SCION - Space Coast Innovation Outreach Network

Carmo D'Cruz
Department of Engineering Systems,
Florida Tech, Melbourne, FL

Mihalis Halkides
Department of Management,
Bethune-Cookman College, Daytona Beach, FL

Abstract

This paper describes *SCION*, a unique, planned regional partnership between private and public research and teaching universities, community colleges, research organizations/industry, Entrepreneur Support Organizations (ESOs), Economic Development Organizations (EDOs), business service providers, and emerging/established high tech entrepreneurial start-ups.

Boosted by the presence of the NASA-Kennedy Space Center and the Florida Solar Energy Center, the Space Coast of east Central Florida has regional competencies in a myriad of emerging technologies such as space sciences, wireless technologies, hydrogen, energy technologies, environmental sciences, etc. According to the 2000 Milken Institute Report, the Space Coast ranked 45th out of 315 metro areas for its high tech capacity. This area also had location quotient of 1.998 thus indicating a higher concentration of high-tech activity than the nation on average. Thus the Space Coast has nearly all the ingredients to become a hub of high tech entrepreneurial activity – these include leading research institutes and universities, an exemplary community college network, high tech firms, dedicated EDOs and ESOs such as the Space Coast EDC and The technological Research and Development Authority (TRDA), and a highly skilled workforce. However this area has been slow to develop because many organizations worked in parallel, with limited synergy and a lack of common focus to make this area a high tech hub. *SCION* provides an effective, common collaborative forum in this regard.

SCION features a unique "Push-Pull" model for technology commercialization that links sources of technological innovations, enablers, catalysts, investors and users of technological innovations.

Seeded by Lemelson Foundation grants, Florida Tech has developed pioneering Senior Design Commercialization and Systems Engineering Entrepreneurship courses series. *SCION* plans to proliferate these courses into K-12 outreach and graduate, undergraduate and continuing education courses, all linking academic programs to experiential entrepreneurship activities. *SCION* programs and activities engage the entire community and education system from K-12 to Post-Graduate/Continuing Education, to make the Space Coast a hub of high-tech entrepreneurial activity and create scions of high-tech start-ups.

It is anticipated that *SCION* will create new paradigms in high tech entrepreneurship education and community outreach, and a sustainable, transferable model for transforming regional economies.

Introduction

The *SCION* academia-industry partnership of public and private entities, promotes high tech entrepreneurship and catalyzes the commercialization of current and emerging technology from research laboratories, universities, and private industry. Research indicates that teaming researchers from private industry and universities can help overcome the problem of the "Valley of Death" (Figure 1) a place where technological advances are never put to productive use or brought to market.[1] The conclusions from the 2002 AUTM Licensing Survey show the academic technology transfer field is an integral part of the innovation economy. A key finding was that as federal research funding continued to climb, the industrial funding grew at only one-third the rate, and that research funding linked to licenses and options--a major incentive for academic scientists to participate in the technology transfer process--declined.[2] The *SCION* partnership plans to dramatically reduce this problem by stimulating research and facilitating technology transfer and commercialization through a unique Technology "Push-Pull" Strategy process.

Due to the NASA- Kennedy Space Center and the Florida Solar Energy Center being located in the Space Coast corridor, the *SCION* partnership will initially focus on research and commercialization of space and energy-related technologies. According to the 2000 Milken Institute Report, the Space Coast ranked 45th out of 315 metro areas for its high tech capacity. This area also had Location Quotient of 1.998 thus indicating a higher concentration of high-tech activity than the nation on average. However this area has been slow to develop. The goal and objectives of SCION focus on key issues identified as troublesome in the Space Coast area, which include a) limited availability of entrepreneurship educational offerings, b) extremely low number of commercialization of space and spin-off technologies, c) a limited infrastructure of support for new company formation and incubation activities, and d) a lack of underrepresented and underserved individuals engaged in entrepreneurial efforts.

