applied biomedical research.

Initiative 5: Establish a Human Performance and Senior Health/Wellness Research Network and Forum

Owner(s): To be determined.

Objectives:

- To build connections and collaboration among researchers and practitioners in the region’s human performance and senior health/wellness-related fields.
- To expand the amount and profile of research being conducted in the region in human performance and senior health/wellness-related fields.

Activities	Implementers	Time Frame											
		Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Organize a human performance and senior health/wellness “researcher’s forum,” and hold periodic in-person networking events.	Target Sector Work Group (or designated committee thereof) Leadership from research community (to be identified)	Establish Forum				Organize Periodic Events							
2. Develop, test, and launch a pilot “virtual research network,” for scientists in the human performance and senior health/wellness fields.	Target Sector Work Group (or designated committee thereof) Leadership from research community (to be identified) IT specialists to be recruited as needed	Establish and Pilot Test Platform				Implement, Manage, & Expand Platform							
3. Actively promote and recruit researcher and practitioner participation in the “researcher’s forum” and “virtual research network.”	Target Sector Work Group (or designated committee thereof) Ongoing “host”/organizer for forum and network												

D. INITIATIVES FOR HIGH-TECH ELECTRONICS & INSTRUMENTS

DESCRIPTION & CONTEXT

The goal for the High-Tech Electronics & Instruments target sector is for the Tampa Bay region to become a national research and commercialization leader for technologies in the **marine, medical, and defense/aerospace³⁰ electronics and instruments** niches. The High-Tech Electronics & Instruments sector focuses on research, design, and manufacturing of high-tech components, electronics, instruments, and devices that serve a number of very different “user” industries – including medicine, defense/aerospace, and marine/environment – but that share a number of commonalities in terms of workforce/skill needs, technology/innovation approaches, manufacturing quality, and business processes. Moreover, products for all three niches have the shared requirements of high (near perfect) reliability in very extreme environments for the purpose of protecting against threats to or loss of life. Major areas of opportunity across the niches in this target sector include developments related to sensing, remote monitoring, wireless communications, and optical technologies, as well as the use of sensors and data/information processing capabilities to embed “intelligence” in specialized devices.³¹

Through this strategy, the Tampa Bay region seeks to:

- Take advantage of the similar technical requirements of marine, medical and defense/aerospace electronics and instruments (e.g., reliability and durability in extreme environments in which threats are unpredictable but potentially life-threatening), to develop products and services for all three segments and at the crossover of the segments.

³⁰ The scope of this niche – defense/aerospace – is deliberately broad in order to capture the disparate nature of the activities conducted and organizations working in the niche in the region. For instance, as used in this report, “defense” encompasses work conducted for institutions such as the Department of Defense as well as the Department of Homeland Security. Likewise, the term “aerospace” is used according to its formal definition, which is “of or relating to Earth’s atmosphere and the space beyond, and of or relating to the science or technology of flight” (<http://www.thefreedictionary.com/aerospace>).

³¹ An example of the kind of synergies that exist at the intersection of the three niches is provided by Ocean Optics, a company founded in 1989 by USF researchers who developed a fiber optic pH sensor as part of an instrument designed to study the role of the oceans in global warming. In 1992, Ocean Optics created the world’s first miniature fiber optic spectrometer, which, because it dramatically reduced the size and cost of optical sensing systems, permitted applications that, with conventional spectrometers, would have been too costly or technologically impractical. Today the company manufactures essential components in four key photonics segments – optical sensing, optical networking, display optics and biophotonics – with primary markets including consumer electronics, process control, environmental monitoring, life sciences and medical diagnostics. (See <http://www.oceanoptics.com/corporate/corporateprofile.asp> for more details.)

- Leverage the many private companies in the region in the three segments, along with the related research capabilities of academic and other research institutions, to conduct joint, applied, cross-segment research with high commercialization potential.
- Capitalize upon strong global/national demand trends, including advances in medical and manufacturing technologies and a movement toward “intelligent” and customized devices.
- Further build the solid workforce base enjoyed by the region in this sector.

A Tampa Bay Region Success Story: High-Tech Electronics & Instruments

Chasco Machine & Manufacturing

Wanting to become his own boss, Jeff Roth taught himself how to program, bought a \$100,000 machine by taking out a home equity loan, and started **Chasco Machine & Manufacturing** in 2000. The fledgling company started out by manufacturing parts for cell towers and microwaves, but has since expanded to produce connectors for the military and medical device parts for a Scottish company. It also produces aviation parts for Curtiss-Wright Corporation in North Carolina, Chasco’s largest customer and a major sub-contractor of Boeing. The company now produces precision-machined parts used in the Boeing 737 airliners. Originally located in Pasco County, Chasco expanded its operations in 2009 by opening a 24,800 square-foot facility in the Hernando County Airport Industrial Park, drawn by the location’s site availability, competitive costs, and available workforce (and benefitting from a number of relocation and job creation incentives).

The key to Chasco’s success has been its business model and investment in “lights-out” technology. The company runs one shift during the day and uses robotics technology to continue manufacturing parts during the night, creating an around-the-clock production cycle that allows it to produce “more for less” in a price-competitive industry. According to Roth, however, this business model requires the company to constantly reinvest in its industrial machinery to maintain its industry advantage. Over the past few years, Chasco has been nothing short of a success story, generating over \$4 million in revenues annually, and contributed an economic impact of \$1.7 million to Hernando County’s economy in 2010 (according to estimates by the Tampa Bay Regional Planning Council).

KEY SECTOR PARTICIPANTS

Participants in High-Tech Electronics & Instruments sector activities should include a wide cross-section of stakeholders from the private, public, and academic institutions in the sector. Ideally, participants would represent the core niches within the target sector, but participants from outside these niches that complement or have a stake in the sector are also important contributors. Participants should include the following:

- Private companies involved in targeted niche activities (marine, medical and defense/aerospace electronics and instruments).

- Associations representing these companies (e.g., Florida Medical Manufacturers Consortium and Florida Federal Contractors Association).
- Research and academic organizations supporting the niches directly or indirectly.

VISION & OUTCOMES FOR STRATEGIC INITIATIVES IN THIS SECTOR

Individually, each niche within the High-Tech Electronics & Instruments sector enjoys a significant presence and notable assets in the Tampa Bay region, as well as strong opportunities for future growth. Probably in part because these strong niche-based opportunities exist, currently the three segments in the region mainly operate distinctly and separately from each other. Creating awareness about cross-segment synergies, developing a mechanism to facilitate cross-segment interaction and commercial collaboration, and attracting federal funding to build regional cross-segment research capacity will help the region capitalize on additional opportunities at the intersection of marine-medical-defense/aerospace technologies. Given the array of opportunities both within individual niches and across niches, the strategic initiatives proposed for the High-Tech Electronics & Instruments sector seek to leverage synergies across the Tampa Bay region's marine, medical, and defense/aerospace electronics and instruments companies and research institutions, by:

- 1) Creating awareness of the synergies and market opportunities among companies operating in the marine, medical, and defense/aerospace electronics and instruments niches, and establishing a durable, enterprise-driven mechanism or forum to facilitate intra- and cross-segment interaction and commercial collaboration in these niches.
- 2) Applying for complex and prestigious research grant opportunities relevant to the multi-disciplinary, multi-market focus inherent in marine, medical, and defense/aerospace electronics and instruments, in order to foster the region's capacity to conduct and commercialize cross-sector, applied research as well as research dedicated to individual niches.

Through these initiatives, the region seeks to accomplish the following outcomes within this target sector:

- An increase in products and services at the intersection of the marine, medical, and defense/aerospace electronics and instruments niches, along with an increase in employment and profitability of companies offering such products and services.

- An increase in research activity, as evidenced by the number of partnerships and joint research studies, among the region's private businesses, academic institutions, and other research institutions in marine-medical-defense/aerospace technologies.
- Over the longer term, a national reputation as a research and commercialization leader at the intersection of marine-medical-defense/aerospace technologies.

A Tampa Bay Region Success Story: High-Tech Electronics & Instruments

Sleek Audio

Sleek Audio, a state-of-the-art earphone manufacturing company based in Manatee County, Florida, evolved out of a hearing aid company started by father and son team Mark and Jason Krywko. The pair brought their extensive experience in the audio and custom hearing aid industries to the growing earphone market, inventing and patenting an earphone with changeable acoustics and a removable cable. The company continues to innovate in order to remain on the cutting-edge of audio technology and has plans to scale-up and expand their market with new product innovations. Sleek Audio has earned a number of national accolades for its high-end and customizable earphones, which fit snugly into the listener's ear canal and provide CD-quality sound.

Sleek Audio is especially notable for its recent decision to move its manufacturing operations from China back to the United States, and it has partnered with nearby company Dynamic Innovations to do so. It was after struggling with scheduling, transportation, and especially quality control issues, that Sleek Audio made the decision to bring manufacturing back onshore. While U.S.-based manufacturing will cost the company significantly more, Sleek Audio is pleased with the decision to pay that premium in exchange for the reliable supply and quality of product. According to Jason Krywko, consumers see that value – there is a demand for high-end products made in the United States, from both domestic and international customers. The partnership with Dynamic Innovations, a company that does high-end carbon fiber work for military and civilian applications, has also allowed Sleek Audio to create a new earphone that features military-grade materials.

STRATEGIC INITIATIVES IN HIGH-TECH ELECTRONICS & INSTRUMENTS

INITIATIVE #6: PROMOTE TANGIBLE BUSINESS OPPORTUNITIES IN AND ACROSS THE MARINE, MEDICAL, AND DEFENSE/AEROSPACE NICHES

Rationale: The future holds much promise for expansion of marine, medical and defense/aerospace electronics and instruments, and, with its strength in these niches, the Tampa Bay region should work concertedly and persistently to capitalize upon this growth potential. In addition to opportunities within each segment, it should be emphasized that seeking out the nexus where niches meet can provide new opportunities for a region like Tampa Bay to develop unique products and processes based on specialized types of research, engineering, and technology-based development. To identify such complementarities and potential commercial opportunities, however, each segment of the industry must be cognizant of the technologies and trends shaping other niches and must have relatively well-established relationships with and trust in potential collaborating companies. In the case of the Tampa Bay region's High-Tech Electronics & Instruments sector, relationships and knowledge across the three key niches – marine, medical, and defense/aerospace electronics and instruments – are currently somewhat sparse.³² This initiative is intended to build the ongoing, regular connections needed so that the Tampa Bay region can capitalize not only upon the individual strengths of the marine, medical, and defense/aerospace niches, but also upon synergies among the three distinct segments of the High-Tech Electronics & Instruments sector.

Objectives: The ultimate objective of this initiative is to help the region's companies achieve a highly competitive, front-runner position in marine, medical, and defense/aerospace technologies – as well as at in the emerging "space" at the intersection of the three niches – and, through this competitive advantage, to encourage company growth (in terms of employment and profits). The immediate objectives that build toward this ultimate aim are:

- To create awareness of the market opportunities and synergies among companies operating in the marine, medical, and defense/aerospace electronics and instruments segments;
- To establish a durable, enterprise-driven mechanism or forum to facilitate interaction and commercial collaboration within and across niches.

³² For example, each segment has its own convening body that covers part of the region or beyond – for example, the St. Petersburg Ocean Team for marine activities, the Florida Medical Manufacturers Consortium for medical devices, and the Florida Federal Contractors Association for the defense/aerospace industry – but contact across the three niches appears sporadic and infrequent. However, because companies and institutions in the marine and defense/aerospace segments sometimes serve the same customer (e.g., the Department of Defense, the Department of Homeland Security), linkages in these niches may be somewhat stronger than ties between firms in marine and medical electronics/instruments or between defense/aerospace and medical electronics/instruments enterprises.

Activities:

- 1) Convene a core organizing committee (perhaps 10-15 people) representing different parts of the marine, medical, and defense/aerospace electronics and instruments segments to define the key areas of opportunity present in the marine, medical, and defense/aerospace segments, particularly at their intersections. To identify potential opportunities, this group will draw upon the results of the first activity of *Initiative #1* (an inventory and mapping of assets), which will define precisely the types of expertise present in the region and thereby will help to pinpoint company- and segment-level synergies. The group should include representatives from companies in each High-Tech Electronics & Instruments niche, from associations such as the Florida Medical Manufacturers Consortium and the Florida Federal Contractors Association,³³ and from research or academic organizations that support the niches directly or indirectly (e.g., Mote Marine Laboratory³⁴, the St. Petersburg Ocean Team, USF St. Petersburg's College of Marine Science Program, USF's Tampa Bay Technology Incubator, STAR Technology Enterprise Center, USF Polytechnic's Blue Sky incubators, and USF's Virtual Manufacturing and Design Laboratory for Medical Devices). The group will be tasked with developing a clear outline (in presentation format) of areas of opportunity that might be pursued on an individual or collaborative basis by companies in the region.

Purpose: By defining the “big picture” regarding opportunities for the region’s High-Tech Electronics & Instruments companies and related institutions at the intersection of the marine-medical-defense/aerospace segments, this activity will serve as the foundation for building awareness and connections across the key niches.

- 2) Conduct presentations (to be led by members of the committee created in the previous activity) about the identified areas of opportunity at regularly-scheduled meetings of relevant organizations in the region. Examples of organizations at which presentations should be made include the Florida Federal Contractors Association, the Florida Medical Manufacturers Consortium, county-level manufacturing groups (e.g., the Polk Manufacturing Association, the Sarasota Manatee Manufacturers Association), local medical devices or defense/aerospace groups, the St. Petersburg Ocean Team, the Florida High-Tech Corridor, etc. In counties with smaller concentrations of marine, medical, or defense/aerospace electronics and instruments companies, the committee should work with local economic development partners to identify appropriate venues for general awareness-building (e.g., chamber of commerce meetings). Through dialogue following the

³³ Local representatives of these statewide organizations should be included.

³⁴ An appropriate representative from Mote Marine Laboratory might be the head of the new business incubator to be located at the lab.

presentations, identify specific targets of interest (including topics/potential commercial opportunities as well as individual companies with capabilities and/or interest in pursuing business at the intersection of the niches), solicit input regarding the best means for developing forward momentum in the particular areas of interest, and discuss options for continued interaction across the wider group.

Purpose: To provide initial exposure regarding opportunities that exist at the intersection of the marine-medical-defense/aerospace segments to a wide array of regional High-Tech Electronics & Instruments stakeholders. Through the activity, the core organizing group will also gain input regarding the next steps that would be most useful and appealing to stakeholders on an ongoing basis.

- 3) Identify knowledgeable “neutral” parties (e.g., incubator staff, SCORE advisors, SBDC representatives, etc.) to work on an individual basis with a handful of interested companies to develop partnerships, elaborate business plans, explore funding mechanisms, assist in accessing regional support for collaborative R&D (e.g., through the Florida High Tech Corridor), etc., that would advance their entry into (or expansion of) products or services at the intersection of marine-medical-defense/aerospace electronics and instruments. Following the committee’s work (through connections with neutral advisors) with this handful of companies, create processes and mechanisms to embed and replicate the efforts within one or more regional organizations.

Purpose: To jump-start real business opportunities at the intersection of the medical, marine, and defense/aerospace niches and thereby gain the attention of the High-Tech Electronics & Instruments sector as a whole.

- 4) Drawing upon the dialogue of Activity #2, develop a menu of high-impact activities to continue building awareness of new and emerging opportunities for the region at the nexus of the marine-medical-defense/aerospace niches. Activities might include:
 - Inclusion of “briefs” about developments (regional or otherwise) at the intersection of the three niches in the newsletters or other regular publications of the organizations participating in the core organizing group.
 - Continued presentations and discussions about marine-medical-defense/aerospace opportunities (e.g., on a quarterly or semi-annual basis) at the same organizations’ meetings.

- Creation of a dedicated organization to link marine, medical, and defense/aerospace companies and organizations that wish to pursue persistently opportunities at the intersection of these niches.³⁵

Purpose: To define ongoing mechanisms for convening the High-Tech Electronics & Instruments sector in a manner that efficiently leverages the activities of other regional organizations and maintains focus on tangible business opportunities at the intersection of the sector's three key segments.

³⁵ Once regional awareness of opportunities at the intersection of marine-medical-defense/aerospace niches seems to be heightened substantially, stakeholders may wish to direct their efforts partially toward building external awareness of the region's assets at the point of crossover for marine-medical-defense/aerospace activities. At that point, stakeholders in the High-Tech Electronics & Instruments sector may wish to seek out opportunities for greater coordination with the promotional efforts described in *Initiative #1*.

High-Tech Electronics & Instruments Strategy

Become a national research and commercialization leader for technologies in *marine, medical, and defense/aerospace* electronics and instruments.

Initiative 6: Promote Tangible Business Opportunities in and across the Marine, Medical, and Defense/Aerospace Niches

Owner(s): To be determined

Objectives:

- To create awareness of the synergies and market opportunities among companies operating in the marine, medical, and defense/aerospace electronics and instruments segments.
- To establish a durable, enterprise-driven mechanism or forum to facilitate cross-segment interaction and commercial collaboration.

Activities	Implementers	Time Frame											
		Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Convene a core organizing group to define the key areas of opportunity present at the intersection of these segments.	Target Sector Work Group												
2. Conduct presentations of the areas of opportunity at regularly-scheduled meetings of relevant organizations in the region.	Designated Committee of the Target Sector Work Group												
3. Identify knowledgeable “neutral” parties to work on an individual basis with a handful of interested companies.	Designated Committee of the Target Sector Work Group												
Subsequently, develop a mechanism to embed and replicate this support for other companies.	Designated Committee of the Target Sector Work Group												
4. Develop a menu of high-impact activities to continue building awareness of opportunities at the nexus of the marine-medical-defense/aerospace niches.	Designated Committee of the Target Sector Work Group												

INITIATIVE #7: BUILD RESEARCH EXCELLENCE RELATED TO DEVICES THAT CROSS INDUSTRY BOUNDARIES

Rationale: The Tampa Bay region is home to companies that produce a wide range of electronics and instruments for diverse markets that share a similar set of needs and future drivers. In particular, electronics and devices intended for marine, defense/aerospace, and medical uses require very high levels of reliability and durability in extreme environments. Moreover, across the marine, defense/aerospace, and medical markets, the demands for new generations of these devices include miniaturization, remote sensors and monitoring, and rapid wireless data transmission and two-way communications. In parallel with the region's electronic and instruments companies, various institutions conduct research related to the marine, defense/aerospace, and medical markets. However, significant collaborative research (involving a combination of industry, academia, and other research organizations) for devices and instruments in marine, defense/aerospace, and medical markets does not appear to be taking place, nor does research targeted at the intersection of the three niches. Moreover, linkages between the institutions conducting the research and companies that could pursue potential commercial applications of the research are not well-established. This initiative outlines a pathway for a medium- and long-term, multi-stakeholder effort to position the Tampa Bay region at the forefront of market trends for marine, defense/aerospace, and medical electronics and instruments, and to build a reputation for the Tampa Bay region as a national research and commercialization leader for devices that integrate the most sophisticated elements of these three arenas.