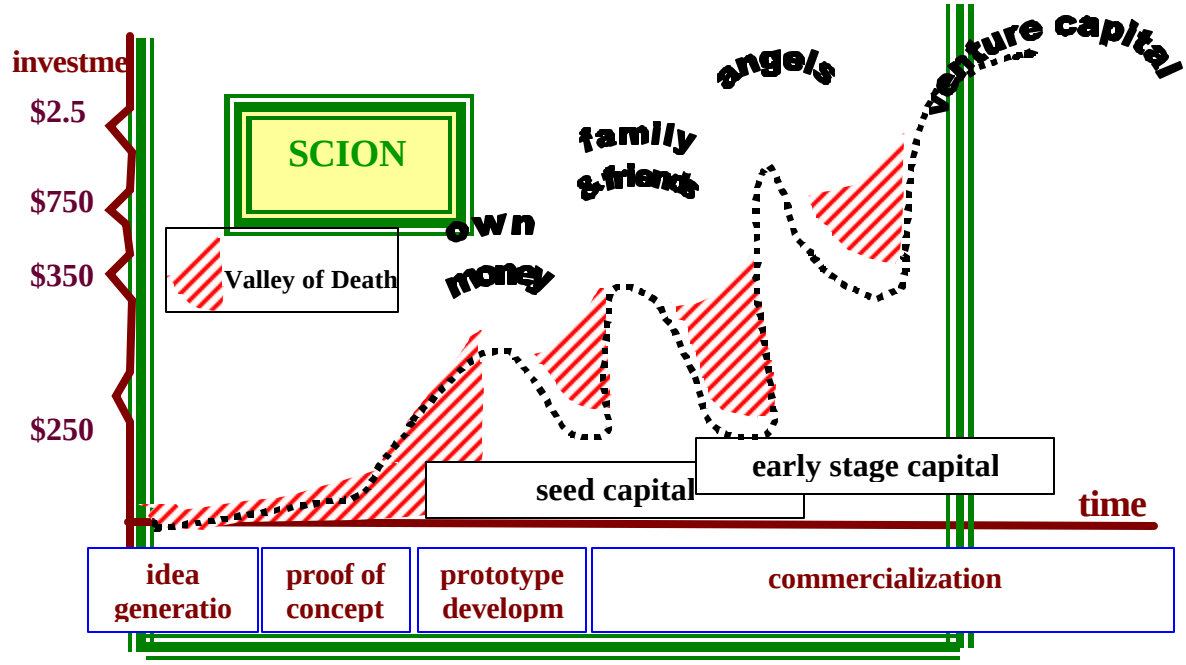
The *SCION* objectives are to: 1) develop state-of-the-art education and training programs to promote entrepreneurship awareness and increase the number of technology entrepreneurs and high tech entrepreneurial start-ups in the Space Coast Region, 2) identify commercial applications of developed and developing space technologies and foster and facilitate technology transfer, 3) provide infrastructure and activities/events to enable the innovation, technology commercialization and entrepreneurial start-ups, and 4) provide special program curriculum and mentors to underrepresented groups to increase the number of minority business entrepreneurs.

The *SCION* partnership is designed after extensive benchmarking with other successful industry-academia technology entrepreneurship and incubation programs such as the entrepreneurship courses and programs at Stanford, MIT, University of Texas-Austin and others. These benchmark universities are a testimony that entrepreneurship skills and know-how can be taught, and that entrepreneurs can be nurtured through support programs in university-based incubators, entrepreneur associations and local business networks.[4, 5, 6, 7, 8, 9, 10, 11, 12, 13] Through the efforts of NASA, Energy Research Institutes and those of innovative entrepreneurs, thousands of "spin-off' products have been derived from energy and space program-developed technology, which collectively, represent an immense contribution to the nation's economy. It is *SCION*'s intent to recapture the research and development activities of this cutting edge research, and apply these technologies for product development toward improving people's lives.[3]

Packaging the "incubator concept" into a series of graduate, undergraduate, and continuing education short courses, backed by the resources and activities of a technology incubator is a key feature of the *SCION* Partnership.[14,15] Integrating Student Design Teams with Entrepreneurial "E-Teams" for commercialization of senior design or graduate engineering design projects is another strong facet of the *SCION* Partnership.[16] A pioneering 4-course series in Systems Engineering Entrepreneurship will be offered (Systems Engineering Entrepreneurship, Technical Marketing, High Tech Product Strategy, Technology Commercialization Strategies) and it integrates E-Teams with academic curriculum. The *SCION* Partnership clearly articulates a vision, expectations and responsibilities among its diverse partners. This vision has the support, commitment and investment from the institutions' senior leaders to increase the return of technology commercialization through active programs which will identify platform technologies for commercialization, intellectual property protections and business incubation activities.[17]

The pioneering courses and the innovative Technology "Push-Pull" Strategy are the core of the *SCION* partnership (Figure 2), and have been developed by experienced technology commercialization professionals who have extensive careers in industry, economic development / business incubation programs and academe.[18, 19, 20, 21, 22, 23, 24, 25, 26] This innovative technology "Push/Pull" commercialization model catalyzes and facilitates technology commercialization by Pushing Innovation through our network to attract prospective investors, and by Pulling Innovation through our network to attract targeted investors – thereby linking the innovators and sources of innovation with technology commercialization enablers, users of innovation, entrepreneurs and investors.