Objectives:

- To foster the region's capacity to conduct, on a collaborative basis with industry, applied research that distinguishes regional universities and research institutions as leaders in this fast-changing and complex field; and
- To enable the region's companies to access, participate in, and commercialize cutting edge research related to convergence in marine, defense/aerospace, and medical electronics and instruments and thereby contribute to the sector's future growth and resilience in the Tampa Bay region.

Activities: The activities of this initiative encompass a series of applications for progressively more complex and prestigious research grant opportunities,³⁶ to be pursued over a longer

³⁶ It should be noted that the region's main academic research institution – the University of South Florida – is poised to participate in an NSF-funded research partnership that could form an important building block for an initiative of this nature. According to the website of NSF's Industry/University Cooperative Research Center Program (I/UCRC), it is planned that USF will join the University of Florida and North Carolina A&T State

period of time than most of the other initiatives in this plan. The research opportunities identified in the following activities are funded primarily by the National Institutes of Health (in particular, the National Institute of Biomedical Imaging and Bioengineering, NIBIB) and the National Science Foundation (especially the Directorate for Engineering, NSF ENG).³⁷ These funding opportunities have been carefully selected because they are relevant to the multi-disciplinary, multi-market focus inherent in marine, defense/aerospace, and medical electronics and instruments. However, other federal agencies may provide funding that is also applicable to the objectives of this initiative (e.g., the Department of Defense for electronics and devices for marine and defense/aerospace applications) and, during implementation, additional pathways to achieve the initiative's objectives should certainly be explored. By presenting the sequence of funding opportunities below, the intent is to demonstrate a step-by-step approach, reflecting real funding mechanisms, to create a portfolio of collaborative, industry-relevant research that builds the distinctiveness and competitiveness of Tampa Bay region's research institutions and companies in this sector.³⁸

- 1) Identify interested regional academic researchers and hospitals/clinicians and support their efforts to develop a proposal to be submitted to a funding source such as the NIBIB's Design and Development of Novel Technologies for Healthy Independent Living Exploratory/Developmental Research Project (R21) or Technologies for Healthy Living Project (R01). The Exploratory/Development Research (R21) Project funds efforts to design and develop "novel technologies [that] monitor health or deliver care in a real-time, accessible, effective and minimally obtrusive way. These may be novel sensor or monitoring systems, home-use point-of-care devices, ... rehabilitation tools, or information systems ..."³⁹ The R21 project has a ceiling of \$275,000 in direct costs over two years. The Technologies for Healthy Living Project (R01) supports projects that refine or enhance existing systems or assess their use in specific settings; budgets for such proposals do not have a specific ceiling.⁴⁰

University in the already-established Advanced Space Technologies Research and Engineering Center (<http://www.nsf.gov/eng/iip/iucrc/directory/index.jsp>, last accessed November 29, 2010).

³⁷ Parameters for the programs described in this initiative are outlined in *Appendix 2*.

³⁸ In reviewing the draft of this plan, stakeholders mentioned that a complementary approach to that described in *Initiative #7* would be for the State of Florida to create an endowment (perhaps in the state pension fund), using funds provided to the state as a result of the 2010 Gulf oil spill, which would provide long-term resources for marine-related research efforts. Stakeholders noted that such a research endowment was created by the State of Alaska following the Exxon Valdez oil spill.

³⁹ <http://grants.nih.gov/grants/guide/pa-files/PAR-11-021.html>, last accessed November 23, 2010.

⁴⁰ <http://grants.nih.gov/grants/guide/pa-files/PAR-11-020.html>, last accessed November 29, 2010.

Purpose: To engage two key stakeholder groups in the medical device community of the High-Tech Electronics & Instruments sector (namely, university researchers and hospital practitioners/clinicians) in a relatively modest collaborative research activity. The purpose is to begin to establish a foundation and track record for more elaborate collaborative research efforts spanning a wider variety of stakeholders and segments of the High-Tech Electronics & Instruments sector.

- 2) Facilitate the submission of an NSF Partnership for Innovation (PFI) program proposal by targeted faculty and researchers at two- or four-year educational institutions and at least two small businesses in the region.⁴¹ The PFI’s “ideal project would consist of exploration, re-definition, and creation of a novel platform ... that can be applied to many markets and problems/opportunities (multi-product or -process platforms).”⁴² Given this description, a PFI award would provide the region with an exceptional basis from which to develop and demonstrate synergies across marine, defense/aerospace, and medical electronics and instruments, as well as to pursue substantive, multi-year interaction between academic researchers and small businesses. PFI awards total up to \$600,000 annually for a duration of two or three years.

Purpose: To engage the Tampa Bay region’s businesses and educational institutions in targeted collaborative research, and to provide tangible demonstration of applied research that spans the three key segments of the High-Tech Electronics & Instruments sector. The activity will also heighten the region’s innovation and research profile in this sector, since NSF PFI awards are highly respected within the research community.

- 3) Work with university researchers (potentially at more than one educational institution in the region) to design three or more inter-related research projects with a “common central theme, focus, and overall objective”⁴³ in areas such as sensors, simulation and analysis, medical devices and implant science, rehabilitation engineering, and surgical tools, techniques and systems (among others). Submit an integrated proposal to the NIBIB Program Project (PO1) program, which is intended for “research in which the funding of several independent projects as a group offers significant scientific advantages over support for the same projects as individual research grants.”⁴⁴ The PO1 program, which has a duration of up to five years and a value of \$1.2 to \$1.4 million per year for most projects,

⁴¹ Large businesses and non-profit research institutions may also participate in the partnership, but PFI award criteria require involvement of at least two small businesses.

⁴² <http://www.nsf.gov/pubs/2010/nsf10581/nsf10581.pdf>, last accessed November 23, 2010.

⁴³ <http://grants.nih.gov/grants/guide/pa-files/PAR-10-233.html>, last accessed November 24, 2010.

⁴⁴ <http://grants.nih.gov/grants/guide/pa-files/PAR-10-233.html>, last accessed November 24, 2010.

provides the opportunity to develop a shared resource core (comprised of a “service, technique or instrumentation that will enhance the research endeavors, consolidate manpower effort, and contribute to cost effectiveness and quality”⁴⁵) as well as funding for an administrative core for staff, equipment, supplies, and facilities.

Purpose: To further elevate the complexity of collaborative research conducted in High-Tech Electronics & Instruments through a multi-project but closely coordinated mechanism. Through the shared resource and administrative cores, the Tampa Bay region also will develop distinctive processes/tools and, if needed, gain strategic equipment.

- 4) Engage university, medical school, and private sector partners to form a consortium to apply for an NIBIB Bioengineering Research Partnership (BRP) Grant. These grants fund two broad types of multi-disciplinary research: “discovery and development of the scientifically new in basic research and translation ... [and] novel applications or combinations of proven ways to achieve performance specifications, reproducibility, reliability, cost control, quality, manufacturability, ease of use, or validation.”⁴⁶ BRP applications are expected to define a tangible goal or deliverable to be achieved within a five to ten year period, and partnerships for BRP applications may include companies that could ultimately commercialize the results. BRP grants total up to \$2 million annually for an initial period of five years (renewable for a total of ten years).

Purpose: To engage researchers from varied backgrounds – academia, medical practice, and private companies – in sustained collaborative research with a dedicated focus on a tangible, preferably commercializable, purpose. Accordingly, the activity aims not only to deepen the Tampa Bay region’s network of applied research collaboration but also to channel this research towards translational topics that can be converted into profit-making innovations.

- 5) Build a multi-institution, multi-disciplinary team to apply as a group for the NIBIB Quantum Projects program.⁴⁷ Quantum Projects are focused on research with the following characteristics: improvements in related technologies would transform over 200,000 medical procedures annually; many of the difficulties to be overcome are primarily technological in nature; and significant initial human clinical investigation is a key

⁴⁵ <http://grants.nih.gov/grants/guide/pa-files/PAR-10-233.html>, last accessed November 24, 2010.

⁴⁶ <http://grants.nih.gov/grants/guide/pa-files/PAR-10-234.html>, last accessed November 29, 2010.

⁴⁷ Or a similar major NIBIB program if Quantum Projects grant program is no longer operating, as it is unclear from the NIBIB’s website whether or when additional Phase II funding (beyond 2010) will be available.

component, with related data and/or adoption available by the project's end.⁴⁸ Awards under Phase II of the Quantum Projects program have a duration of up to five years and a value of up to \$3 million per year.

Purpose: To position the Tampa Bay region's combined marine, medical, and defense/aerospace research assets at the national forefront of cutting edge, multidisciplinary technological development with widespread impacts on medical procedures and practice across the country.

- 6) Form a consortium of regional higher educational institutions (and potentially including one or more from outside the region) to develop a proposal for the NSF's Engineering Research Center (ERC) program.⁴⁹ Aimed at developing a "culture of discovery and innovation through a symbiotic relationship between academic researchers, small innovative firms, larger industrial and practitioner partners, and organizations devoted to entrepreneurship and innovation,"⁵⁰ the ERC program supports the pursuit of aggressive, comprehensive research agendas spanning transformational fundamental research to technology commercialization. ERC funding typically is provided initially for a five-year period (but many ERCs are funded for an additional five years), with total funding reaching about \$18.5 million during the five-year award.

Purpose: The ERC program is a flagship for cross-disciplinary, engineering-based research, and such research will underlie the next generation of innovations in High-Tech Electronics & Instruments. Through the (potential) award of an ERC to a Tampa Bay university consortium (or recognition via a similar highly prestigious national program), the region will position itself prominently as a leader in applied research that integrates varied, sophisticated elements of marine, medical, and defense/aerospace electronics and instruments to develop innovations with implications for multiple industries.

⁴⁸ <http://grants.nih.gov/grants/guide/rfa-files/RFA-EB-09-003.html>, last accessed November 30, 2010.

⁴⁹ Readiness to submit a potentially-successful proposal for the ERC program will take years to develop. As a rough guide, regional stakeholders might aim to submit such a proposal within the 2021-2026 time frame (i.e., 10 to 15 years after initiation of activities under this plan. Preparations to form a partnership for major programs like the ERC program would begin as soon as 2019, as depicted in the table on the following page.

⁵⁰ <http://www.nsf.gov/pubs/2009/nsf09545/nsf09545.htm>, last accessed November 30, 2010.

High-Tech Electronics & Instruments Strategy

Become a national research and commercialization leader for technologies in *marine, medical, and defense/aerospace* electronics and instruments.

Initiative 7: Build Research Excellence Related to Devices that Cross Industry Boundaries

Owner(s): To be determined.

Objectives:

- To foster the region’s capacity to conduct, on a collaborative basis with industry, applied research that distinguishes regional universities and research institutions as leaders in the fast-changing and complex field of High-Tech Electronics & Instruments.
- To enable the region’s companies to access, participate in, and commercialize cutting edge research related to convergence in marine, defense/aerospace, and medical electronics and instruments and thereby contribute to the sector’s future growth and resilience in the Tampa Bay region.

Activities	Implementers	Time Frame* (years)									
		Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	
1. Identify interested regional academic researchers and hospitals/clinicians and support their efforts to develop a proposal related to independent living technologies.	USF and/or USF Polytechnic University researchers Doctors and clinicians at regional hospitals										
2. Coordinate the submission of an NSF Partnership for Innovation program proposal.	USF, USF Polytechnic, and/or state colleges/community colleges Small businesses										
3. Submit an integrated proposal to the NIBIB for research in, e.g., sensors, simulation/analysis, medical devices and implant science, rehabilitation engineering, and surgical tools, techniques and systems.	USF and/or USF Polytechnic University researchers										

4. Engage university, medical school, and private sector partners to form a consortium to apply for an NIBIB Bioengineering Research Partnership (BRP) Grant.	USF and/or USF Polytechnic University and/or medical school researchers Companies										
5. Build a multi-institution, multi-disciplinary team to apply as a group for the NIBIB Quantum Projects program.	USF and/or USF Polytechnic Research institutions Companies										
6. Form a consortium of regional higher educational institutions to develop a proposal for the NSF’s Engineering Research Center (ERC) program.	USF and/or USF Polytechnic Research institutions Companies										

* Note that the time frame for this initiative takes place over a longer time frame than is used for other initiatives. In addition, the first activity is not anticipated to begin until after the inventory and asset mapping of *Initiative #1* is completed, in approximately Year 2.

E. INITIATIVES FOR BUSINESS, FINANCIAL, & DATA SERVICES

DESCRIPTION & CONTEXT

The Business, Financial, & Data Services sector⁵¹ in the Tampa Bay region is comprised of four key niches: ***business process outsourcing (BPO) and shared services***; ***financial transactions processing***; ***data centers, disaster recovery, and data management***; and ***health information technology and bioinformatics***. The BPO and shared services niche includes internalized shared centers or outsourced activities for a broad range of back-office and non-revenue generating processes, such as human resources, sales, marketing, customer service, payment services, finance/accounting, and administration. Financial transactions processing focuses on the provision of transactions processing, reserve and liquidity services, and check/clearinghouse services (including check processing, electronic funds transfer, and debit/credit card payments). Data centers, disaster recovery, and data management encompasses provision of technology infrastructure for consolidated storage, management, and back-up of large data repositories. Health IT and bioinformatics covers electronic medical records and other uses of IT in the provision of medical and pharmaceutical services and conduct of biomedical research and drug discovery. The goal for the strategy and initiatives in the Business, Financial, & Data Services sector is for the Tampa Bay region to serve as the nation's "go-to" location for efficiency-creating, high value, and client-sensitive services for businesses of all sizes.

Through this strategy, the Tampa Bay region will:

- Build on synergies across the strong financial services, business services, and IT industries in the region.
- Leverage the region's workforce, which, generally speaking, has the necessary IT and functional skills to support key niches within the sector.
- Position the region to capture market share and fulfill demand for the strong projected market needs in key niches of the sector.

⁵¹ In previous reports, SRI referred to this sector as the "Data Management, Analytics, & Services" target sector. Based on stakeholder feedback that this name was unclear and unwieldy, SRI has changed the target sector name to highlight terms that are understood and in usage by the general public, and also to better reflect the niches that the sector encompasses.

A Tampa Bay Region Success Story: Business, Financial, & Data Services

DataMentors

In 1999, Bob Orf and Bev Tannenbaum co-founded **DataMentors**, a Wesley Chapel-based company providing database cleaning, standardization, matching, analytics, and marketing. Orf and Tannenbaum were former executives of a database marketing company called OKRA Corporation. When OKRA was acquired by John H. Harland Company, they leveraged the opportunity and their 35+ combined years of industry experience to create Data Mentors – retaining many of their staff of expert programmers and data analysts, as well as much of their customer base. In 2006, DataMentors constructed a new 10,000 square-foot headquarters facility in Pasco County (moving from their previous location in Tampa), to accommodate company growth and build a state-of-the-art data center that meets SAS70 security standards. The company has also expanded with regional offices in Atlanta and Las Vegas, and has plans to open additional regional offices in the Northeast and Midwest to serve an increasingly nationwide client base. DataMentors is exploring new products and services in military data analytics, in addition to its existing work for the banking, financial, publishing, retail, media, manufacturing, entertainment, hospitality, transportation, communications, and marketing sectors.

DataMentors is a growing, vibrant company and a recognized community leader in the data quality and marketing analytics industry. In recognition of the company's success, DataMentors was rewarded the Pasco Economic Development Council's *Technology Company of the Year Award* for 2007 and the Florida Workforce Board's *Best Places to Work Award* in Hernando and Pasco County for 2009. The company also was named a finalist for the Tampa Bay Technology Forum's *Industry Achievement Award*, which is presented annually by the Florida High Tech Corridor Council to a Tampa Bay regional company for "demonstrating leadership in innovation." Its nomination was based on NetEffect, a software application that provides transactional based cleansing and matching (TCM) functionality, or in other words, the capability to allow companies to cleanse and match their data in real-time.

KEY SECTOR PARTICIPANTS

Participants in Business, Financial, & Data Services sector activities should include the following:

- Private companies involved in particularly high-potential niche activities (e.g., shared services, financial management/transactions processing, and business process outsourcing).
- Economic development partner organizations.

VISION & EXPECTED OUTCOMES FOR STRATEGIC INITIATIVES IN THIS SECTOR

The vision for initiatives within the Business, Financial, & Data Services sector is to position the Tampa Bay region's businesses to capitalize on key trends that are expected to play out over the coming years, as more businesses consolidate their non-core functions into shared services centers and/or outsource these functions to third-party providers. The vision is based on the

understanding that the activities pursued in this sector must not simply shift jobs within the region, but rather must create jobs in the region.⁵² The strategic initiatives proposed for the Business, Financial, & Data Services sector seek to leverage and expand the existing base of companies and well-paid, skilled jobs in the Tampa Bay region by:

- 1) Coordinating forums and/or meetings with the region's companies to build economic development partners' knowledge of the key industry niches and associated promotional opportunities, as well as to articulate the region's value proposition as a location for companies in these niches.
- 2) Using this knowledge to develop messaging and conduct targeted promotional activities to attract firms in the shared services, financial management/transactions processing, and business process outsourcing niches to the region, as well as to increase the client base for the region's business process outsourcing companies.

Through these initiatives, the region seeks to accomplish the following outcomes within this target sector:

- Growth in the numbers of businesses in high-value shared services, financial management/transaction processing, and business process outsourcing.
- Expanded client base for business process outsourcing companies, including small-, medium-, and large-sized businesses.
- Over the longer term, a more well-developed national/global reputation for the region as a premier provider of high-value Business, Financial, & Data Services.

⁵² That is, the region should become known as a place that serves the Business, Financial, & Data Services needs of business located in other parts of the country (and world) through processes such as shared services and outsourcing, thereby generating new economic activity in the region.

A Tampa Bay Region Success Story: Business, Financial, & Data Services

Ceridian Benefits Services

Ceridian Corporation is leading global business services company. With over \$1.4 billion in annual revenues and 9,000 employees, Ceridian provides services to 50% of Fortune 500 companies and 60% of Fortune 100 companies. Originally founded over 60 years ago, Ceridian underwent a major restructuring in 1992 to become an information services company, focused on providing single-source solutions in all areas of human resources administration and management – including services such as payroll, benefits, recruitment, health and wellness, compliance, and tax filing. It was in 2000, following the acquisition of ABR Information Services, Inc., that Ceridian formed its Benefits Services division, setting up the unit headquarters in a new, 400,000 square-foot facility in St. Petersburg, Florida. From the St. Petersburg headquarters, **Ceridian Benefits Services** administers health and welfare benefits for the current, former, and retired employees of its clients around the world.

Ceridian Benefits Services has distinguished itself in the marketplace by providing the largest suite of products of any HR outsourcer to its 60,000+ benefits customers. The company is especially known for its services in COBRA administration, which comprises the majority of its business, but is also looking forward and developing new products and services as the benefits market evolves. The Ceridian facility in St. Petersburg is the largest within the company, employing 1,200 employees, and Ceridian has been successful in partnering with the city and Pinellas County to maintain and grow the business further. Ceridian will qualify for nearly \$1.9 million in tax refunds based on its plans to consolidate a Raleigh, North Carolina, facility into its St. Petersburg headquarters, investing \$1.5 million in capital improvements and creating a projected 220 new jobs at higher-than-average wages. Charles Daye, Senior Vice President of Human Resources with Ceridian, emphasized the importance of working with city and county economic development staff to identify the best available options and incentives for the company, saying, “I’m pleased to say that that sound decision landed us right here, ready to continue growing and succeeding in Pinellas County.”

STRATEGIC INITIATIVES IN BUSINESS, FINANCIAL, & DATA SERVICES

INITIATIVE #8: PROMOTE THE REGION AS A PREMIER LOCATION FOR SHARED SERVICES ORGANIZATIONS

Rationale: The Tampa Bay region hosts the shared services operations of some of the nation’s best-known brands, such as Coca-Cola, GEICO, Lockheed Martin, and Marriott. These companies selected the region for its strengths with respect to the quality and availability of good labor (first and foremost), regional costs and other business-related attributes (e.g., Florida’s tax structure), as well as the region’s weather and climate. Many major corporations in the United States have yet to consolidate business functions across different corporate units (i.e., each corporate division may have its own human resources, procurement, or financial management department), even though significant efficiencies, cost savings, and levels of quality assurance can be achieved by centralizing such functions into shared services facilities that serve the entire corporation. Because a small proportion of major corporations have embarked upon this transition, the potential for hosting additional shared services operations in the Tampa Bay region is enormous.

Objective: Capitalize on market trends towards corporate consolidation of non-core functions into shared service operations.

Activities:

- 1) The interviews that preceded preparation of this plan revealed that, in general, shared services operations in the Tampa Bay region were pleased with the ability of the region (particularly its workforce) to support the operations’ success. However, communications between economic development organizations and businesses in the shared services “space” appear sporadic at best. It will be difficult for economic development organizations to succeed in attracting additional shared services operations to the region if their staff are not deeply familiar with the experiences – positive and negative – of the existing shared services companies in the region, as well as developments in the national/global shared services marketplace. Moreover, it will be helpful in attracting new shared services operators to the region if a discussion forum for the shared services niche is operational and has already demonstrated value, and it will be important to demonstrate to shared services companies already in the region how their participation in the initiative will result in benefits for their operations. Accordingly, in this activity (drawing upon the results of the inventory and asset mapping activity that is part of *Initiative #1* and in coordination with the business retention and expansion initiative, *Initiative #3*), regional economic development organizations will establish a forum for group discussions (or a schedule for individual meetings with) shared services providers. The region’s economic development organizations

will also tap the expertise of shared services professionals regarding appropriate venues for building economic development partners' knowledge about the industry and for promoting the region as a premier shared services location; as part of this effort, economic development partners should also contact regional organizations such the Tampa Bay chapter of Business Process Management Professionals.

Purpose: To establish a mechanism for the Tampa Bay region's economic development organizations to build and maintain communication with existing shared service operators and to obtain their input on development and promotion options.

- 2) Using the insights obtained in the previous activity, regional economic development organizations will develop a prioritized list of venues and opportunities at which the region should be promoted in order to attract additional shared services organizations. Following agreement on the prioritized list, the economic development partners will identify the necessary funds for representatives of the region to attend key events⁵³ (preferably in the role of "thought leaders" – e.g., conference presenters or keynoters)⁵⁴ and conduct targeted promotional activities.

Purpose: To define specific opportunities for promoting the Tampa Bay region to corporations seeking to consolidate non-core functions in one (or a few) locations.

- 3) Based on feedback about the region's advantages (obtained from the first activity and from review of the analytical documents that preceded this plan), regional economic development organizations will formulate key messages to be shared with prospective new shared services operators. These messages should be developed collectively by the region's economic development partners and should be used consistently by regional economic development organizations to represent the entire region's strengths as a location for shared services.^{55, 56}

⁵³ One option may be roundtables sponsored by the Shared Services Benchmarking Association, <http://ssbenchmarking.org>.

⁵⁴ Participating in industry events as presenters, panelists, or keynote speakers provides high visibility and impact while avoiding the significant expense associated with more traditional mechanisms of event participation, such as booth, session, or other sponsorship packages.

⁵⁵ Depending on interest among economic development organizations and available resources, the messages could be "formalized" into various types of marketing/promotional materials. However, the expense and time entailed in materials development may or may not be warranted by the numbers of potential shared services operators that economic development organizations intend to contact via promotion efforts. Accordingly, this activity focuses on the most important first step – development of a compelling, consistent set of messages agreed upon by regional economic development partners.

Purpose: To articulate the Tampa Bay region's value proposition as a location for shared services operations.

- 4) Following the first significant set of contacts with potential new shared services operators (i.e., within nine to twelve months of participation in the first event targeted in Activity #2), the region's economic development organizations should review, as a group, the results of their efforts. In particular, they should discuss topics including: messages or regional advantages that seemed to resonate with or particularly interest targeted corporations, knowledge gathered about trends and developments in the niche, frequent questions or concerns raised about the Tampa Bay region, etc. Based on this review, the economic development partners should revise the list of specific opportunities and the marketing messages.

Purpose: To monitor progress and make necessary revisions to the shared services attraction effort.

⁵⁶ *Initiative #1* involves development of promotional messages at the sector level. Accordingly, this activity will need to be conducted in coordination with the implementers of *Initiative #1*. It should be noted, though, that this activity is distinct from the related *Initiative #1* activities in that this activity will drill down to messages targeted to this specific niche.

Business, Financial, & Data Services

Serve as the nation's "go-to" location for efficiency-creating, high value, and client-sensitive services for businesses of all sizes.

Initiative 8: Promote the Region as a Premier Location for Shared Services Organizations

Owner(s): To be determined.

Objective: • To capitalize on market trends toward corporate consolidation of non-core functions into shared services operations.

Activities	Implementers	Time Frame											
		Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Establish a mechanism to communicate with shared services operators.	Target Sector Work Group (or designated committee thereof) Economic Development Partners												
2. Define opportunities for promoting the region to corporations seeking to consolidate non-core functions; conduct promotional efforts.	Target Sector Work Group (or designated committee thereof) Economic Development Partners			Define Opportunities			Launch Promotion Efforts					Revised Promotion	
3. Articulate the region's value proposition as a location for shared services operations.	Target Sector Work Group (or designated committee thereof) Economic Development Partners												
4. Monitor progress and make adjustments.	Target Sector Work Group (or designated committee thereof) Economic Development Partners												

INITIATIVE #9: PROMOTE THE REGION AS A PREMIER LOCATION FOR FINANCIAL MANAGEMENT/TRANSACTIONS PROCESSING

Rationale: The Tampa Bay region hosts the financial management and transactions processing operations of many well-known companies, such as New York Life Insurance, Ford Motor Credit Company, and Outback Steakhouse, as well as companies that focus on financial services exclusively, such as Citi, Depository Trust & Clearing Corporation (DTTC), FCCI, JP Morgan Chase (Chase Card Services), State Farm Insurance, and Zenith Insurance (among others). As with shared services operations in the region, major attractors for financial management/transactions processing companies include the quality and availability of good labor, regional costs, and other business-related attributes, as well as the general quality of life. Also in common with shared services operations is strong market potential: the number of non-cash payment transactions is expected to grow to \$101.5 billion by the end of 2010, and five-year growth (through 2015) is projected to reach an average annual rate of 3.6%.⁵⁷ This projected future growth indicates a substantial and solid market for financial management and transactions processing companies – and an opportunity that the Tampa Bay region, with its existing strengths in the niche, should capitalize upon.

Objective: Leverage projected market demand in financial management and transactions processing services for regional business recruitment and expansion.

Activities:

- 1) The interviews that preceded preparation of this plan revealed that, in general, financial management/transactions processing companies in the Tampa Bay region were pleased with the region as a venue for their operations. As with shared services organizations, however, little outreach to companies in this financial services niche by the region's economic development organizations was reported. In order to expand the range and number of financial management/transaction processing companies in the region, it will be important for regional economic development organizations to build regular, direct communications with these firms and to develop a solid knowledge base about dynamics and trends in this niche. Accordingly, this activity (drawing upon the results of the inventory and asset mapping activity that is part of *Initiative #1* and in coordination with the business retention and expansion initiative, *Initiative #3*), regional economic development organizations will establish a forum for group discussions (or a schedule for individual meetings with) financial management/transactions processing companies. The region's economic development organizations will also tap the expertise of professionals in the niche

⁵⁷ IBISWorld, Industry Report 52232: *Money Transferring in the U.S.*, May 2010, p. 4.

regarding appropriate venues for building economic development partners' knowledge about the industry and for promoting the region as a premier financial management/transactions processing location.

Purpose: To establish a mechanism for the Tampa Bay region's economic development organizations to build and maintain communication with existing financial management/transaction processing companies and to obtain their input on development and promotion options.

- 2) Using the insights obtained in the previous activity, regional economic development organizations will develop a prioritized list of venues and opportunities at which the region should be promoted in order to attract additional financial services companies in this niche.⁵⁸ Following agreement on the prioritized list, the economic development partners will identify the necessary funds for representatives of the region to attend key events (preferably in the role of "thought leaders" – e.g., conference presenters or keynoters)⁵⁹ and conduct targeted promotional activities.

Purpose: To define specific opportunities for promoting the Tampa Bay region to financial management/transactions processing companies.

- 3) Based on feedback about the region's advantages (obtained from the first activity and from review of the analytical documents that preceded this plan), regional economic development organizations will formulate key messages to be shared with prospective companies in financial management/transactions processing. As with the messages developed for shared services, the messages for financial management/transactions processing should be developed collectively by the region's economic development partners and should be used consistently by regional economic development organizations in their recruitment efforts and discussions of the region's strengths.^{60, 61}

⁵⁸ Some options that might be explored include events of the Electronic Transactions Association, Electronic Payments Association, and Electronic Funds Transfer Association.

⁵⁹ Participating in industry events as presenters, panelists, or keynote speakers provides high visibility and impact while avoiding the significant expense associated with more traditional mechanisms of event participation, such as booth, session, or other sponsorship packages.

⁶⁰ As with messages developed for shared services operations, the financial management/transactions processing messages could be "formalized" into various types of marketing/promotional materials, depending on expected intensity of recruitment efforts and available funds.

⁶¹ *Initiative #1* involves development of promotional messages at the sector level. Accordingly, this activity will need to be conducted in coordination with the implementers of *Initiative #1*. It should be noted, though, that this

Purpose: To articulate the Tampa Bay region's value proposition as a location for financial management/transactions processing companies.

- 4) Following the first significant set of contacts with potential new financial management/transactions processing companies (i.e., within nine to twelve months of participation in the first event targeted in via the second activity), the region's economic development organizations should review, as a group, the results of their efforts. In particular, they should discuss topics including messages or regional advantages that seemed to resonate with or particularly interest targeted corporations, knowledge gathered about trends and developments in the niche, frequent questions or concerns raised about the Tampa Bay region, etc. Based on this review, the economic development partners should revise the list of specific opportunities and the marketing messages.

Purpose: To monitor progress and make necessary revisions to the financial management/transactions processing company recruitment and promotion effort.

activity is distinct from the related *Initiative #1* activities in that this activity will drill down to messages targeted to this specific niche.

Business, Financial, & Data Services

Serve as the nation's "go-to" location for efficiency-creating, high value, and client-sensitive services for businesses of all sizes.

Initiative 9: Promote the Region as a Premier Location for Financial Management/Transactions Processing

Owner(s): To be determined.

Objective:

- To leverage projected demand in financial management and transactions processing services for regional business recruitment and expansion.

Activities	Implementers	Time Frame											
		Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Establish a mechanism to communicate with financial management/transaction processing companies.	Target Sector Work Group (or designated committee thereof) Economic Development Partners												
2. Define opportunities for promoting the region to financial management/transaction processing companies; conduct promotional efforts.	Target Sector Work Group (or designated committee thereof) Economic Development Partners			Define Opportunities		Launch Promotion Efforts						Revised Promotion	
3. Articulate the region's value proposition as a location for financial management/transaction processing companies.	Target Sector Work Group (or designated committee thereof) Economic Development Partners												
4. Monitor progress and make adjustments.	Target Sector Work Group (or designated committee thereof) Economic Development Partners												

INITIATIVE #10: CONVENE, SUPPORT, AND PROMOTE BUSINESS PROCESS OUTSOURCING COMPANIES IN THE REGION

Rationale: The Tampa Bay region is home to many companies (large-, medium-, and small-sized) that serve the non-core business needs of other companies and institutions. The large business process outsourcing (BPO) companies in the region – such as Ceridian Business Services or SYKES Enterprises – have as their clients Fortune 500 or 1000 companies across the country and world; the small- and medium-sized BPO companies of the Tampa Bay region serve a range of sole proprietors and independent contractors, enterprises, and institutions in the region, in the State of Florida, and across the United States. While outsourcing in the general public’s mind is often associated with the overseas transfer of call center and customer service jobs, some business process outsourcing functions – for example, human resources management (payroll, benefits enrollment and management, even personnel recruiting) and health insurance management – require workers with higher levels of knowledge and decision-making capacity in order to serve clients satisfactorily. Changes in the nation’s health care framework (such as more widespread introduction of health savings accounts and development of health care exchanges) are also expected to increase the skills required of workers in the BPO niche. Focusing on those that serve companies outside the region (in order to ensure that jobs are not merely transferred within the region), the Tampa Bay region has an opportunity to capitalize upon and grow its base of BPO firms.

Objective: Expand the base of BPO firms (of all sizes) in the region in order to generate new jobs.

Activities:

- 1) As with other niches in the Business, Financial, & Data Services sector, representatives of BPO companies reported receiving relatively little attention or support from the region’s economic development partners. Accordingly, in conjunction with the inventory and asset mapping activity (part of *Initiative #1*) and the business retention and expansion initiative (*Initiative #3*), this activity entails a concerted effort by the region’s economic development partners to convene and gain understanding of the characteristics and needs of the BPO firms that are currently operating in the region. Because BPO firms serving large companies (Fortune 500 or 1000) are likely to have very different perspectives and requirements than small- and medium-sized firms (which generally serve SME clients), separate outreach to these two groups will be needed. As with the other convening activities conducted by regional economic development organizations for this target sector, this activity will enlist the expertise of professionals in the niche regarding appropriate venues for building the economic development partners’ knowledge about the industry, for promoting the region as

an attractive BPO location (for larger BPO firms), and for providing targeted support to small- and medium-sized BPO providers to identify an expanded potential customer base.⁶²

Purpose: To inform the Tampa Bay region’s economic development organizations about the distinctive assets and needs of BPO firms serving a range of customers (small to large), and to obtain input from these companies in order to promote the region as an attractive BPO site and to assist small- and medium-sized BPO firms in expanding their customer base.

- 2) Using the insights obtained in the previous activity, regional economic development organizations will develop a prioritized list of venues and opportunities at which the region should be promoted in order to attract additional large BPO companies in this niche or to identify potential customers for small- and medium-sized BPO providers.⁶³ Following agreement on the prioritized list, the economic development partners will identify the necessary funds for representatives of the region to attend key events (preferably in the role of “thought leaders” – e.g., conference presenters or keynoters).⁶⁴ At the selected events, regional participants will conduct targeted promotional activities (to help identify new customers for the region’s small- and medium-sized providers) and attraction activities (to expand the numbers of large BPO providers with large corporate customers).

Purpose: To identify selected opportunities for marketing the Tampa Bay region as a site for large BPO providers and for promoting its BPO companies to potential customers.

- 3) Based on feedback about the region’s advantages (obtained from the first activity and from review of the analytical documents that preceded this plan), regional economic development partners will formulate key messages to be shared with large BPO providers that may be interested in establishing operations in the region. As with other recruitment/attraction messages developed for this target sector, the messages for this niche should be developed collectively by the region’s economic development partners and

⁶² In addition to contacting companies in this niche, the regional economic development partners should also obtain insights from organizations such as the Sarasota Manatee Human Resources Association.

⁶³ Sample opportunities include events held by organizations such as the Independent Payroll Providers Association, American Payroll Association, Human Resources Outsourcing Association, and International Association of Outsourcing Professionals.

⁶⁴ Participating in industry events as presenters, panelists, or keynote speakers provides high visibility and impact while avoiding the significant expense associated with more traditional mechanisms of event participation, such as booth, session, or other sponsorship packages.

should be used consistently by regional economic development organizations in their recruitment efforts and discussions of the region's strengths.⁶⁵

Purpose: To articulate the Tampa Bay region's value proposition as a location for major BPO service providers.

- 4) Based on feedback about the characteristics and needs of the region's small- and medium-sized BPO providers (obtained from the first activity and from review of the analytical documents that preceded this plan), regional economic development organizations will design targeted support mechanisms to assist these providers in reaching potential new customers. Depending on needs (and available resources), these support mechanisms might include cost-sharing of expenses related to participation in selected trade shows or industry events⁶⁶ and launch of a region-wide website⁶⁷ promoting and featuring this niche.

Purpose: To identify and launch tangible steps to help the Tampa Bay region's small- and medium-sized BPO providers reach new potential customers and thereby expand their businesses.

- 5) After nine to twelve months from initiation of the third and fourth activities in this initiative, the economic development partners should review, as a group, the results of their efforts. In particular, they should discuss topics including: messages or regional advantages that seemed to resonate with or particularly interest large BPO companies targeted for attraction and/or potential customers for small- and medium-sized BPO providers; knowledge gathered about trends and developments in the niche; frequent questions or concerns raised about the Tampa Bay region; problems encountered by small- and medium-sized BPO companies in promoting their services to new customers; etc. Based on this review, the economic development partners should refine their approach to the customer attraction and location promotion efforts.

Purpose: To monitor progress and make necessary revisions to the BPO support and recruitment effort.

⁶⁵ *Initiative #1* involves development of promotional messages at the sector level. Accordingly, this activity will need to be conducted in coordination with the implementers of *Initiative #1*. It should be noted, though, that this activity is distinct from the related *Initiative #1* activities in that this activity will drill down to messages targeted to this specific niche.

⁶⁶ As mentioned elsewhere, participation via sponsorship is not envisioned; instead, individual participation – for company representatives as attendees or presenters/panelists and for economic development staff as presenters or panelists – is preferred in order to minimize costs.

⁶⁷ The website could be connected to or derived from the GIS mapping that is part of *Initiative #1*.

Business, Financial, & Data Services

Serve as the nation's "go-to" location for efficiency-creating, high value, and client-sensitive services for businesses of all sizes.

Initiative 10: Convene, Support, and Promote Business Process Outsourcing Companies in the Region

Owner(s): To be determined.