Figure 1 **SCION's Role in Overcoming the Valley of Death**



SCION Vision: "A unique academia-industry, public-private partnership to catalyze technology commercialization and make the Space Coast area a hub of high-tech entrepreneurial activity"

THE SCION MODEL

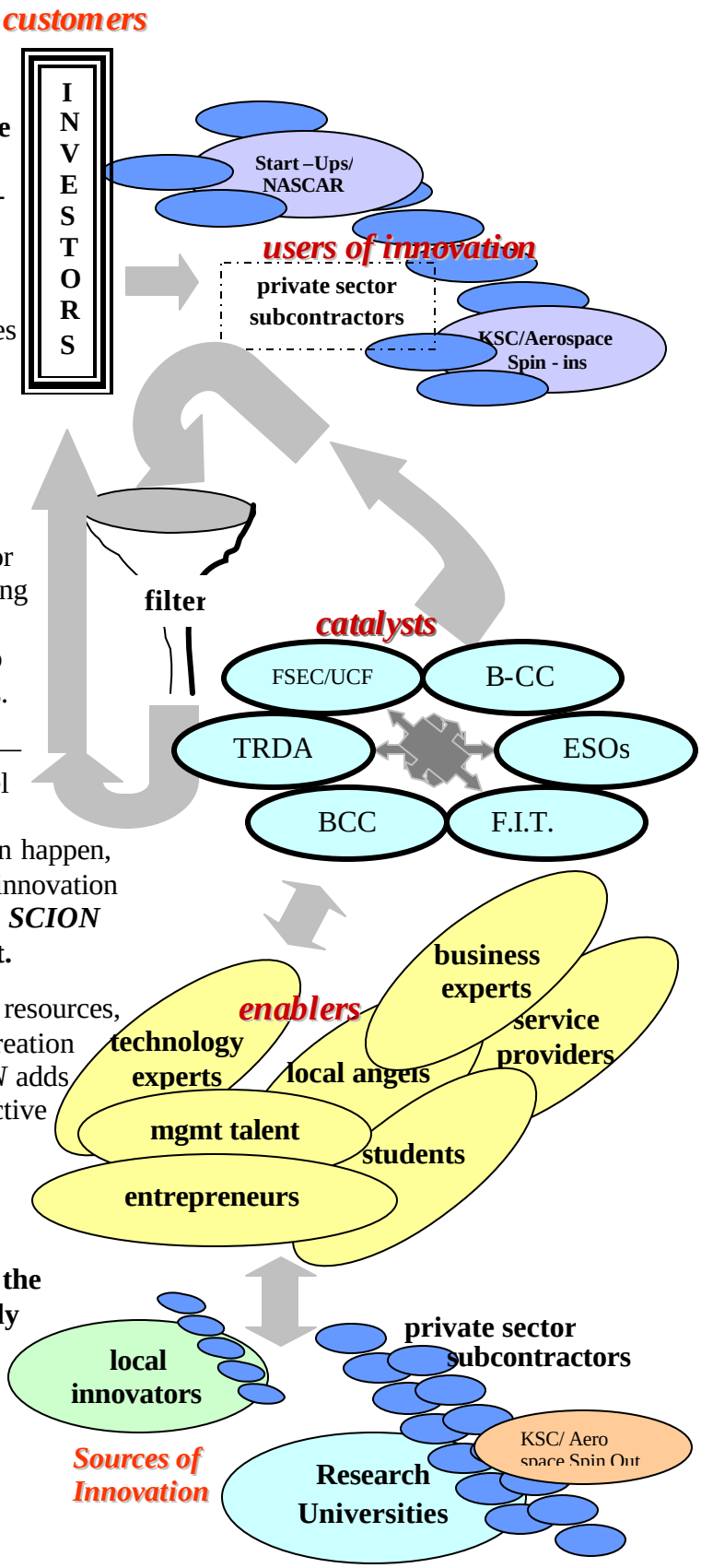
SCION is a **comprehensive public private university/industry partnership** that develops and enables frameworks for high-tech research, tech transfer and innovation commercialization on Florida's Space Coast. *SCION*, while supporting all high-high-tech applications and industries, places special emphasis on the aerospace, space-related & energy industries as clustered around NASA-KSC and FSEC and their private sector partners along the Space Coast corridor.