Objective: • To expand the base of BPO firms (of all sizes) in the region in order to generate new jobs.

Activities	Implementers	Time Frame											
		Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Establish a mechanism to communicate with BPO companies.	Target Sector Work Group (or designated committee thereof) Economic Development Partners												
2. Identify opportunities related to small-, medium- and large-sized BPO providers; conduct promotional and support activities.	Target Sector Work Group (or designated committee thereof) Economic Development Partners			Define Opportunities		Launch Promotion & Support Efforts						Revised Promotion/Support	
3. Articulate the region's value proposition as a location for large BPO providers.	Target Sector Work Group (or designated committee thereof) Economic Development Partners												
4. Identify and launch steps to support small- and medium-sized BPO providers reach new customers.	Target Sector Work Group (or designated committee thereof) Economic Development Partners												
5. Monitor progress and make adjustments.	Target Sector Work Group (or designated committee thereof) Economic Development Partners												

F. INITIATIVES FOR MARINE & ENVIRONMENTAL ACTIVITIES

DESCRIPTION & CONTEXT

The goal for the Marine & Environmental Activities target sector is to develop commercial and business applications that build upon existing and nascent strategic assets and research capabilities in the marine sciences and environment. Small, but high-growth and high-potential opportunities in the areas of *inland aquaculture* (for human consumption) and *algae-based and other biofuels* will be pursued as emerging commercial and export opportunities for the region, and will also leverage regional geographic assets and agricultural legacy. The region will tap into and refocus its strong (but currently underutilized) construction and engineering expertise to pursue growing opportunities in *energy conservation and efficiency* projects and applications.

Through this strategy, the Tampa Bay region seeks to:

- Leverage the region’s well-established research capabilities in marine sciences, including the presence of a number of leading marine-related research institutions, to develop spin-off activities that have commercial growth potential.⁶⁸
- Take advantage of historical regional expertise and assets in construction, and also in agriculture, to help refocus those sectors toward higher-growth, future-oriented opportunities.
- Take advantage of a growing national/global attention and strong growth trends in fields related to the environment, including renewable fuels and energy efficiency, and provide additional definition and guidance on how the Tampa Bay region can best tap into these opportunities.
- Provide definition and coordination to the marine and environmental sector stakeholders who have previously been fragmented and not closely linked in with regional economic development partners and activities.
- Develop a global reputation and brand for expertise and innovation in marine sciences, and, over the longer term, mobilize the region to take a more proactive approach towards developing environmental and energy efficiency activities.

⁶⁸ Several commentators on the draft of this plan noted that significant research funding for marine sciences is likely in the aftermath of the Deepwater Horizon incident in the Gulf of Mexico. Certainly, the region should position itself for and pursue such funding opportunities. The emphasis of the Marine & Environmental Activities initiatives in this plan, however, focuses on the economic development potential (i.e., enterprise and job creation/expansion) within the sector, while recognizing that continued strong research capacity is also needed to sustain and strengthen the region’s reputation as a marine sciences research hub.

A Tampa Bay Region Success Story: Marine & Environmental Activities *Technology Conservation Group, Inc.*

Previously employed in a Chicago-based precious metal trading company, Hamilton Rice returned to the Tampa Bay region to be closer to his family and start his own business. Rice launched **Technology Conservation Group** in 1996 in Lecanto (Citrus County), to provide electronic equipment recovery and recycling services. TCG has grown rapidly over the last decade and is poised to become one of the largest and most proactive R3 (reuse, recovery and recycling) companies in the world. It now has facilities worldwide, including Oregon, Kentucky, Israel, Mexico, India, and the United Kingdom.

TCG has succeeded in this fast-growing, \$5.8 billion global industry by investing in and testing prototypical machinery that is designed to effectively separate the various metal components of any electronics item. The company's investments have paid off, as it has become the 15th largest e-waste company in the country in terms of revenue (among over 5,000 e-waste companies nationwide), and is among the top 10 companies in the world in regards to its environmental footprint. The Governor of the State of Florida acknowledged TCG for its "exceptional contributions toward statewide economic diversification" and leadership in green technologies with the *Business Diversification Award* in 2010. TCG is also a leader in local education programs and community partnerships promoting electronics recycling.

KEY SECTOR PARTICIPANTS

The Marine & Environmental Activities target sector includes a more diverse and fragmented set of stakeholders than the other target sectors (partly because the niches being focused on in this sector have fewer crossovers and synergies among them). Participants in sector activities should include a wide cross-section of stakeholders from the private, public, and academic institutions in the sector, and multiple/separate stakeholders groups may need to be convened around the following areas:

- Stakeholders involved in aquaculture, from a business, research, or training perspective, including: existing aquaculture facilities and commercial operations (e.g., Mote's aquaculture demonstration facility, ornamental fish facilities and other fish farmers from around the region, wholesalers, etc.); researchers involved in studying aquaculture (e.g., at Mote Marine Laboratory, USF, University of Florida's Tropical Aquaculture Laboratory in Hillsborough County); the Florida Aquaculture Association (headquartered in Winter Haven); related training programs at area schools and community colleges; and related agriculture stakeholders (e.g., agriculture extension programs).
- Stakeholders involved in biofuels, from a business, research, or educational perspective, including: existing biomass/biofuels producers; researchers involved in studying biofuels;

utility companies and others who are end-users of biofuels; and companies that use by-products from biofuels.

- Stakeholders involved in energy efficiency, including: construction/design/engineering firms with expertise or interest in these areas; public sector and planning agencies that deal with these issues; educational/training institutions with energy efficiency related programs; and researchers from regional universities/institutions whose work addresses energy efficiency.

VISION & OUTCOMES FOR STRATEGIC INITIATIVES IN THIS SECTOR

The strategic initiatives proposed for the Marine & Environmental Activities sector seek to explore high-growth, commercial, and export-oriented opportunities that leverage the Tampa Bay region's nascent foundations in these fields:

- 1) Investigating and demonstrating the viability of expanding food-oriented aquaculture as an export-oriented commercial activity in the Tampa Bay region.
- 2) Investigating and demonstrating the viability of expanding algae-based (and other biomass) biofuels as a commercially viable activity in the Tampa Bay region.
- 3) Establishing and promoting a centralized online repository of existing incentives, programs, and activities in the Tampa Bay region related to energy efficiency and conservation; convening stakeholders to explore and pursue possible ongoing regional initiatives to complement and/or enhance existing energy efficiency incentives, programs, and activities.

Through these initiatives, the region seeks to accomplish the following outcomes within this target sector:

- Growth in the number and size of businesses in the region that are pursuing commercial ventures in food-oriented aquaculture, biofuels, and energy efficiency.
- An increase in the amount of aquaculture, biofuel, and energy efficiency-related R&D being conducted at regional universities and nonprofit institutions.
- Over the longer term, a more well-developed national/global reputation for niches within marine sciences, as well as increased regional attention and consensus on energy efficiency opportunities.

A Tampa Bay Region Success Story: Marine & Environmental Activities

Mote Marine Laboratory Aquaculture Demonstration Project

Mote Marine Laboratory has developed the *Sturgeon Commercial Demonstration Program* to help develop, test, demonstrate, and promote new technologies and practices in inland aquaculture. The project raises and sells sturgeon and sturgeon caviar, with the goal of creating a financially and environmentally sustainable model for inland aquaculture. Notably, Mote has developed, tested, and demonstrated a number of energy and water-saving techniques, including innovative recirculating technologies. In partnership with the *Sturgeon Commercial Demonstration Program*, Mote's *Marine Aquaculture Research Program* conducts complementary research on inland cultivation of snook, pompano, red drum, hard corals, long-spined sea urchins, and other species.

Mote sees inland aquaculture as an opportunity for economic gain, as well as an environmental solution. The Tampa Bay region lacks many of the necessary conditions for coastal aquaculture, but with affordable inland land prices, Mote sees inland aquaculture as a profitable option, especially for struggling and unproductive citrus farms in the region and state. Mote is also interested in promoting inland aquaculture more broadly, as a solution to the health and environmental problems associated with the seafood industry. By isolating operations from natural bodies of water, they are able to remove the threat of contaminants to the seafood stock, provide an alternative source of production to reduce pressure on natural fisheries, and cultivate hybrid breeds that cannot be released into natural marine ecosystems. Through developing and demonstrating a model for commercially viable inland aquaculture, Mote's program hopes to pioneer a new regional economic opportunity and provide widely applicable technical solutions in aquaculture.

STRATEGIC INITIATIVES IN MARINE & ENVIRONMENTAL ACTIVITIES

INITIATIVE #11: EXPAND THE COMMERCIAL VIABILITY AND EXPORT PROSPECTS FOR INLAND AQUACULTURE IN THE REGION

Rationale: According to a number of regional stakeholders, the Tampa Bay region has the assets and conditions necessary to become a leader in inland aquaculture for controlled and sustainable seafood production. Key regional assets supporting development of aquaculture for food in the Tampa Bay area include: ideal weather conditions; availability of inland farmland; a long agricultural legacy and know-how, strong marine science research capabilities and facilities; and a good geographic location/transportation network.⁶⁹ There are already regional efforts underway (e.g., at the Mote Marine Laboratory) to demonstrate the commercial viability of inland aquaculture for the region, and the recent EDA grant to USF and Mote to build an aquaculture incubator attests to the regional expertise and strong potential for aquaculture in central Florida. The Tampa Bay region is already the hub of ornamental fish production in Florida, with facilities in Hillsborough and Polk Counties, and ornamental fish are one of the largest outbound airfreight shipments through the region's airport. In spite of this activity, aquaculture (especially for human consumption) is still only in the development stage in the Tampa Bay region. Since this is a nascent sector in the region, and since there are only a small number of stakeholders actively involved in this sector, regional leadership and direction may be helpful in identifying/addressing the barriers for this sector and catalyzing aquaculture for food as a growing commercial opportunity for the Tampa Bay region.

Objectives:

- Investigate and demonstrate the viability of expanding aquaculture for food as an export-oriented commercial activity in the Tampa Bay region.
- Assess the key barriers that need to be addressed in order to pursue food-oriented aquaculture-related opportunities.
- Educate regional stakeholders to generate increased enthusiasm and interest in the sector.

⁶⁹ One reviewer of the draft plan suggested that there are also opportunities for estuarine and near-shore aquaculture activities in the region. Stakeholders with whom the SRI team spoke during the research and analytical phases that preceded drafting of the plan focused on inland aquaculture, primarily in light of the availability of farmland and growing concerns related to ocean pollution and contaminants in seafood. On this basis, SRI has suggested a focus on inland aquaculture, but other venues for aquaculture certainly can be investigated as part of this initiative.

- Build momentum and leadership for follow-on initiatives to support development and growth of food-oriented aquaculture.

Activities:

- 1) Establish contact with and conduct site visits to Tampa Bay region stakeholders who are currently active or involved in aquaculture (both for ornamental and food-oriented purposes), from a commercial, research, or training perspective. These include: existing aquaculture facilities and commercial operations (e.g., fish farmers, wholesalers), researchers involved in studying aquaculture (e.g., at Mote Marine Laboratory, USF), the Florida Aquaculture Association (headquartered in Winter Haven), related training programs at area schools and community colleges,⁷⁰ related agriculture stakeholders (e.g., agriculture extension programs), as well as others who may have a stake in this sector. This activity can be conducted by TBP and county/local-level economic development organizations (or a subcommittee of representatives from these organizations), who can build up a better understanding of the region’s aquaculture sector, work to coalesce the stakeholders in this sector as a “cluster,” and encourage them to become part of sector-building activities. This activity could potentially be conducted in conjunction with Activity #2, but it will be important for the economic development organizations leading this initiative to establish a line of communication with key regional players in aquaculture before the feasibility assessment (Activity #2) can reasonably be accomplished.

Purpose: To establish a line of communication among aquaculture-related stakeholders and regional ED leadership, in order to start coalescing and organizing the sector for growth.

- 2) Drawing upon the contacts established in the first activity, conduct a regional feasibility assessment to identify the best prospects for development and expansion of aquaculture in the Tampa Bay region (through targeted interviews, focus groups, site visits, etc.), with the objective of assessing the commercial feasibility of export-oriented aquaculture. Key topics to focus on for the feasibility assessment would include the following:
 - Aggregating information from the regional asset mapping activity (*Initiative #1*) and other resources about the specific regional assets that support aquaculture (i.e., what can be tapped for the region to build up and market this sector).

⁷⁰ For example, Hillsborough Community College has a two-year aquaculture program that could be leveraged in this initiative (see <http://www.hccfl.edu/br/departments/aquaculture.aspx>).

- Identifying the key barriers and challenges faced by the region’s aquaculture facilities and stakeholders (i.e., things that may impede the sector’s development, such as water and permitting issues, land availability, cost and availability of critical inputs like feed or equipment, worker skills, types of and availability of necessary infrastructure, and so on).
- Identifying potential assets that could be tapped to support expansion of the aquaculture sector (e.g., conversion of farmland that meets the needed specifications for fish farming, or training of displaced workers from farms or other sectors).
- Synthesizing this information to develop a targeted list of best-prospect fish species for human consumption, farming methods, etc., that are most suited for development in the region.

Purpose: To build an understanding of the feasibility of developing export-oriented aquaculture for human consumption in the region – in particular the best prospect fish species, farming methods, and locations; how to encourage company start-up and expansion; and other key challenges/issues that need to be addressed in order to encourage growth of this sector.

- 3) Based on the findings from the feasibility assessment, identify a series of follow-on activities that support development and growth of the food-oriented aquaculture sector in the Tampa Bay region, and garner support and leadership for these activities from stakeholders in the sector. If there is enough support and momentum, stakeholders may want to convene an ongoing aquaculture working group or steering committee to take the lead in organizing and launching future initiatives for the sector. Potential follow-on activities could include the following:
 - Identifying and/or developing resources to support individuals who wish to develop a food-oriented aquaculture operation (e.g., assistance in preparing a business plan, obtaining start-up capital, identifying capital requirements, etc.).
 - Exploring ways to address, at a regional level, the regulatory, permitting, water, and related infrastructure issues that the sector may face.
 - Liaising with existing or new aquaculture operations to address the challenges/needs they may be facing in starting to export their products (or expanding the exporting).
 - Conducting outreach, education, and/or training for regional workers about the opportunities for developing an aquaculture facility or working in aquaculture (in

partnership with existing aquaculture-related training providers/programs in the region).

- Exploring potential avenues for R&D partnerships between commercial aquaculture operations and the region's marine science research institutions.

Purpose: To catalyze development of the Tampa Bay region's food-oriented aquaculture sector as a growing, export-oriented commercial activity, and to expand the region's commercial operations in this niche.

Marine & Environmental Activities Strategy

Develop commercial applications that build upon the sector's existing and nascent strategic assets and research capabilities.

Initiative 11: Expand the Commercial Viability and Export Prospects for Inland Aquaculture in the Region

Owner(s): To be determined.

Objectives:

- To investigate and demonstrate the viability of expanding aquaculture for food as an export-oriented commercial activity in the Tampa Bay region.
- To assess the key barriers that need to be addressed in order to pursue food-oriented aquaculture opportunities.
- To educate regional stakeholders to generate increased enthusiasm and interest in food-oriented aquaculture.
- To build momentum and leadership for follow-on initiatives to support development and growth of food-oriented aquaculture.

Activities	Implementers	Time Frame											
		Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Establish contact with and conduct site visits to Tampa Bay region stakeholders who are currently active or involved in aquaculture.	Tampa Bay Partnership Economic Development Partners												
2. Conduct a regional feasibility assessment for development and expansion of aquaculture in the Tampa Bay region.	Target Sector Work Group (or a designated subcommittee thereof) Tampa Bay Partnership Economic Development Partners												
3. Identify a series of follow-on activities that support development and growth of the aquaculture sector. Garner support and leadership for these activities from stakeholders in the sector.	Target Sector Work Group (or a designated subcommittee thereof) Tampa Bay Partnership Economic Development Partners												

INITIATIVE #12: INVESTIGATE AND SUPPORT THE COMMERCIAL VIABILITY OF ALGAE-BASED AND OTHER BIOFUELS IN THE REGION

Rationale: Biofuel production and consumption are still in a very early stage in the Tampa Bay region; however, rising environmental concerns, high crude oil prices, and high energy demand are encouraging increased attention and strong growth in this sector worldwide. The Tampa Bay region has a particular opportunity to build off its regional marine science and technology assets to develop an algae-based biofuel sector, and it is possible that other biomass products also have growth potential in the region.⁷¹ In terms of algae-based biofuels, Tampa Bay has the necessary climatic conditions for algae cultivation (e.g., year-round sunshine, high average temperature, nutrient-rich surfaces, water resources), and algae-based biofuels are garnering increased research and attention globally because of their advantages (e.g., high yields per acre, non-food based feedstock resources, valuable byproducts, etc.). Since there are currently only a small number of stakeholders actively involved in the biofuels sector in the Tampa Bay region – and given that the region currently lacks a university and laboratory research presence on algal biofuels – regional leadership and direction may be helpful in identifying/addressing the barriers for this sector and catalyzing biofuels as a growing commercial opportunity for the region.

Objectives:

- Investigate and demonstrate the viability of expanding algae-based (and other biomass) biofuels as commercially viable activity in the Tampa Bay region.
- Assess the key barriers that need to be addressed in order to pursue biofuel-related opportunities.
- Educate regional stakeholders to generate increased enthusiasm and interest in the sector.
- Build momentum and leadership for follow-on initiatives to support development and growth of algae-based and other biofuels.

Activities:

- 1) Establish contact with and conduct site visits to Tampa Bay region stakeholders who are currently active or involved in biofuels, from a commercial, research, or educational

⁷¹ For example, Verenum (<http://www.verenum.com/>), a Cambridge, Massachusetts-headquartered company, and BP have formed a joint venture to build a commercial-scale cellulosic ethanol facility, using renewable grasses, in Highlands County, Florida. The facility will be built and operated on non-productive pasture land owned by Lykes Bros., Inc. (Source: <http://lykesranch.com/#/operations/bioenergy>, last accessed January 20, 2011).

perspective. These include: existing biomass/biofuels producers; researchers involved in studying biofuels; utility companies and others who are end-users of biofuels; as well as others who may have a stake in this sector. The purpose of this activity would be to establish a line of communication with key biofuels stakeholders, and to supplement the asset mapping data gathered in *Initiative #1* with information on the following: 1) what is the current extent of biofuel production in the region (how many producers, what crops, etc.), 2) who is purchasing/using biofuels in the region (from where, how much, etc.), 3) who is conducting biofuel-related R&D in the region (especially in the field of algae biofuels).

This activity can be conducted by TBP and county/local-level economic development organizations (or a subcommittee of representatives from these organizations), who can build up a better understanding of the region's biofuels sector, work to coalesce the stakeholders in this sector as a "cluster," and encourage them to become part of sector-building activities. This activity could potentially be conducted in conjunction with Activity #2, but it will be important for the economic development organizations leading this initiative to establish a line of communication with key regional players in biofuels before the feasibility assessment (Activity #2) can reasonably be accomplished

Purpose: To establish a line of communication among biofuels-related stakeholders and regional ED leadership, in order to start coalescing and organizing the sector for growth.

- 2) Assess feasibility of the development and expansion of algae-based (and other biomass) biofuels in the Tampa Bay region. Key topics to focus on for the feasibility assessment would include the following
 - Aggregating information from the regional asset mapping activity (Initiative #1) and other resources about the specific regional assets that support algae-based and other biofuels (i.e., what can be tapped for the region to build up and market this sector).
 - Identifying regional capabilities to research and utilize algae byproducts, to help make algal biofuel production economically viable.
 - Identifying the key barriers and challenges faced by the region's biofuel producers (i.e., things that may impede the sector's development, such as biological processes/biotechnologies, environmental safety, siting, production costs and economic feasibility, market development, etc.);
 - Identifying the federal/state incentives and support that are currently in place for promoting biofuel development and production, which could potentially be tapped to

encourage development of this sector regionally. Examples of existing state-level incentives that potentially support this sector are provided in *Appendix 3*.

- Identifying best-prospect crops that can feasibly be grown for biofuel production in the Tampa Bay region, given regional characteristics and the incentives that are in place; and
- Conducting site visits to leading algae-based biofuel producers in the State of Florida (e.g., Algenol in Bonita Springs, Petroalgae in Melbourne, Aurora Biofuels pilot facility in Vero Beach), in order to explore the specific issues and opportunities in algae biofuels production within the state.
- Establishing contacts and linkages with the Florida Bioenergy Association, in order to understand and draw upon the resources and expertise they may have to support algae (and other) biofuel development in the Tampa Bay region.
- Identifying key regional/national-level events or symposiums on algae biofuels, which Tampa Bay region stakeholders in algae biofuels (or, if appropriate, TBP/economic development partners) could attend or participate in (and potentially fund participation of key stakeholders in these events), in order to gather insights and expertise about the algae biofuels and to begin establishing the Tampa Bay region as a potential future player in this sector.

Purpose: To build up an understanding of the feasibility of developing biofuel production in the region (with a particular focus on algae-based biofuels), and in particular the key challenges/issues that need to be addressed in order to encourage expansion of this sector.

- 3) Conduct follow-on activities to support development and growth of the biofuels sector in the Tampa Bay region, and garner support and leadership for these activities from stakeholders in the sector. If there is enough support and momentum, stakeholders may want to convene an ongoing biofuels working group or steering committee to take the lead in organizing and launching future initiatives for the sector. Potential follow-on activities could include the following:
 - Identifying and/or developing resources to support individuals who wish to develop a biofuels operation (e.g., assistance in preparing a business plan, obtaining start-up capital, identifying capital requirements, etc.).

- Conducting outreach, education, and/or training for regional workers about the opportunities for developing biofuels ventures (in partnership with existing training providers/programs in the region that have expertise related to this sector).
- Exploring incentives that could be developed regionally to encourage production and use of biofuels, as well as addressing regional regulatory and permitting issues.
- Investigating the feasibility and usefulness of building up algae-biofuel research capabilities at one or more regional universities/colleges or nonprofit research institutes, and exploring sources of research funding.
- Exploring potential local/regional sales opportunities for biofuels, so that what is grown and produced locally can be consumed locally.
- Conducting advocacy/lobbying at the state level to encourage establishing a state renewable portfolio standard, and an added incentive for biofuel development in the region.
- Conducting outreach, education, and/or training for regional stakeholders about the opportunities in biofuel production.

Purpose: To catalyze development of the Tampa Bay region's biofuels sector as a growing, commercially viable activity.

Marine & Environmental Activities Strategy

Develop commercial applications that build upon the sector's existing and nascent strategic assets and research capabilities.

Initiative 12: Investigate and Support the Commercial Viability of Algae-Based and Other Biofuels in the Region

Owner(s): To be determined.

Objectives:

- To investigate and demonstrate the viability of expanding algae-based (and other biomass) biofuels as commercially viable activity in the Tampa Bay region.
- To assess the key barriers that need to be addressed in order to pursue biofuel-related opportunities.
- To educate regional stakeholders to generate increased enthusiasm and interest in the sector.
- To build momentum and leadership for follow-on initiatives to support development and growth of biofuels.

Activities	Implementers	Time Frame											
		Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Establish contact with and conduct site visits to Tampa Bay region stakeholders who are currently active or involved in biofuels.	Tampa Bay Partnership Economic Development Partners												
2. Assess feasibility of the development and expansion of algae-based (and other biomass) biofuels in the Tampa Bay region.	Target Sector Work Group (or a designated subcommittee thereof) Tampa Bay Partnership Economic Development Partners												
3. Identify and conduct follow-on activities to support development and growth of the biofuels sector. Garner support and leadership for these activities from stakeholders in the sector.	Target Sector Work Group (or a designated subcommittee thereof) Tampa Bay Partnership Economic Development Partners												

INITIATIVE #13: EXPLORE REGIONAL INITIATIVES PROMOTING ENERGY EFFICIENCY & CONSERVATION

Rationale: In the absence of a broader framework that generates demand in Florida for renewable energy, a primary opportunity for the Tampa Bay region lies in the area of energy efficiency and conservation. This area focuses on investments that improve the efficiency of buildings or machinery to reduce energy costs and enhance sustainability. At the household and business level, energy efficiency investments typically reduce energy bills by 20 to 30 percent.⁷² The energy efficiency and conservation sectors also share many occupations with the construction industry, including: architects, contractors, and workers with hands-on construction skills to install and troubleshoot energy conserving products and systems. Therefore, energy efficiency and conservation could offer an opportunity to restore jobs for the lagging construction industry in the Tampa Bay region (and the State of Florida) by promoting investments in energy upgrades for existing structures. According to the U.S. Department of Energy, every \$1 million invested in home weatherization creates approximately 50 jobs in construction as well as 20 jobs in the design and manufacture of efficiency materials.⁷³ Currently there are no regional initiatives to promote energy efficiency and conservation in order to maximize regional benefits of reduced energy costs and increased employment. A coordinated effort for the Tampa Bay region may help more effectively promote energy efficiency to homes and businesses, stimulate demand for products and services in this sector, attract more state and federal funding as well as private investment, and improve regional planning and forecasting for energy demand.

Objectives:

- Create, populate, and promote centralized online repository of existing incentives, programs, and activities in the Tampa Bay region related to energy efficiency and conservation.
- Convene stakeholders to explore and target possible regional initiatives to target, pursue, and implement, which would complement and/or enhance existing energy efficiency incentives, programs, and activities.

Activities:

- 1) Create a user-friendly centralized online repository to house data on incentives, programs, and other resources in the Tampa Bay region related to energy efficiency and conservation.

⁷² Regional Greenhouse Gas Initiative, "Why Energy Efficiency?", http://www.rggi.org/rggi_benefits/why_efficiency.

⁷³ Cited in Regional Greenhouse Gas Initiative, "Why Energy Efficiency?", http://www.rggi.org/rggi_benefits/why_efficiency.

Invite stakeholders to contribute to the content or more generally participate in the creation of this website. A wiki may be a useful platform for this repository, so that it can be updated regularly by members/stakeholders. Participants could include: planning agencies, nonprofit organizations and foundations, utilities, municipal and county governments, economic development organizations, workforce development entities, private industry, and education institutions. Information to be included on the website would include:

- Local, state, and federal energy efficiency incentives (low-income, commercial, residential, construction), programs, and workshops/classes currently available in the region. Refer to *Appendix 4* for examples.
- Other energy efficiency projects (including past projects or projects limited in scope) in the region that could also serve as successful models for replication, and/or should be highlighted to demonstrate the region's commitment to energy efficiency and conservation. Refer to *Appendix 5* for examples.
- Energy efficiency research activities/institutions in the region.
- A list of pre-qualified building retrofit/green building contractors in the region.

Purpose: To create a baseline of regional information on energy efficiency and conservation incentives, programs, and other resources.

- 2) Create an outreach and educational campaign on energy efficiency for the regional community. Create a basic marketing plan to strategically pursue outreach activities which would increase demand for energy efficiency products and services in the region.
 - Launch and promote a regional energy efficiency and conservation website (created in Activity #1) through various community outreach mechanisms, depending on funding available.
 - Coordinate outreach activities with existing energy efficiency workshops and classes in the region.
 - Contact identified stakeholders to request that they spread the word to their constituents (via email, newsletter, and/or other mechanisms). Request mailing lists from stakeholders to make direct contacts via electronic mail and/or direct mailers promoting the website.
 - Organize a friendly regional energy efficiency competition between counties/municipalities, to develop energy efficient policies and implement practical actions that address local sustainability and reduce energy consumption.

- Coordinate a regional Energy Efficiency and Conservation Week and other community outreach activities.
- Hold regional events for the sector.

Purpose: To build community amongst stakeholders, residents, and businesses in the Tampa Bay region around energy efficiency and conservation, and to create regional awareness of energy efficiency and conservation resources.

- 3) Develop a regional Energy Efficiency Building Retrofit program for residential housing/multi-family housing, commercial property, government buildings, school buildings, etc. Energy efficiency building retrofits reduce the energy consumption of a building; these projects can include wall insulation and crack sealing; window replacement; duct insulation; fluorescent lighting conversions; and heating, ventilation, and air conditioning (HVAC) upgrades. A possible funding stream is the Florida Residential Retrofit Program;⁷⁴ property assessed clean energy (PACE) programs, an example of which is provided by the Ygrene Energy Fund, offer another possible funding mechanism.⁷⁵ Elements of the regional Energy Efficiency Building Retrofit program could include:

- Offering Energy Efficiency Retrofit financial incentives (rebates, tax credits).
- Providing energy efficiency audits and savings opportunity analyses.
- Holding educational workshops with free energy efficiency kits.
- Coordinating retrofit financing for direct installation of the most cost-effective energy efficiency measures (e.g., duct sealing, lighting upgrades, and low flow showerheads).
- Providing weatherization services to low-income households.
- Funding job training for workers wanting to enter the building-retrofit industry.

Purpose: To promote energy efficiency and conservation in the Tampa Bay region through building retrofits. Increase demand for sector products and services, which will in turn increase regional employment in the sector.

⁷⁴ Envisioned as a \$15 million program, the Florida Residential Retrofit Program was announced by Florida's previous governor, Charlie Crist, in January 2010 (see, for example, http://www.thegovmonitor.com/world_news/united_states/florida-proposes-to-invest-2-1-billion-for-clean-energy-future-22126.html). However, it is not clear if this program was fully funded during 2010 or if it will continue beyond Governor Crist's tenure.

⁷⁵ See *Appendix 6* for an overview of PACE programs and the specific PACE program offered by the Ygrene Energy Fund.

- 4) Coordinate a regional ENERGY STAR program.⁷⁶ Elements of this program could include:
- Promoting ENERGY STAR products.
 - Offering financial incentives to purchase ENERGY STAR products (e.g., rebates or low-interest loans).
 - Supporting the ENERGY STAR Challenge, a national call-to-action to help improve the energy efficiency of America's commercial and industrial buildings by 10 percent or more.
 - Developing and implementing a plan consistent with the ENERGY STAR Energy Management Guidelines to achieve energy savings.
 - Seeking a partnership with the Florida ENERGY STAR Program.

Purpose: To increase demand for energy-efficient products in the Tampa Bay region.

- 5) To fund any of these regional initiatives, apply as a region for federal or state funding. Possible sources include:
- The new HUD-DOT-EPA Sustainable Communities initiative, which will distribute more than \$150 million in grants to regions and local governments to link transportation, housing and land use;⁷⁷
 - Available funding through the USDOE's Office of Energy Efficiency (EERE), such as its Weatherization Assistance Program;⁷⁸ and/or
 - American Recovery and Reinvestment Act (ARRA) funding through Florida's State Energy Program funding or Florida's Energy Efficiency and Conservation Block Grant funds.⁷⁹

Advocate as a region for the continuation/preservation of the Energy Efficiency and Conservation Block Grant Program, which assists state and local governments in implementing

⁷⁶ ENERGY STAR® is a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy to help consumers save money and protect the environment through energy efficient products and practices. All appliances and products with the ENERGY STAR® label meet strict energy-efficiency guidelines. ENERGY STAR, *Promote or Sponsor Programs*, http://www.energystar.gov/index.cfm?c=join.join_promote.

⁷⁷ DOT, HUD, and EPA Programs for Sustainable Communities, http://www.epa.gov/smartgrowth/pdf/2010_0506_leveraging_partnership.pdf.

⁷⁸ USDOE EERE, Weatherization Assistance Program, <http://www1.eere.energy.gov/wip/wap.html>.

⁷⁹ Florida Energy & Climate Commission, *ARRA Funding and Opportunities*, http://myfloridaclimate.com/climate_quick_links/florida_energy_climate_commission/arra_funding_and_opportunities/energy_efficiency_conservation_block_grant_eecbg_30_401_600.

strategies to reduce fossil fuel emissions, reduce total energy use, and improve energy efficiency.⁸⁰

Purpose: To obtain funding for regional energy efficiency and conservation initiatives.

⁸⁰ Energy Block Grants Work! Campaign to Save EECBG, <http://energyblockgrants.org/>.

Marine & Environmental Activities Strategy

Develop commercial applications that build upon the sector's existing and nascent strategic assets and research capabilities.

Initiative 13: Explore Regional Initiatives Promoting Energy Efficiency & Conservation

Owner(s): To be determined.

Objectives:

- To create, populate, and promote centralized online repository of existing incentives, programs, and activities in the Tampa Bay region related to energy efficiency and conservation.
- To convene stakeholders to explore and target possible regional initiatives to target, pursue, and implement, which would complement and/or enhance existing energy efficiency incentives, programs, and activities.

Activities	Implementers	Time Frame																
		Year 1				Year 2				Year 3								
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4					
1. Create a user-friendly centralized online repository to house data on regional incentives, programs, and other resources related to energy efficiency and conservation.	Target Sector Work Group (or designated committee thereof) Other sector stakeholders IT specialists to be recruited as needed																	
2. Create an outreach and educational campaign on energy efficiency for the regional community.	Target Sector Work Group (or designated committee thereof) Other sector stakeholders																	
3. Develop a regional Energy Efficiency Building Retrofit program.	Target Sector Work Group (or designated committee thereof) Other sector stakeholders																	
4. Coordinate a regional ENERGY STAR program.	Target Sector Work Group (or designated committee thereof) Other sector stakeholders																	



5. (Ongoing, as necessary) Apply as a region for federal or state funding for energy efficiency and conservation activities.

Target Sector Work Group (or designated committee thereof)

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G. WORKFORCE INITIATIVES

In its *2007 Comprehensive Economic Development Strategy*, the Tampa Bay Regional Planning Council determined that the “lack of better trained, educated, and/or skilled workforce limits businesses [in the Tampa Bay region] from being more competitive.” The original design for the analysis that led to the *Regional Business Plan for Economic Development* called for a Workforce Competency Analysis, including a “workforce skills strategy and implementation program.” This approach recognized that while an increase in good-quality jobs is a desired outcome of the regional economic strategy, that outcome cannot be realized unless the region’s workforce has sufficient skills and preparation to fill those positions and contribute to the competitive position of the region’s target sectors. In other words, building a resilient, diversified regional economy will increase job opportunities, but only if the region’s companies can draw on a strong and talented workforce as a foundation.

To develop a workforce with competitive and relevant skills, the Tampa Bay region must facilitate communications among three key stakeholder groups:

- The employers in the four target sectors identified in the plan, who need competent employees to build their own capabilities and spur further economic growth;
- The jobseekers who wish to enter those target sectors and pursue related career opportunities; and
- The workforce education system, particularly the postsecondary institutions, which can provide formal training and skill development relevant to the target sectors.

Each of these stakeholder groups has something to gain from improving the workforce development system around the region’s target sectors. Employers in emerging target sectors may have difficulty in recruiting job candidates because the sectors are not well-known, and the various careers in these sectors, and their skill requirements, are not widely understood. Jobseekers may not be aware of programs that will help make them more employable in the target sectors, or even understand the opportunities available to them by seeking employment in those sectors. Workforce education providers could use better guidance in designing instructional programs to meet the needs of the target sectors, particularly for emerging occupations or in areas where skill requirements are changing.

The initiatives recommended below are designed to address issues within and between all three sets of stakeholders. These initiatives address three critical gaps:

1. The need for coordination across postsecondary institutions throughout the Tampa Bay region, to move towards a regional view of workforce development.
2. Improving the data and intelligence on employer needs for the entire Tampa Bay regional economy, so that the region as a whole can be more strategic in how it meets those needs.
3. Outreach to current and future workers about the emerging job opportunities in the target sectors, and how they can design their own career paths to take advantage of those opportunities.

Background research shows that there are existing initiatives in the Tampa Bay region that do address these gaps, but those initiatives are generally targeted at a specific part of the region rather than the entire region. In other cases, the initiatives focus on industries other than the target sectors contained in the plan. Our suggested approach is to leverage these existing efforts as much as possible, building on lessons learned and expanding on processes and practices already in place. This will help to minimize the additional investment needed to implement the workforce initiatives, and simultaneously reduce the burden and commitment required from participants in each initiative.

The initiatives here provide “foundational” improvements to the workforce development system in the Tampa Bay region. Rather than adding additional new initiatives focusing on each of the four target sectors, we recommend integrating workforce elements into the existing sector-specific initiatives to ensure that the workforce strategy is aligned with the overall sectoral strategies.

STRATEGIC INITIATIVES TO ADDRESS REGIONAL WORKFORCE DEVELOPMENT

INITIATIVE #14: EXPAND PARTNERSHIPS AND IMPROVE COMMUNICATION BETWEEN THE FOUR TARGET CLUSTERS AND THE WORKFORCE DEVELOPMENT SYSTEM

Rationale: To create a competitive regional workforce for the four target sectors, employers need to make an honest assessment about their workforce needs and communicate those needs to other actors in the workforce development system. We have identified numerous activities in the Tampa Bay region currently in place to facilitate this kind of communication. In some industries, such as healthcare, this process seems successful. For example, Worknet Pinellas is one of several workforce boards in the region that organizes regular meetings on employment trends and needs in the healthcare industry, including in-demand occupations. A number of postsecondary institutions have advisory councils of local employers who provide input to each institution on curriculum content and the need for new programs.

Still, the lack of a two-way line of communication has been a challenge cited by multiple stakeholders in SRI surveys and interviews. The results of an employer survey conducted by SRI in November-December 2010 showed that a number of the region's employers report having minimal contact with postsecondary institutions in the region. In particular, employers in the target sectors indicate that educational institutions are not producing a workforce with the skills needed to support future growth. At the same time, while some educational institutions report to have strong relationships with local employers, they also claim that local employers are often unaware of the programs available at their institutions or fail to approach their institutions to develop a curriculum that will better meet employer needs.