SCION ultimately **produces innovation** for high-tech "users of innovation" found among the most progressive and entrepreneurially minded private sector companies related to Space, Space-related and energy industries.

SCION, in espousing a 'market mentality'—borrowing from the successful CFIC model by business development pioneer Richard Fox, makes this useful high-tech innovation happen, by targeting not just the ultimate users of innovation but the capital investors of that innovation. ***SCION* helps bring the innovation to the market.**

SCION framework accesses and leverages resources, expertise, and services necessary for the creation of promising investable companies. *SCION* adds value to each deal by making it more attractive for all participants. ***SCION*'s "push-pull" strategy is (1) "pushing" innovation through the expert process & system to attract prospective investors, and (2) "pulling" targeted investors through the process/system to commercialize specially developed innovation for their needs.**

SCION innovations come primarily from Florida's universities, KSC/Aerospace Spin-outs and their partners, and local innovators.



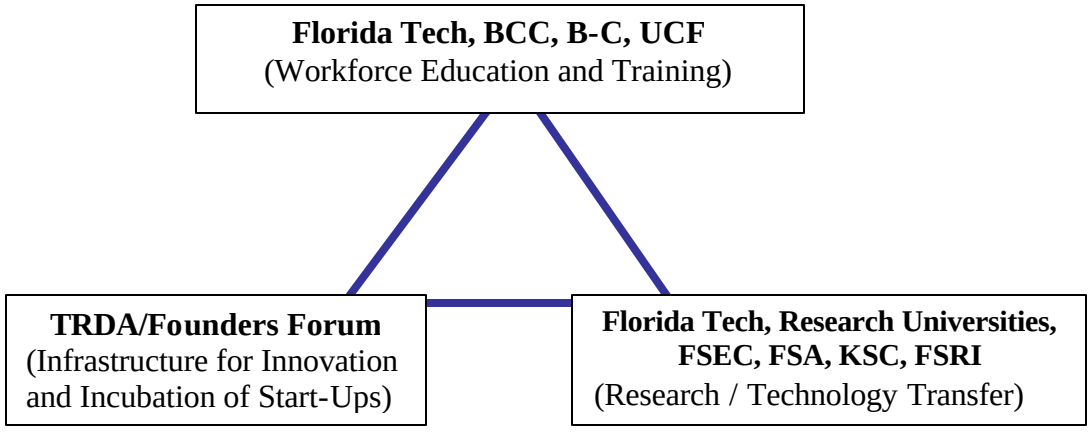
The Need for *SCION*

Private sector investment accounts for the overwhelming majority of US high-tech start-ups and their subsequent success. However, the free market may at times be inefficient in recognizing and supporting high-tech opportunities especially when dealing with high risk and early stage start-ups. Governments have intervened effectively to promote high-tech entrepreneurial activity in the early stages of development, as indeed federal, state and local programs have provided useful resources and expertise to start-ups and small companies to bridge the gaps between individual initiatives and market responses throughout the innovation-commercialization process.

As company success presupposes sufficient levels of private capital investment, the success of such programs must stem from their ability to help companies become investable. However, at the exact time of the investment decision, companies presenting borderline opportunities to investors find little help in rectifying those fixable problems and overcoming investor resistance, thus resulting in the evaporation of most federal and state efforts. It is at this critical moment of investor decision that *SCION* will intervene in the market to help small companies and investors convert borderline investment decisions into appealing business opportunities.

SCION is unique because it leverages federal and state funds to help Florida's Space Coast to attract and develop advanced high-tech applications, high tech-jobs, and capital investment, while averting the failure of high-potential Florida companies (Figure 3). *SCION* will do this through market-driven public-private partnerships that will complement, not compete with private and public sector initiatives, services, or programs—thus adding value to the entire entrepreneurial system by (1) forging lasting win-win partnerships with companies, investors, academic research, and service providers, (2) providing enterprise opportunities, and (3) helping safeguard their prior investment in companies that are promising yet unconvincing to investors.

Figure 3 **The SCION Partnership**



SCION helps fix borderline investable companies and/or projects by alleviating the negative aspects of an investment deal through improving the applicant company's strategy, tactics, technical issues, management, business plan, and presentation—thus, directly addressing the investors' concerns. *SCION's* leadership and participation in providing the framework, expertise,

and assistance to create, develop, and advance new high-technology companies along Florida's Space Coast is considered a co-investment in the participating companies. *SCION* intends to use the proceeds of its investment portfolio to achieve self-sufficiency over time. Each participating company is responsible for identifying, screening, negotiating service agreements with, and selecting service providers within or outside the *SCION* framework. With its "Pull/ Push" strategies, *SCION* determines the eligibility of applicant companies; evaluates their needs and opportunities; maintains the right to accept and refuse a company into the *SCION* framework; and contracts with selected companies to provide services and assistance through the *SCION* framework for a negotiated fee (cash, royalties, equity, or combination). *SCION* experts become active participants in a participating company's Board of Directors and Board of Advisors, and help management with both strategic and tactical decision making as well as their implementation. Upon partnering with *SCION* companies will be responsible for submitting regular progress reports and a final report. Reporting will mirror the project's negotiated deliverables, with deadlines to be negotiated as part of the partnership contract.

Preferred Client Profile

During the years of space exploration, and especially following the Space Shuttle Challenger and Columbia disasters, there have been slow downs in space program activity resulting in layoffs of highly-skilled space technicians, engineers, and scientists. It is this skilled workforce and others that *SCION* intends to engage in retraining, and with support redirect into high-tech entrepreneurship careers.

The *SCION* process is a continuous, open-ended solicitation that permits companies to submit their proposed projects at any time. Projects will be considered upon submission and selected based on the company meeting *SCION's* future strategy and growthgoals. Partnership contracts with selected companies will be made based on *SCION* capabilities at the time of selection. Since applicants become public records upon submission, the fulfillment of all requirements will rest with the applicant. While *SCION* will not enter into non-disclosure agreements with applicants, *SCION* will make every effort to protect the intellectual property of applicant companies.

Applicants must meet all of the "Push-Strategy" eligibility criteria to be considered for participation in *SCION*. Once the initial criteria are met, the applicant moves to the application stage where the "Pull" strategy criteria will be applied.

The **"Push-Strategy" Eligibility Criteria** is as follows**:**

- Applicants must be Florida-based, for-profit, small, technology firms.
- Projects must have near-term commercial application, be promising, protectable, high-tech-related innovations, with specific capital requirements, having received favorable independent reviews and local community support.
- Applicants must provide evidence that they have submitted their business plans to interested private investors and explain how the *SCION* program support will help overcome investor concerns.

The Application Guidelines is as follows:

- Completed *"Push-Strategy" SCION* Application Form
- Company Business Plan *[10 pages maximum, including financials and one page executive summary]*

- Independent Documentation of the following instruments:
    a. Innovation's protectability (i.e., patents/copyrights/licenses granted or pending, etc.)
    b. Innovation's potential (i.e., reports by independent labs, sales contracts, alliances, community support, etc.)
    c. Investor interest (amount of new capital investment) and issues to be addressed (letters of support, phone calls)
    d. Company description with respect to location (Florida's Space Coast, Front Porch Florida community or designated urban infill area) or ownership (women –owned or minority-owned company)
    e. Service provider needs (company needs, and service provider qualifications, deliverables, deadlines, cost)

The "Pull-Strategy" Eligibility Criteria

- Completed *"Pull-Strategy" SCION* Application Form by a coordinated team of *SCION* experts spanning two or more partners of the *SCION* Delivery System Framework.
- Innovation-Commercialization White Paper on the proposed innovation and its market potential.