These challenges are augmented by the fact that the Tampa Bay regional economy is dominated by mid- to small-sized businesses, with fewer than average large-scale employers. In particular sectors, such as manufacturing, the Tampa Bay regional business community is diverse and fragmented, and making it all the more difficult for schools to identify and communicate with employers who are aware of broader trends in their own industries. This pattern is more pronounced in certain portions of the target sectors, such as medical devices. Some interview subjects also point out that smaller employers have fewer staff available to attend meetings with educational institutions, and so are less likely to be represented at such gatherings.

Consequently, the disconnect between the Tampa Bay region's business community and educational institutions has made it difficult for institutions to gauge the future workforce needs of local employers in the target sectors; to gauge whether there is sufficient "critical mass" of demand to support new program development; and to ultimately plan, fund, develop, and launch effective new programs. This initiative supports a number of activities that will build

communication channels and pull together the business community and educational institutions in the Tampa Bay region in order to pinpoint and address the region's cross-cutting workforce needs as the target sectors emerge as drivers of future economic growth.

Objectives: Build more formalized mechanisms for communication and collaboration across the business and academic communities in the region so that:

- The region's educational institutions and students are receiving the right information about what occupations/skills will be in demand for the future workforce in the region's target sectors.
- The region's educational programs are meeting business needs, especially in terms of training workers for the jobs/skills demanded by the target sectors.
- Adequate "on-the-job" training, experiential learning, and job-relevant curricula exist to equip students with the practical skills needed to work in the target sectors.

Activities:

- 1) Establish and convene region-wide Target Sector Skill Panels, whose membership would include a cross-section of company representatives in each of the four target sectors drawn from multiple counties.⁸¹ These panels would meet on a regular basis (once a year would likely be sufficient) to: a) identify and prioritize the future occupations and skills most needed by businesses in their sector⁸²; b) assess/review the region's existing training providers and programs to determine whether future needs are met or whether new program need to be developed; and c) communicate this information to other key players in the region's workforce development system, including schools (working through the Regional Education Coordinating Council established in *Initiative #15*) and workforce agencies. These panels could build on existing networks and groups established by the workforce boards in the Tampa Bay region. However, whereas the workforce boards work primarily with employers in their specific geographic jurisdictions, the Target Sector Skills Panels would provide a view across all eight counties in the Tampa Bay region.

⁸¹ The Target Sector Skill Panels could be established as an offshoot committee of the four Work Groups established to implement the strategy for each of the four target sectors; however, membership in the Skill Panels should be broader and larger than the Work Groups themselves.

⁸² This process could be solely conducted within the Target Sector Skill Panels (if membership is broad and diverse enough), or it could be supplemented through an annual/bi-annual survey of employers in the four Target Sectors to get wider, up-to-date views about future workforce needs and feedback about available/needed training programs and curriculum. Initial recommendations, based on SRI's analysis, for key gaps that may need to be addressed to enhance the regional workforce are provided in the box on Page 13-14.

The Target Sector Skill Panels would essentially become the “voice of industry” responsible for identifying highest-priority areas for new program development and/or curriculum changes to support future target sector workforce needs. Once key needs have been prioritized, the Target Sector Skill Panels would work with the Regional Education Coordinating Council (established under *Initiative #15*) and the region’s workforce boards to identify the key players and process for making things happen. For example, once one or more specific schools are identified to implement a high-priority new program or curriculum change, an ad hoc committee of key partners could be set up to draw up guidelines/plans (e.g., staffing, equipment, facilities, curriculum, etc.), identify funding sources, and develop/launch the program. A possible model for this effort is the statewide initiative to develop a Professional Science Master’s degree at Florida institutions, which includes programs relevant to the target sectors, such as medical biotechnology, marine and environmental science, and bioinformatics and computational biology.⁸³

An additional role for the Target Sector Skill Panels would be to serve as an ongoing point-of-contact for the region’s educational institutions to obtain industry feedback when they are undertaking programmatic/curriculum development. While the region’s technical institutes frequently have industry advisory panels in place to advise on curriculum development on an ongoing basis – and community colleges may convene such panels for specific initiatives – these panels would provide a single resource for institutions to receive perspectives and feedback from employers in each target sector. Another advantage of region-wide panels is that they will have a greater chance of recruiting a “critical mass” of employers from each sector, especially emerging sectors, than ones that are limited to a single jurisdiction. Again, the implementation organization for the plan could work through the region’s workforce boards to determine how to organize and support these panels.

Purpose: To provide a mechanism for increased communication between the Tampa Bay region’s business community and educational institutions (and other parts of the workforce system) on workforce/skill needs in the four target sectors.

⁸³ See <http://www.flpfm.org> for more information on this effort.

Potential areas for new program development or curriculum changes to support the Tampa Bay region's four target sectors

Through extensive interviews, an employer survey, and other analysis that preceded the development of this plan, SRI has identified a number of critical “gaps” or areas where the Tampa Bay region’s educational offerings may need to be refined or expanded to provide the workers and skills needed to develop the four target sectors. However, rather than making a rigid recommendation at this point about what new programs should be developed, it would be better for the region’s stakeholders to prioritize for themselves which new programs or curriculum changes should be pursued (especially since the opportunities may be shaped by stakeholder interest, funding availability, etc.). The list below provides an preliminary set of recommendations from the SRI analysis about what kinds of programmatic changes should be considered in each target sector – these recommendations should be reviewed, prioritized, and/or expanded upon once the Target Sector Skill panels are established.

Applied Medicine & Human Performance:

- *Health informatics and biostatistics* – new programs and/or curriculum changes to ensure there are workers in the region with the needed skills in these fields, and more detailed standards to ensure that graduates from different institutions have comparable sets of skills and knowledge in this domain.
- *Management skills for clinical trials* (e.g., regulatory compliance, lab procedures) – develop programs regionally to train a local source of workers with specialized skills to support clinical trials development.
- *High-demand health fields, such as orthopedics/pain management, geriatric care, highly skilled nursing fields* (e.g., operating room nurses) – build new programs and/or increase capacity to ensure there is a good pipeline of workers in the region.

High-Tech Electronics & Instruments:

- *Precision and advanced manufacturing* – expand or develop new technical training programs to build a stronger regional workforce with skills in areas such as computer-numerical controlled (CNC) machining, robotics programming, and microscale manufacturing.
- *Logistics/supply chain/high-tech manufacturing process skills* – enhance curriculum to ensure workers entering manufacturing fields have the most up-to-date skills in these areas, and expand programs to help reinforce an adequate supply of workers qualified for these positions.

**Potential areas for new program development or curriculum changes
to support the Tampa Bay region's four target sectors**

Business, Financial, & Data Services:

- *Sector-specific management skills* – refine and improve MBA-level curricula to ensure the region's future managers and business leaders are learning the sector-specific skills that are needed to work within the target sectors.
- *Financial analysis skills* – Refine or develop new curricula to ensure workers in financial fields have the right skills to address the financial needs of the future (e.g., health-related finance, centralized/outsourced back office and administrative functions, etc.).
- *Data center management* – develop new technical training or certification programs for data center management, as these workers need not only IT skills, but also cross-cutting technical skills in areas like construction, energy efficiency, etc.

Marine & Environment:

- *Energy efficient/"green" construction skills* – Continue to reshape/repurpose existing training programs/curricula for construction-related trades to focus more on energy efficiency and related "green" construction skills. Since many regional schools are already pursuing individual efforts in this area, work to coordinate and align programmatic changes across the region.
- *"Green" construction for regulators/inspectors* – Develop training programs or certifications for building inspectors, regulators, and other public sector workers about understanding new energy efficient/"green" building systems/processes and how they fit into existing building codes and regulations.

- 2) Develop an inventory of the current availability of practical or "on-the-job" career training and awareness-building programs in the Tampa Bay region related to the four target sectors. Programs to focus on in this inventory would include a wide variety of experiential learning opportunities, including: internships, apprenticeships, externships, job shadowing, career mentoring, student summer job/associate programs, and so on (focusing first on the postsecondary level, but also potentially including secondary level programs). Working through partners in education and industry (e.g., through the Target Sector Skill Panels and the Regional Education Coordinating Council), identify gaps or areas where new "on-the-job" training programs should be developed to build the awareness and skills of potential future workers for key fields; prioritize new programs to be developed; and build partnerships to make this happen. Examples of new programs that could be developed under this activity include:
 - At the postsecondary level, new student internship or summer job programs could be developed for key fields in the four target sectors. Specific schools and businesses would

need to be identified to participate; credit-earning opportunities would need to be articulated (e.g., students could earn credits toward certificate/degree programs at their technical institute, community college, or university); and scholarship programs may need to be developed to support student participation.

- At the secondary level, new job shadowing or career mentoring programs could be developed in partnership with a range of employers in the region's four target sectors, to build student awareness of and interest in the potential career opportunities that are available to them in the target sectors, and also to inform students early-on of the training/educational requirements for these career paths.

Purpose: To expand opportunities for students in the Tampa Bay region to obtain practical/"on-the-job" skills that are relevant to businesses in the target sectors, and also to recruit employers who can establish and expand such programs throughout the region.

Workforce Initiatives

Initiative 14: Expand Partnerships and Improve Communications Between the Region’s Business Community and the Workforce Development System

Owner(s): To be determined.

Objectives:

- To ensure that the region’s educational institutions and students are receiving the right information about what occupations/skills will be in demand for the future workforce – especially in the region’s target sectors.
- To ensure that the region’s educational programs are meeting business needs, especially in terms of training workers for the jobs/skills demanded by the target sectors.
- To ensure that adequate “on-the-job” training, experiential learning, and job-relevant curricula exist to equip students with the practical skills needed to work in the target sectors.

Activities	Implementers	Time Frame											
		Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Establish and convene region-wide Target Sector Skill Panels to identify/prioritize future occupations/skills and assess the need for program development/refinement. Communicate with educational institutions to implement changes.	Workforce Work Group Target Sector Work Groups Regional Workforce Boards Regional Education Coordinating Council	Establish panels				Hold regular (annual?) meetings Implement high-priority program/curriculum changes							
2. Review or inventory the current availability of practical/“on-the-job” career training and awareness-building programs related to the four target sectors. Identify gaps and prioritize areas for new “on-the-job” training programs to be developed. Build partnerships and develop new programs.	Workforce Work Group Target Sector Work Groups Regional Workforce Boards Regional Education Coordinating Council	Inventory programs & identify gaps				Prioritize & implement new programs							

INITIATIVE #15: INCREASE COORDINATION, COLLABORATION, AND INFORMATION SHARING AMONG THE REGION'S POSTSECONDARY INSTITUTIONS

Rationale: The Tampa Bay region is home to a large number of postsecondary institutions ranging from technical centers to four-year universities, all of which support the development of a workforce appropriate for the region's new target sectors. While there is some degree of coordination occurring across the different levels of the workforce system (e.g., between the technical schools and the community colleges/state colleges to articulate curricula), for the most part the region's postsecondary institutions tend to be fragmented and are not strategically communicating with one another – and with the economic development system – about region-wide workforce development needs and issues. In particular, there is a lack of awareness across the region's postsecondary institutions regarding the programs and initiatives of other players within the system, resulting in each institution pursuing its own individual initiatives (and sometimes even a degree of competition). This is particularly true as private sector (for-profit) training providers become a more prominent player in the region's workforce development system.

As a result, financial/capital resources for new program development may be inefficiently invested, duplication of efforts can occur, and investment risks are not always mitigated through cost-sharing mechanisms with strategic partners. For example, programs in key fields such as nursing and business administration are sometimes duplicated across community colleges, for-profit universities, and four-year non-profit universities, creating competition for students instead of a "career ladder" to progressively develop the knowledge and skill sets of the region's workforce. While competition is helpful for encouraging institutions to improve the quality of their programs, increasing communication/coordination could improve the overall functioning of the workforce education system in two ways. First, institutions could be encouraged to focus on providing programs and services where they have proven competence and capabilities, rather than every institution attempting to provide a full complement of programs. Second, increased coordination and communication can help to uncover opportunities for collaboration between institutions. Those collaborations can increase the resources available to institutions (for example, by helping institutions to apply jointly for grant funding), and thereby enable the entire region to be more strategic in how it invests in workforce education.

Objectives:

- Establish a mechanism to improve coordination across different institutions in the Tampa Bay region's workforce development system, to ensure that students/workers can move

seamlessly through the system, reduce duplication of programs or competition across institutions, and encourage strategic development/focus of new programs.

- Improve the marketing and communication of the Tampa Bay region's education/workforce assets within the economic development community and the business community, and in external promotion efforts.

Activities:

- 1) Establish a permanent organizational structure/body to provide a more formalized mechanism for coordination and dialogue across the postsecondary institutions (at all levels) in the Tampa Bay region. The region already has a smaller-scale council in existence that partially serves this function (the Regional Coordinating Council (RCC) for technical schools and community colleges⁸⁴), so the most efficient way to pursue this activity may be to expand the scope and participation in the existing RCC and other similar local networks, rather than starting a new council from scratch. Membership in this comprehensive "Regional Education Coordinating Council" should include representatives from all postsecondary institutions in the Tampa Bay region, from technical schools to universities. Membership should also be extended to for-profit educational institutions. It may also be useful to include in this committee representatives from the four target sectors (and other key industries in the region), as well as representatives from key economic development and workforce organizations. However, this organization should be led by workforce education institutions, rather than economic development organizations, as its primary focus is on facilitating collaboration in the workforce education system.

Activities and responsibilities of the "Regional Education Coordinating Council" would include the following:

- Hold regularly-scheduled meetings to discuss and communicate about new program development and other activities taking place at individual institutions, and to raise issues of common concern, so that strategic coordination can take place where useful. For example, the council could serve as a mechanism for building multi-institution education partnerships, so that the region can seek out grant funding for developing new educational programs in key fields (and can potentially access bigger grant opportunities than may be available if institutions were working individually).

⁸⁴ The existing Regional Coordinating Council currently holds quarterly conference calls to informally share information about activities/programs, but participation is primarily from community colleges and technical schools in Hillsborough, Manatee, and Sarasota Counties.

- Review and improve the articulation of programs and curricula across different levels of postsecondary institutions in the region (focusing on key programs relevant to the target sectors), so that people can more easily move in and out of the workforce system at different levels to further their training and advance their careers.
- Host an annual Tampa Bay region workforce summit that would bring together broad participants (educators, economic and workforce development leadership, private companies) to review and discuss future regional workforce needs and priorities – and especially issues critical to the target sectors.⁸⁵
- Discuss and review the mechanisms used by the region’s postsecondary institutions for approval, funding, and development new programs, with a focus on sharing best practices and ideas for potentially streamlining and shortening the process. Although changes in these processes will have to take place within individual institutions, it may be useful for schools to learn “what works” for others, since these processes can be a bottleneck in starting up new programs that are responsive to industry needs.

Purpose: To create a formal mechanism for increasing communication and collaboration among the Tampa Bay region’s postsecondary institutions, as well as the broader workforce development system.

- 2) Create a region-wide online networking forum or portal to serve as a platform for ongoing, informal dialogue within the region’s workforce system. This forum could be a “virtual” extension of the Regional Education Coordinating Council (established in *Activity #1* under this initiative) and provide a mechanism for ongoing communications among the council members in-between formal meetings. The forum could also potentially be extended to include broader participation from other players in the regional workforce system. Tools to be provided in the online networking forum might include: message boards/forums for discussing specific workforce/education-related topics and sharing information; a “bulletin board” to post information about workforce-related events and activities taking place in the region; a place to post information about workforce/education-related RFPs and funding

⁸⁵ There are some existing workforce summits/events of this nature already taking place in the Tampa Bay region (such as the Greater Tampa Chamber of Commerce Annual Workforce Summit or the Pinellas County Business & Education Summit), so it may make more sense to coordinate and expand existing events rather than start something new. However, regional partners may also determine that a workforce summit *specifically focusing on needs related to the target sectors* may be useful.

opportunities or seek out partners for developing proposals; a place to share information and “best practices” about curriculum design, program development, etc.⁸⁶

Purpose: To build a virtual platform where various players in the Tampa Bay region’s postsecondary institutions and workforce development system can share information on an ongoing basis and engage in informal dialogue about workforce/education-related issues.

- 3) Strategically compile a more comprehensive set of information about the key training/education/degree programs in the Tampa Bay region related to the four target sectors. Information compiled by SRI’s recent education asset inventory would be a starting point for this effort, so the work would mainly be focused on filling in gaps and rounding out the information to make it useful for other promotion and communications efforts. For example, in addition to educational programs, it may also be useful to compile a more comprehensive, user-friendly guide about programs available through the region’s workforce development boards that may be available to businesses in the target sectors, since businesses often find it challenging to navigate and understand these programs. This activity could be conducted in coordination with the regional GIS asset mapping activity for the target sectors (*Initiative #1/Activity #1* in this plan), so that education and workforce assets can be included in the asset maps and related promotional materials, and can also be shared more effectively with the region’s business community. This activity could also leverage the data and infrastructure developed for the Employ Florida Marketplace (<http://www.employflorida.com>), but customized to the Tampa Bay region and to the four target sectors.

Purpose: To build a more comprehensive set of information about key workforce/education assets supporting the Tampa Bay region’s target sectors, so that this information can be communicated more effectively and strategically with the economic development and business community.

- 4) Building off of the information compiled in *Activity #3* above, identify key marketing messages (and related data) about the Tampa Bay region’s workforce/education assets related to the four new target sectors. Coordinate and communicate this information with the stakeholders/work group who are spearheading broader regional promotional activities

⁸⁶ One example of this kind of “participatory” regional workforce forum is the Pennsylvania Regional Career Education Partnerships Network (<http://parcep.ning.com>), as well as a related but separate best practices and resources wiki (<http://parcep.wikispaces.com>).

(under *Initiative #1/Activity #2* in this plan) so that the region's workforce/education assets can be communicated and promoted more effectively.

Purpose: To ensure that key workforce/education assets are a strategic part of the Tampa Bay region's future promotional efforts for the four target sectors.

Workforce Initiatives

Initiative 15: Increase Coordination, Collaboration, and Information Sharing Among the Region’s Postsecondary Institutions

Owner(s): To be determined

Objective:

- To establish a mechanism to improve coordination across different institutions in the Tampa Bay region’s workforce development system.
- To improve the marketing and communication of the Tampa Bay region’s education/workforce assets within the economic development community and the business community, and in external promotion efforts.