Merits and Impacts of the *SCION* Partnership

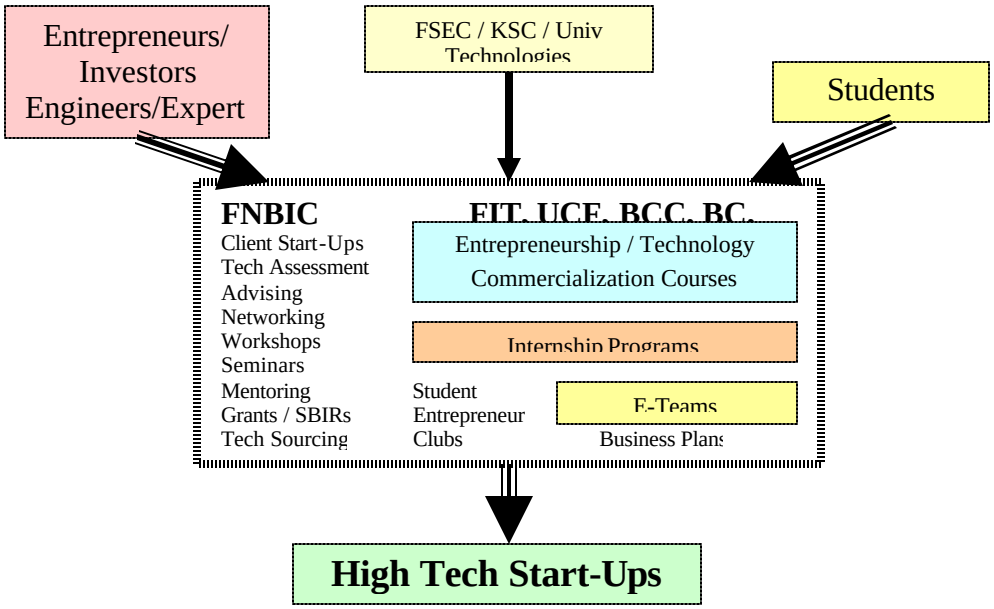
The intellectual merit of *SCION* is the development and implementation of an innovative and unique, transferable Push and Pull Model for Technology Commercialization. The *SCION* Partnership will catalyze and facilitate Technology Commercialization by Pushing Innovation through our network to attract prospective investors and also by Pulling Innovation through our network to attract targeted investors – thereby linking the innovators and sources of innovation with technology commercialization enablers, users of innovation, entrepreneurs and investors. The integration of academic education programming with experiential entrepreneurship, technology commercialization and networking activities is also an important facet of this partnership.

Among the broader impacts of this partnership is the engagement of the entire educational system from K-12 through 2-year community college programs, undergraduate and graduate degree programs in entrepreneurship and technology commercialization awareness and experiential activities. The *SCION* partnership is an organized forum for synergistic and collaborative activities between academia, established local industry, high tech start-up companies, business service providers, investors, public and private institutions to make the Space Coast area a hub of high tech entrepreneurial activity.

This partnership also addresses the integration of research, technology commercialization and education. The *SCION* partnership exemplifies the convergence of industry and education, while reflecting the commercialization and practical use of space-related technology, university research. *SCION* is led by the leading private research universities in the Southeast USA with cutting edge energy and space-science related research, and programs in computer sciences, engineering, aerospace, astronautics and the biological sciences. *SCION* involves the participation of a diverse cross section of the Space Coast academic community as represented by Bethune-Cookman College, a historical black college, and Brevard Community College with a sizeable minority population.

The *SCION* Partnership embraces the goals of stimulating the transformation of knowledge, creating a broad partnership of institutions and private industry, and incorporating sustainability features for long term growth and innovation support. *SCION* partners are confident that the E-Team activities and incentives will stimulate and generate new opportunities for education and enterprise that will have long lasting impact on the individual and collective economic well being of the central Florida region (Figure 4). The partnership will actively engage students in E-Teams from Florida Tech (aka Florida Institute of Technology or FIT), BCC, Bethune-Cookman College, and UCF and utilize the talent of underrepresented community leaders to assist the project participants. The *SCION* partners will encourage more institutions, business, industry, and community agencies to become full and active members in the partnership.

Figure 4 The *SCION* E-Team and Start-Up Development Process



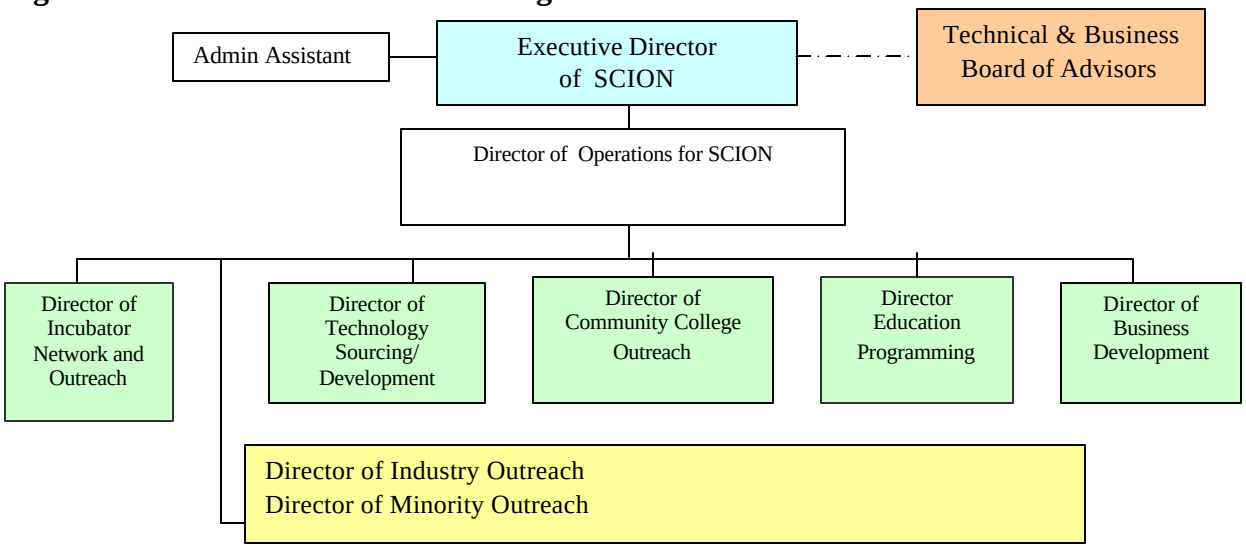
The *SCION* partners geographically span nearly 100 miles along Florida's east central coast from Melbourne to Daytona Beach, located in the counties of Brevard and Volusia. *SCION* comprises prominent research universities, a 2-year community college, a 4-year historic black college, and state agencies for research and development, a state incubator and its affiliates. Currently, each partner impacts thousands of individuals through education, training, and enterprise services, and the partners believe that working together many more thousands of persons will realize their entrepreneurial dreams. The *SCION* partners in cooperation with industry, business and government agencies will identify, support, and assist individuals in bring their technical ideas to viable market products. The Push/Pull model coupled with practical application and critical business support will result in increased economic well-being and guaranteed long-term sustainability.

Management Plan

The *SCION* partnership organizational structure is illustrated in Figure 5. Overall, the Executive Director of *SCION* (who will be selected from the main partners) will provide program

leadership and vision for the *SCION* partnership. The Management team will form the academic and industry nucleus to provide leadership, direction, and oversight of the specific goals and objectives of the *SCION* Partnership. The Director of Operations will be responsible for the daily administrative and programmatic support of the program including the coordination of community activities, liaison to academic partners, and individual participants. Along with the Executive Director and the Directors of Business Development, Industry Outreach, Minority Outreach and Incubator Outreach, and community partners, the Operations Director will be responsible for recruiting appropriate participants to build the partnership and sustain it long term after funded phase of the program. To ensure program relevance and industry participation, Technological Research and Development Authority (TRDA) and its affiliates (Space Alliance Technology Outreach Program-SATOP and Florida/NASA Business Incubation Center-FNBIC) will provide guidance and administrative support for the programmatic and participant activities in coordination with the Directors and the Technical and Business Board of Advisors.

Figure 5 **SCION Organizational Structure**



The Board of Advisors will comprise a broad spectrum of business and industry supporters and community agencies related to and interested in education and energy/space research and commercialization. Agencies supporting *SCION* include the Small Business Development Center, Florida Aerospace Finance Corporation, Florida Space Research Institute, Founders Forum, and Local Chambers of Commerce among many. Several of these agencies will have representation on the Board of Advisors. The Board of Advisors will meet monthly to monitor project success and give further direction to project PIs. It is anticipated that the *SCION* Management team will have regular communication and coordination of activities.

SCION Partner Responsibilities

The *SCION* partners will work together to realize the proposed objectives and goals with each addressing their areas of expertise. The matrix in Table 1 provides a clear delineation of responsibility for the planned activities addressing the objectives focusing on education, technology transfer, infrastructure, and minority outreach.