Activities	Implementers	Time Frame											
		Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Establish a permanent organizational structure/body (“Regional Education Coordinating Council”) to provide a more formalized mechanism for coordination and dialogue across the postsecondary institutions (at all levels) in the Tampa Bay region, and hold regular meetings.	Workforce Work Group Regional postsecondary institutions Tampa Bay Partnership Other economic development and workforce organizations	Establish council				Hold regular meetings							
2. Create a region-wide online networking forum or portal to serve as a platform for ongoing, informal dialogue within the region’s workforce system.	Workforce Work Group Regional Education Coordinating Council Tampa Bay Partnership IT specialists to be recruited as needed	Establish & pilot test forum				Implement, manage, & expand forum							

<p>3. Compile a more comprehensive set of information about the key training/education/degree programs in the Tampa Bay region related to the four target sectors. Link with regional GIS-mapping activity.</p>	<p>Workforce Work Group Initiative 1 Work Group Regional Education Coordinating Council Tampa Bay Partnership IT specialists to be recruited as needed</p>												
<p>4. Identify key marketing messages (and related data) about the Tampa Bay region's workforce/education assets related to the four new target sectors. Link/coordinate with external promotional efforts.</p>	<p>Workforce Work Group Initiative 1 Work Group Regional Education Coordinating Council Tampa Bay Partnership Marketing/promotion specialists to be recruited as needed</p>		<p>Prepare messages</p>										<p>Coordinate/communicate with regional promotion activities</p>

**INITIATIVE #16: INCREASE AWARENESS ABOUT CAREER “LADDERS” AND OPPORTUNITIES IN THE TARGET SECTORS
AMONG EXISTING AND FUTURE WORKERS**

Rationale: As existing industries change and new industries emerge, it is important for the workforce development system keep abreast of these developments and to inform the Tampa Bay regional workforce about new and emerging career pathways and opportunities. Emerging niches – such as electronic health records, aquaculture, and algae biofuels – offer job opportunities that may be unfamiliar to a large portion of the existing workforce. Meanwhile, the evolution of the construction industry toward energy efficiency and sustainable buildings represents an example of a changing industry that could potentially employ a number of displaced construction workers in the region, given that they are aware of the re-training opportunities available at local institutions.

Within these new pathways of opportunity there are various promotional steps required for advancement, which come with higher levels of pay, skills, responsibilities, and ultimately, higher standards of living – these are known as “career ladders.” Workforce development programs structured along these career pathways or career ladders have the potential to improve economic efficiency by fulfilling unmet skills-gaps in the workplace and focusing training resources, while also providing more accessible opportunities for advancement amongst low and middle-income workers. One regional stakeholder suggested that increased awareness of “career ladders” coupled with the requisite training programs to promote individuals would also relieve the logjam in particular career tracks such as nursing – the promoted workforce would enjoy higher standards of living while a new corps of workers would be employed in the vacated entry-level positions. In addition, increased awareness of the various career opportunities available in the target sectors would challenge the false notion that every worker needs to earn a four-year bachelor’s degree to be employed – a marketing challenge particular to technical and vocational centers (because they are unable to present themselves as a “college” or “university”). By focusing on “career ladder” opportunities, prospective students will become aware of the training programs and jobs available in the foundational and pivotal occupations within the target sectors, which do not always require a four-year bachelor’s degree but are just as important to the economic development of the region.

Objectives:

- To increase the availability and awareness of career ladder opportunities within the target sectors, as well as improve access to relevant training programs (especially for unskilled, entry-level, and unemployed workers).

- To enhance retention of graduates from the region’s postsecondary institutions to work and live in the region, thereby supporting development of the target sectors with a locally-grown workforce.

Activities:

- 1) Establish a process to define career ladders customized to the region’s new target sectors. This effort could be coordinated by the Workforce Work Group (or designated/offshoot committee), but should engage the many stakeholders already involved in the region’s workforce development system, including educational institutions, regional and community-based organizations, and employers. An ideal approach to career laddering will integrate activities, resources, and lessons learned both locally and at the state and national levels. Associated activities could include the following:
 - Identify and define the key career pathways within the Tampa Bay region’s target sectors (building off of the research work already conducted by SRI), and create models for effective development of career ladders, both generally and within the target sectors. There is a significant best-practices literature related to career laddering in different industries and settings, which can be drawn upon for this purpose.⁸⁷
 - Engage with workforce development stakeholders to identify and map existing resources and activities related to the specified career ladders in the Tampa Bay Region. Building relationships with regional stakeholders through this process will also provide the foundations for later collaboration to coordinate, improve, and expand existing programs to better facilitate career laddering in target sectors. This activity could build on similar efforts in related fields, such as the Suncoast Careers website by the Suncoast Workforce Board (<http://www.suncoastcareers.com>).
 - Commission further study and strategic recommendations for career laddering initiatives in the Tampa Bay region. Tapping the existing institutional knowledge of organizations within the Tampa Bay region, examining best-practices literature, as well as the research already conducted by SRI, can all provide valuable insight into career laddering opportunities. However, a more detailed analysis of local industry and

⁸⁷ For example, *Workforce³ One* (<https://www.workforce3one.org>) is a platform sponsored by the U.S. Department of Labor/Employment and Training Administration, which provides communication and resources related to workforce development and career laddering. Resources include curriculum, competency models, research findings, career awareness and outreach materials, teacher training modules, case studies, career lattices, and more.

employment structures and how this relates to career ladders and lattices is often outsourced to a company, university, or foundation.⁸⁸

Purpose: To analyze, at a detailed level, the exact occupational requirements for jobs in the target sectors, and to produce guidance that can help prospective workers plan their own training and workforce preparation to fit the needs of the target sectors.

- 2) Build a region-wide career ladder and job opportunity database as an online portal for regional job seekers and employers. This online portal would increase access to job opportunities in the short-term, while also encouraging individuals to engage in long-term career planning. In addition to job listings, the portal would include details about key career ladders and opportunities in the four target sectors (developed under *Activity #1* above), as well as information about training opportunities and resources available for those career pathways (in conjunction with *Activity #2* under *Initiative #15*). The database could be designed to search by individual job listings, by skills and certifications, by educational or career development program, or by career pathways – ideally it would contain searchable elements of each category in some form.⁸⁹ Additional components of the site may include:

- Links to information about state and national government and non-profit programs, such as Florida “Ready to Work”⁹⁰, WorkKeys skills assessments⁹¹, and programs available through the U.S. Department of Labor’s O*NET⁹² and Career OneStop⁹³ tools, as well as other individual planning resource⁹⁴ sites.

⁸⁸ For example, the Boston Workforce Development Coalition partnered with the Center for Community Economic Development at the University of Massachusetts Boston to produce reports on the opportunities for career laddering in the Financial Services, Health Services, and Telecommunications industries in the Greater Boston Region. Additional Information about this initiative is available at:

<http://www.bostonworkforce.org/career-ladders.htm#initiative>.

⁸⁹ Possible models for this type of regional online job portal include: Louisville Works (<http://www.louisvilleworks.com/>); Charleston WORKS (<http://www.charlestonworks.com/>); Greater Dayton Works (<http://www.greaterdaytonworks.com/>); and WorkSource Portland Metro (<https://www2.worksourceportlandmetro.org/>).

⁹⁰ Florida Ready to Work is a state-sponsored program that seeks to improve matching between employers and employees by testing job-related skills and providing certified credentials based on those results (<http://www.floridareadytowork.com>).

⁹¹ WorkKeys is a job skills assessment program that uses detailed assessments to better meet workforce needs (<http://www.act.org/workkeys>).

⁹² O*NET is an online tool that provides job and career analysis services for jobseekers, workforce development professionals, employers, and other stakeholders (<http://www.onetonline.org/>).

⁹³ The national Career OneStop website (<http://www.careeronestop.org>) offers a variety of services, including a service that maps worker skills to new career options (<http://www.myskillsmyfuture.org>).

⁹⁴ For example, *The Prosperity Planner* (<https://www2.prosperityplanner.org/>).

- Links to available loans, subsidies, and other resources and assistance services for career-advancing education and training.⁹⁵
- Comprehensive information about (and links to) secondary and higher education institutions and organizations in the Tampa Bay region, including universities, community colleges, technical institutes, and secondary schools.

Purpose: To provide an easily-accessible resource that prospective jobseekers can use to learn more about immediate and long-term employment opportunities in the target sectors, and to provide information that can help jobseekers with career planning.

- 3) Improve communication and build linkages between career offices/advisors at the Tampa Bay region's educational institutions and the target sector business community, so that career offices are better equipped to advise students about career opportunities in the target sectors. Develop a series of on-campus career events/programs for students to raise awareness about opportunities in the four target sectors. These programs could be conducted at both the postsecondary and secondary levels.
 - Hold a series of informational events, networking events, presentations, or workshops for career/academic advisors from the region's postsecondary educational institutions about future career opportunities and skills requirements in the four target sectors.
 - Develop workshops or training programs for secondary-level school counselors to expand their awareness about possible careers in the target sectors and the academic requirements for pursuing these careers, so they can communicate the appropriate information to students who are making decisions about higher education.

Purpose: To encourage collaboration between postsecondary institutions and employers aimed at providing career information, resources, and program options to students, and to help in recruiting students to consider careers in one of the target sectors.

- 4) Partner with regional companies in the target sectors to implement and promote career laddering programs for their employees. This activity may involve an initial period of promotion and recruitment to help firms understand what career laddering is and to demonstrate potential advantages (such as lowering employee turnover, building employee competency, and filling skill-gaps in the workforce). Employers occupy a position of unique opportunity in career laddering: they are often the most able to overcome barriers to

⁹⁵ This may include services such as federal financial aid (<http://studentaid.ed.gov>), tuition comparison tools, and employer benefits.

advancement (such as on-the-job training and prospects for advancement), and they may also benefit substantially from implementing such programs. Employer-sponsored career ladder programs often take place in the workplace, in collaboration with a nearby community college or technical training institutes. Career coaches or mentorship programs are made available to guide employees through both short and long-term career planning. Some programs may also include home-study, online programs, or coursework at local higher-education institutions. Specific steps to be pursued under this activity include the following:

- Facilitate career ladder workshops for key stakeholders in the workforce development system, including: employers, economic development and workforce organizations, career services and counseling offices, and other service providers and community-based organizations. These workshops will serve to increase awareness of the career laddering concept, provide information about key career pathways for the Tampa Bay region, and provide examples of best-practices and potential strategies that could be pursued by these organizations to support and promote career ladder opportunities.
- Provide information and resources for target sector companies and other industry stakeholders who interested in career ladders, either within their own company or through industry coordination.⁹⁶ This might include the development of brochures and/or online resources to explain and promote the career ladder concept. The Workforce Work Group (or a subcommittee) may also provide direct advice companies on what organizations or programs they can connect with to address their specific needs or concerns related to career laddering.⁹⁷

Purpose: To inform current employees in the target sectors about how to plan for future career advancement, and to alert them about job opportunities and additional educational programs that can help improve their long-term career prospects.

- 5) Collect data measuring the number of postsecondary graduates who stay in the Tampa Bay region after graduation, and develop programs/activities as needed to increase the share of graduates who choose to stay and work in the region, particularly in key career pathways in the target sectors. Postsecondary institutions already collect some data on the post-

⁹⁶ One source of instructional resources and case study examples of employer-sponsored career ladder programs is *Jobs to Careers* (<http://www.jobstocareers.org/>), an initiative of the Robert Wood Johnson Foundation, in collaboration with The Hitachi Foundation and the U.S. Department of Labor.

⁹⁷ Companies such as WorkSource Partners (<http://worksourcepartners.sharepoint.com>) provide career laddering services to individual firms.

graduation employment of their students (data which is reported to the FETPIP system);⁹⁸ however, this data usually does not include the location where the graduate finds employment. By collecting and sharing such data, the Workforce Work Group can improve its estimates of the contribution of postsecondary institutions to the region's workforce in the target sectors. It can also help to benchmark whether the Tampa Bay region is competitive in attracting and retaining workers with critical skills. Some of the activities to be undertaken in this initiative area could be:⁹⁹

- Aggregating data from multiple postsecondary institutions about both the position and location of employment for recent graduates, particularly in critical career pathways. This information would help in determining whether a concentrated effort is needed to encourage graduates qualified for specific careers to stay in the Tampa Bay area.
- Conducting surveys of students and recent graduates to learn their perceptions of the Tampa Bay region as a place to settle after graduation, as well as what aspects of the region need improvement in order to attract young workers to the area.
- Sponsoring and organizing career fairs, networking events, apprenticeships, internships, job shadowing days, and other activities where graduating students can learn about career opportunities in the target sectors in the Tampa Bay region, and where employers can reach out to those students about potential employment after graduation. This activity would encourage actual follow-up based on the information provided through *Activities #2, #3, and #4* above.

Purpose: To determine how increasing retention of graduating students can help in meeting regional workforce demand in the target sectors, and to gather information and plan initiatives on how to make the Tampa Bay region more attractive to younger workers.

⁹⁸ FETPIP is the Florida Education and Training Placement Information Program.

⁹⁹ Other regions have similar initiatives aimed at ensuring that graduating students educated at local institutions move to local employers to start their careers. One such initiative, Campus Philly in Philadelphia (<http://www.campusphilly.com>), helps to recruit freshman to attend local universities, gets students engaged in the local community, and helps students identify employment and career opportunities after graduation. Campus Philly has been successful in convincing graduating seniors to stay in the Philadelphia area rather than moving elsewhere.

Workforce Initiatives

Initiative 16: Increase Awareness About Career “Ladders” and Opportunities in the Target Sectors

Owner(s): To be determined.

Objectives:

- To increase the availability and awareness of career ladder opportunities within the target sectors, as well as improve access to relevant training programs.
- To identify pathways by which traditionally marginalized and low-income workers, as well as unskilled, entry-level, or unemployed workers, can progress to positions with higher skill levels and wages.

Activities	Implementers	Time Frame											
		Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Establish a process to identify and develop appropriate career ladder strategies to meet the workforce needs of the region’s new target sectors.	Workforce Work Group (or designated committee thereof) Target Sector Skills Panels Tampa Bay Partnership												
2. Build a region-wide career ladder and job opportunity database as an online portal for regional job seekers and employers.	Workforce Work Group (or designated committee thereof) Target Sector Work Groups Regional workforce boards Tampa Bay Partnership IT developers to be recruited as needed					Establish & pilot-test online portal				Implement, manage, & expand portal			
3. Improve communication and build linkages between career offices/advisors at the Tampa Bay region’s educational institutions and the target sector business community, so that career offices are better equipped to advise students about career opportunities in the target sectors.	Workforce Work Group (or designated committee thereof) Regional postsecondary institutions Target Sector Work Groups Tampa Bay Partnership					Plan activities				Implement activities			

<p>4. Partner with regional companies in the target sectors to implement and promote career laddering programs for their employees.</p>	<p>Workforce Work Group (or designated committee thereof) Target Sector Work Groups Tampa Bay Partnership Regional workforce boards</p>	<p>Recruit & educate firms (ongoing)</p>	<p>Assist firms in implementing programs</p>
<p>5. Collect data measuring the number of postsecondary graduates who stay in the Tampa Bay region after graduation, and develop programs/activities as needed to increase the share of graduates who choose to stay and work in the Tampa Bay area, particularly in key career pathways.</p>	<p>Workforce Work Group (or designated committee thereof) Regional postsecondary institutions Tampa Bay Partnership Student outreach coordinators</p>	<p>Aggregate data</p>	<p>Identify and implement programs/activities</p>

APPENDICES

APPENDIX 1: INTERNATIONAL BUSINESS EXPANSION ACTIVITIES

Below are examples of activities to establish a network of global trade assistance to increase exports from the region:

- Build off of Manatee and Sarasota Counties' existing International Business Expansion Initiative funded by an Enterprise Florida grant, which provided export training programs, one-on-one counseling, and financial assistance for local companies to participate in overseas trade events.¹⁰⁰
- Develop a web portal/one stop shop to aggregate trade assistance available to businesses, and market this website to businesses.
- Establish relationships/partnerships with key international/trade-related institutions in the region.
- Conduct targeted trade missions to market regional products and services, especially focusing on the target sectors.
- Sponsor group participation in strategic international trade shows for target sectors.
- Conduct an international road show to help the Tampa Bay region's export-ready small businesses find partners in these major international markets to assist in increasing export sales.
- Hold regular export symposiums/workshops/classes for SMEs interested in exporting.
- Coordinate a mentoring program for SMEs interested in exporting by matching them with experienced exporters.
- Create and maintain a database of regional companies that export.
- Develop a system to inform regional businesses of opportunities for local foreign engagement.

The State of Florida, through Enterprise Florida, also offers extensive assistance for expansion into international markets. See http://www.eflorida.com/Why_Florida.aspx?id=466 for details.

¹⁰⁰ Economic Development Corporation of Sarasota County and the Manatee Economic Development Council, International Business Expansion Initiative, http://www.edcsarasotacounty.com/documents/MCC%20Export%20Brochure%200709_LoRes.pdf.

APPENDIX 2: PARAMETERS FOR PROGRAMS DESCRIBED IN *INITIATIVE #7*

NATIONAL INSTITUTE OF BIOMEDICAL IMAGING AND BIOENGINEERING (NIBIB) PROGRAMS (NATIONAL INSTITUTES OF HEALTH)

DESIGN AND DEVELOPMENT OF NOVEL TECHNOLOGIES FOR HEALTH INDEPENDENT LIVING – EXPLORATORY/DEVELOPMENTAL RESEARCH PROJECT (R21)

Purpose: Design and develop “novel technologies [that] monitor health of deliver care in a real-time, accessible, effective and minimally obtrusive way.”

Application Deadlines: Three times per year (January, May, and September)

Time Frame: Two years

Maximum Value: \$275,000

Cost Share: Not required

Funding Announcement: <http://grants.nih.gov/grants/guide/pa-files/PAR-11-021.html>

TECHNOLOGIES FOR HEALTH LIVING PROJECT (R01)

Purpose: “Research and development of technologies that monitor health or deliver care in a real-time, accessible, effective, and minimally obtrusive way.” Technologies covered under this funding opportunity already exist but require refinement or enhancement; alternatively, funding can be used to assess use of the technologies in specific settings.

Application Deadlines: Three times per year (January, May, and September)

Time Frame: Not specified

Maximum Value: No ceiling (“Application budgets are not limited, but need to reflect actual needs of proposed project.”)

Cost Share: Not required

Funding Announcement: <http://grants.nih.gov/grants/guide/pa-files/PAR-11-020.html>

PROGRAM PROJECT (PO1)

Purpose: Encourages investigator-initiated Program Project Grant (P01) applications from institutions/organizations in the broad areas of biomedical imaging and bioengineering enabled by relevant areas of the physical sciences, engineering, computer sciences, information science, and the medical and life sciences.

Required Organizational Involvement: Requires a minimum of three interrelated research projects, and the component projects must share a common central theme, focus, and overall objective.

Application Deadlines: Three times per year (January, May, and September, with letters of intent due one month prior)

Time Frame: Up to five years

Maximum Value: \$1.2 to \$1.4 million per year

Cost Share: Not required

Funding Announcement: <http://grants.nih.gov/grants/guide/pa-files/PAR-10-233.html>

BIOENGINEERING RESEARCH PARTNERSHIPS (BRP) (RO1)

Purpose: Encourage basic, applied, and translational or clinical bioengineering research that could make a significant contribution to improving human health.

Required Organizational Involvement: Partnership with companies that have relevant expertise or that may eventually be involved in commercialization is appropriate under the BRP programs, but is not required.

Application Deadlines: Three times per year (January, May, and September, with letters of intent due one month prior)

Time Frame: Initial period – up to five years. Renewal period – up to five years additional, for a maximum award period of ten years.

Maximum Value: Up to \$2 million annually

Cost Share: Not required

Funding Announcement: <http://grants.nih.gov/grants/guide/pa-files/PAR-10-234.html>

QUANTUM PROJECTS PROGRAM

Purpose: Focused on research that will result in improvements to technologies that would transform over 200,000 medical procedures annually.

Application Deadlines: Most recent application due date was January 22, 2010. It is unclear from the most recent funding announcement whether additional rounds of funding will be available under this program.

Time Frame: Up to five years

Maximum Value: Up to \$3 million annually

Cost Share: Not required

Funding Announcement: <http://grants.nih.gov/grants/guide/rfa-files/RFA-EB-09-003.html>

NATIONAL SCIENCE FOUNDATION

PARTNERSHIP FOR INNOVATION (PFI) PROGRAM

Purpose: Stimulate the transformation of knowledge created by the research and education enterprise into innovations that create new wealth; build strong local, regional, and national economies; and improve the national well-being.

Application Deadlines: Letter of Intent (October); Full Application (December)

Required Organizational Involvement: Application must be submitted by an accredited two- or four-year degree granting institution with participation of at least two small businesses.

Time Frame: Two or three years

Maximum Value: Up to \$600,000 annually

Cost Share: Not required

Funding Announcement: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf10581

ENGINEERING RESEARCH CENTERS PROGRAM

Purpose: Create a culture in engineering research and education that links discovery to technological innovation through transformational, fundamental, and engineered systems research, in order to advance technology and produce engineering graduates who will be creative U.S. innovators in a globally competitive economy.

Application Deadlines: Future application deadlines are to be determined. Full proposals for the Generation 3 ERC program were due (for institutions invited to submit full proposals) on January 12, 2010. Prior steps in the application process include letters of intent due May 15, 2009, and preliminary proposals due July 15, 2009.

Required Organizational Involvement: Involves a lead university, no more than four domestic partner universities, and at least one but no more than three partnerships with foreign universities for both research and education. Firms, and as appropriate for the topic, state or local government agencies that would be users of the results, are required to commit to membership at the preliminary proposal and the invited full proposal stages. Partnerships with middle and high schools in pre-college education are also required, as are partnerships with local level organizations devoted to stimulating entrepreneurship and innovation.

Time Frame: Initial period of five years; possibility of extension for another five years, with total duration of ten years.

Maximum Value: Approximately \$18.5 million during the initial five-year period

Cost Share: The ERC cost sharing requirements are graduated and vary by the basic classification categories of universities and colleges as defined in the “Carnegie Foundation’s Classification of Institutions of Higher Education.” The classification categories and ERC cost sharing requirements are as follows:

- RU/VH: Research Universities (very high research activity) – required cost sharing level is 20% of the allocation of the NSF budget to the lead or partner university;
- RU/H: Research Universities (high research activity) – required cost sharing level is 15% of the allocation of the NSF budget to the lead or partner university;
- DRU: Doctoral/Research Universities – cost sharing level is 10% of the allocation of the NSF budget to that partner university;
- Master’s L: Master’s Colleges and Universities (larger programs) – cost sharing level is 10% of the allocation of the NSF budget to that partner university/college;

- Bac/Diverse: Baccalaureate Colleges-Diverse Fields – cost sharing level is 5% of the allocation of the NSF budget to that partner college.

Funding Announcement: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf09545

APPENDIX 3: EXAMPLES OF STATE BIOFUELS-RELATED INCENTIVES

The 2006 Florida Energy Act established a number of incentives aimed at promoting renewable energy technologies and production.¹⁰¹ Below are incentives provided under this act, which could be tapped to support biofuels sector development in the Tampa Bay region:

- *Renewable sales tax refund:* Provides tax exemption for the sale or use of materials used in the distribution of biodiesel and ethanol, including fueling infrastructure, transportation, and storage, up to a limit of \$1 million in tax each state fiscal year for all taxpayers.
- *Infrastructure investment tax credit program:* Provides a credit against either corporate income tax or franchise tax for eligible costs, including 75% of all capital costs, operation and maintenance costs, and R&D costs (up to a limit of \$6.5 million per state fiscal year for all taxpayers) for investment in production, storage, and distribution of biodiesel and ethanol in the state (including the costs of constructing, installing, and equipping such technologies in the state).
- *Florida renewable energy production tax credit:* Provides a corporate income tax credit equal to one cent for each additional kilowatt hour of electricity produced from renewable energy sources at a new or expanded Florida facility.
- *State energy grant program:* Provides renewable energy matching grants for demonstration, commercialization, and R&D projects relating to renewable energy technologies (including hydrogen, biomass, solar, geothermal, wind, ocean, waste heat, and hydroelectric energy)

Other state-level funding opportunities are available under the \$126 million State Energy Program (SEP) (funded by ARRA), such as the *E-85/B20 Public/Private Fueling Grant Program* to increase the availability of biofuels at retail stations in the state.¹⁰²

¹⁰¹ However, the funding for a number of these incentives for biofuels has run out as of this fiscal year, so regional stakeholders should monitor renewal and ongoing developments with these incentives in the coming years. For more information, see: http://myfloridaclimate.com/climate_quick_links/florida_energy_climate_commission/state_energy_initiatives/renewable_energy_tax_incentives.

¹⁰² For more information on the State Energy Program funding opportunities, see: http://myfloridaclimate.com/climate_quick_links/florida_energy_climate_commission/arra_funding_and_opportunities/state_energy_program_sep_126_089_000.

APPENDIX 4: LIST OF LOCAL, STATE, AND FEDERAL ENERGY EFFICIENCY INCENTIVES, PROGRAMS, AND EDUCATIONAL OPPORTUNITIES

Local, state, and federal energy efficiency incentives (low-income, commercial, residential, construction), programs, and workshops/classes in the region include, but are not limited to:

LOCAL:

- Sarasota County Get Energy Smart Retrofit Program for homeowners, which includes Do It Yourself kits, rebates on energy efficient home improvements, and loans for low-income homeowners.¹⁰³
- Pinellas County Department of Community Development's Model Homes program, which offers builders zero interest construction loans and access to low cost infill land in exchange for a commitment to meet minimum ENERGY STAR guidelines and to offer homes at affordable prices to eligible buyers.¹⁰⁴
- Pinellas Energy Efficiency Project (PEEP), which offers classes for residents to educate them on energy efficiency, through the University of Florida IFAS Pinellas Extension;¹⁰⁵ the Extension also offers green building classes for contractors;¹⁰⁶ Sustainable Living tips are also available online.¹⁰⁷
- Pinellas Green Business Designation for local businesses, which is offered by Pinellas County in partnership with the University of Florida Extension Service; Pinellas County has a focus on green technology and sustainable industries.¹⁰⁸
- State College of Florida, Manatee-Sarasota's partnership with the U.S. Green Building Council to offer courses that could lead to energy- and environment-related certifications. State College of Florida also recently launched a new Bachelor of Applied Science in Energy

¹⁰³ Sarasota County, Get Energy Smart Retrofit Program, <http://www.scgov.net/retrofit/>. Note that this is funded by the American Recovery and Reinvestment Act of 2009 (ARRA).

¹⁰⁴ ENERGY STAR, Pinellas County Community Development, Clearwater, Florida, http://www.energystar.gov/ia/partners/bldrs_lenders_raters/downloads/Pinellas_52207.pdf.

¹⁰⁵ University of Florida IFAS Extension, Pinellas Energy Efficiency Project, http://pinellas.ifas.ufl.edu/sustainability/energy_peep.shtml. Note that these classes are sponsored by the U.S. Department of Energy (USDOE) through ARRA.

¹⁰⁶ University of Florida Program for Resource Efficient Communities, <http://buildgreen.ufl.edu/cecampus.htm>.

¹⁰⁷ University of Florida IFAS Pinellas County Extension, Sustainable Living, <http://pinellas.ifas.ufl.edu/sustainability/index.shtml>.

¹⁰⁸ Pinellas County Economic Development, Green Technology and Sustainable Industries, http://www.pced.org/expansion_relocation/subpage.asp?green.

Technology Management Program in response to community interest in clean energy opportunities.

- Progress Energy, which offers a wide range of programs for low-income, residential, and commercial customers. Programs include educational workshops, energy audits, weatherization assistance, incentives for home energy improvements, incentives for commercial green building new construction program, smart grid metering for businesses, solar water heating pilot program for low-income households, rebates for residential and commercial solar PV programs, and a program for schools to install solar PV systems.¹⁰⁹
- Tampa Electric, which offers \$1,000 rebates for the installation of a residential solar water heater and rebates for solar photovoltaic systems at homes or businesses. Tampa Electric also will install solar PV systems in schools; has solar water heating systems available for low-income households; conducts energy audits; provides weatherization to low-income households; and offers rebates and incentives for high-efficiency heating and cooling systems, new ceiling insulation, window replacements/upgrades, window film, wall insulation, HVAC re-commissioning, commercial lighting upgrades, commercial duct repair, commercial energy-efficient motors, and cool roof system installation. Customers are also able to purchase a portion of their electricity from renewable sources by signing up for \$5 blocks of renewable energy through Tampa Electric's Renewable Energy Program.¹¹⁰
- Florida Power & Light (FPL), which offers energy efficiency rebates.¹¹¹
- Lakeland Electric Commercial Conservation Rebate Program, which offers two incentives for their commercial customers to save energy in their facilities (energy efficient vending machines and commercial lighting upgrades), and will also 50% of the cost, up to \$2,000, for their commercial customers to have an energy audit performed in their facilities.
- Rebuilding Together Tampa Bay, which is a nonprofit organization serving low-income homeowners.¹¹² Its Energy Efficiency Program provides low-income homeowners with the necessary repairs to make their homes more functional and reduce future utility costs.

STATE:

- Florida's Renewable Energy Tax Incentives,¹¹³ such as the Renewable Sales Tax Refund, Infrastructure Investment Tax Credit Program, and the Florida Renewable Energy Production Tax Credit.

¹⁰⁹ Progress Energy Florida's energy-efficiency programs, <http://www.savethewatts.com>.

¹¹⁰ Tampa Electric Renewable Energy Program, <http://tampaelectric.com/renewable>.

¹¹¹ Florida Power & Light, http://www.fpl.com/residential/energy_saving/programs/govprograms_faqs.shtml.

¹¹² Rebuilding Together Tampa Bay, <http://rttb.org/about-rttb>.

- The Florida Green Lodging Program,¹¹⁴ which is a voluntary initiative of the Florida Department of Environmental Protection. This program designates and recognizes lodging facilities that make a commitment to conserve and protect natural resources.
- Florida Residential Retrofit Program,¹¹⁵ which will offer a rebate to Florida homeowners that have an energy audit and make sufficient energy efficient improvements to capture at least a 20 percent improvement in their home energy efficiency.
- Florida Energy Opportunity Fund – Clean Energy Investment Program,¹¹⁶ which is a direct investment program operating as a venture capital fund, to promote the adoption of energy efficient and renewable energy products and technologies in Florida.

FEDERAL:

- Federal incentives, which include ENERGY STAR appliance rebates and federal tax credits for installing energy efficiency products and solar equipment.¹¹⁷

¹¹³ Florida Energy & Climate Commission, *Renewable Energy Tax Incentives*, http://myfloridaclimate.com/climate_quick_links/florida_energy_climate_commission/state_energy_initiatives/renewable_energy_tax_incentives.

¹¹⁴ Florida Department of Environmental Protection, Florida Green Lodging Program, <http://www.dep.state.fl.us/greenlodging/>.

¹¹⁵ Florida Residential Retrofit Program is funded by the State Energy Program (ARRA funding), http://myfloridaclimate.com/climate_quick_links/florida_energy_climate_commission/arra_funding_and_opportunities/state_energy_program_sep_126_089_000.

¹¹⁶ Florida Energy Opportunity Fund - Clean Energy Investment Program is funded by the State Energy Program (ARRA funding), http://myfloridaclimate.com/climate_quick_links/florida_energy_climate_commission/arra_funding_and_opportunities/state_energy_program_sep_126_089_000 and <http://floridaopportunityfund.com>.

¹¹⁷ U.S. Department of Energy, Energy Savers, <http://www.energysavers.gov/financial/70010.html>.

APPENDIX 5: LIST OF REGIONAL ENERGY EFFICIENCY PROJECTS TO SHOWCASE

Below are examples of energy efficiency projects (including past projects or projects limited in scope) in the Tampa Bay region that could also serve as successful models for replication, and/or that should be highlighted to demonstrate the region's commitment to energy efficiency and conservation:

- Polk County School District, which has taken a school-based, decentralized approach to energy efficiency, and has earned the ENERGY STAR® for superior energy performance for a number of its buildings.¹¹⁸
- St. Petersburg / Progress Energy, which ran a pilot program for homeowners in 2009, offering \$3,000 grants or no-interest loans up to \$15,000 for energy efficiency upgrades.¹¹⁹
- Hillsborough County, which received \$7,665,200 in September 2009 in Energy Efficiency and Conservation Block Grant funds to undertake the energy efficiency and conservation projects on its facilities and vehicles. Hillsborough County is using the funds for eight projects. The projects are located throughout the county at various facilities. They include solar projects, lighting retrofits and facility upgrades, and connecting a facility to an alternate energy source.¹²⁰
- Manatee County, which received \$2.4 million in federal stimulus funds as part of the Energy Efficiency and Conservation Block Grant program in 2009, for high-efficiency chillers in the Judicial Center and high-efficiency LED lighting roadway light fixtures, as well as to replace inefficient lighting at the Manatee County Detention Center. In addition, a portion of the funds were devoted to workforce development programs that support energy efficiency and weatherization in buildings and education for homeowners, as well as specialized training programs for building staff to obtain LEED certifications for plans review.¹²¹

¹¹⁸ Southeast Rebuild Collaborative, *Polk County Case Study*, http://www.energied.com/Portals/o/PolkCoFL_SRC_Case_Study.pdf.

¹¹⁹ *St. Petersburg Times*, "Low-income St. Petersburg homeowners can get grants, loans for energy efficiency upgrades," September 16, 2009, <http://www.tampabay.com/news/localgovernment/low-income-st-petersburg-homeowners-can-get-grants-loans-for-energy/1036400>.

¹²⁰ Hillsborough County, Energy Efficiency and Conservation Block Grant Projects, <http://www.hillsboroughcounty.org/realestate/facilities/femp/eecpg.cfm>.

¹²¹ *Gulf Coast Business Review*, "Manatee awarded grant for energy efficiency," November 12, 2009, <http://www.review.net/section/detail/manatee-awarded-grant-for-energy-efficiency/>.

APPENDIX 6: OVERVIEW OF PACE PROGRAMS AND YGRENE ENERGY FUND'S PACE PROGRAM

WHAT ARE PACE PROGRAMS?

Property Assessed Clean Energy (PACE) programs are financing programs designed to allow willing property owners to borrow money from local governments for the installation of small-scale renewable energy systems and energy efficiency improvements to their buildings and to pay for the cost through an assessment on the property owners' ad valorem tax bills over a long term (e.g. 10-20 years). Among the first PACE programs established in the United States are:

- **Berkeley FIRST** (Berkeley, California), which was established in 2008 to support residential solar photovoltaic (PV) projects; 30 loans totaling \$1.5 million have been issued under the program.
- **Climate Smart Loan Program** (Boulder, Colorado), started in 2009 to fund energy efficient retrofit and solar PV projects, has issued 612 loans valued at \$9.8 million.
- **Energy Independence Program** (Sonoma County, California), which was launched in 2009 to encourage energy efficient retrofits, solar PV, and water efficiency upgrades and has since provided 770 loans totaling \$24 million.

PACE IN FLORIDA

HB7179, enacted by the Florida Legislature on April 30, 2010, and signed by the Governor on May 25, 2010, provides local governments the authority to establish property assessed clean energy programs. In particular, this legislature allows local governments to:

- Enter into financing agreements with private property owners for funding for qualifying energy conservation/efficiency, renewable energy, and wind resistance improvements.
- Incur debt for the purpose of financing qualifying improvements (e.g., issue bonds), payable from revenues received from the improved property or any other available revenue source authorized by law.
- Collect payments from the participating property owners in the form of non-ad valorem assessments on the property tax bill.

The following table summarizes the kinds of qualifying improvements that are covered under the Florida PACE legislation.



Qualifying Improvements Under the State of Florida’s PACE Legislation		
Energy Conservation & Efficiency	Renewable Energy	Wind Resistance
<ul style="list-style-type: none"> • Air sealing • Energy efficient HVAC • Building modifications to increase use of daylight • Replacement windows • Efficient lighting • Installation of energy controls • Installation of energy recovery systems • Installation of electric vehicle charging stations 	<ul style="list-style-type: none"> • Hydrogen • Solar energy • Geothermal energy • Bioenergy • Wind energy 	<ul style="list-style-type: none"> • Improving the strength of the roof deck attachment • Creating a secondary water barrier to prevent water intrusion • Installing wind-resistant shingles • Installing gable end bracing • Reinforcing roof-to-wall connections • Installing storm shutters or installing opening protections

EXAMPLE OF PACE PROGRAM IMPLEMENTATION: YGRENE ENERGY FUND

The Ygrene Energy Fund provides local governments with technical and financial assistance for local PACE program implementation in compliance with federal and state laws. This program allows local governments to obtain the benefits of encouraging and promoting energy conservation and retrofits in their jurisdictions¹²² without undertaking the sole responsibility for initiating a new program and without making recurring commitments from their general funds. The Ygrene Energy Fund offers local governments:

- A comprehensive, sustainable financing package;
- No-cost program design and set-up;
- A five step marketing/outreach plan to encourage property owners to participate;
- Administration, training, and certification of contractors to perform the energy efficiency improvements; and
- A web-based program management, underwriting, and workflow tool for PACE administration.

The five partners in the Ygrene Energy Fund, and their roles, are summarized in the following table.

¹²² The primary benefits to local governments associated with implementation of PACE programs are creating jobs in the construction sector, helping to achieve energy efficiency goals, and stimulating the local energy efficiency/conservation economy.



Key Partners in the Ygrene Energy Fund	
Type of Assistance	Partner Name and Role
Financial & Legal	Barclays Capital: Aggregation and post-PACE financing
	Bryant Miller Olive: Formation and validation of PACE programs that work under state and local laws
Marketing & Outreach	Eco₂Assets Solutions: Participant outreach/feedback and contractor certification/training
Energy Tools	Carbon Trust: Data on energy use and efficiency to support project analysis based on established industry standards
	Recurve: Energy efficiency audit software that ensures accurate and accountable project measures and a calculated savings to investment ratio for residential projects