Table 1 ***SCION*** **PARTNER RESPONSIBLITIES**

Activities	SCION PARTNERSHIP				
	BCC	BC	UCF/ FSEC	FIT	TRDA
Education and Training Programs					
1) Develop Certificate Entrepreneurship Courses	X	X	X	X	
2) Develop Undergraduate Entrepreneurship Courses		X	X	X	
3) Develop Graduate Entrepreneurship Courses			X	X	
4) Business Plan Development & Assistance (SCION)	X	X	X	X	X
4) Business Plan Competition	X	X	X	X	
5) Entrepreneurship Speaker Series	X	X	X	X	X
6) Internship Program for Entrepreneurial Students	X	X	X	X	X
7) Establish Entrepreneur Clubs networked across State of Florida	X	X	X	X	
8) Space Congress / School Science Fair Project Commercialization				X	X
9) Push/Pull Strategy Workshops for Industry Executives				X	X
Technology Transfer					
1) Establish Network of Tech sources, developers, enablers and user	X			X	X
2) Establish Network of Tech Transfer Experts and Assessors				X	X
2) Quarterly Workshops/Presentations"Meet the Researchers" Event	X		X	X	X
3) Technology Commercialization / SBIR Seminars	X			X	X
4) Organize Space/Hydrogen/Energy Technology Fairs			X	X	X
Infrastructure					
1) Develop Private / Public Incubation Network				X	X
2) Establish Venture Lab / Tech Biz Accelerator	X			X	X
3) Funding and Incubation Support for E-Teams	X			X	X
4) Space Coast Student Entrepreneur Club	X	X	X	X	X
Minority Outreach					
1) Customize Curriculum	X	X	X	X	
2) Peer Mentorship	X	X	X	X	X
3) Establish Relationship w/FAMU Law School and Minority Bus Associations and Minority Entrepreneurs	X	X	X	X	X

Innovative Outcomes

The performance assessment of the *SCION* partnership will use an approach similar to a program review or accreditation process. Objective data and subjective assessments will be collected and tracked. A self-study document will be developed by the *SCION* management team using guidelines established by the Florida Tech Office of Institutional Research. The Board of Advisors and an external review team with a consultant will review the self-study document, program components and administration to determine the overall progress as well as identify the strengths and weakness of the project. In particular, the following steps will be followed:

- Step 1. Establish a baseline of key indicators.
- Step 2. Track the key indicators for the duration of the project
- Step 3. Prepare a self-study document.
- Step 4. Have a team conduct an external review.

Establish Baseline of Key Indicators

To determine the impact of the innovation partnership, it is essential to determine the initial baseline conditions at the outset. Baseline data already collected by The Space Coast Economic Development Council (EDC) and TRDA provides a good starting point and this data will be expanded for the baseline study. The following is an initial list of indicators that will be collected with the help of Florida Tech, TRDA/FNBIC, and EDC. During the first year of the project, data collected through surveys, extraction and analysis of institutional data, seminar feedback comments, interviews, and focus groups will be compiled and analyzed. It is expected that in creating this initial baseline, required changes to the current information systems will be identified and implemented.

Educational programs

Number of entrepreneurship courses offered in each of the 4 educational institutions
Number of participants in entrepreneurship degree and non-degree programs
Number of interns in start up companies
Number of members of underrepresented groups attending programs
Number of Entrepreneurship and Technology Commercialization courses available on-line
Number of K-12 students participating in Science Fair Project Commercialization programs
Number of K-12 students exposed to entrepreneurship outreach programs
Status of undergraduate, graduate, certificate program development / deployment

Technology Transfer

Number of engineering and technology managers in tech commercialization education programs
Number of tech transfer-related seminars hosted by SCION
Number of start-up and established companies participating in SCION partnership
Number of technologies pulled through SCION system
Number of technologies pushed through SCION system
Number of patents issued to SCION participants
Number of technology licenses and options executed
Number of companies formed from technologies licensed
Number of jobs created from startups spun off from technology transfer
Revenue generated from these new companies formed
Number of new products introduced
Licensing fees and royalty revenue received from licensing activity

Infrastructure

Number of technology-based incubators in Florida by year
Amount of information available on university technology available for licensing.
Number of start-up and established companies participating in SCION partnership
Number of startup companies in the Brevard and Volusia based incubators
Percentage of companies remaining in business after 3 years
Number and percentage of companies that are acquired or have an IPO
Number of technology fairs/events hosted
Subjective measures of the quality and effectiveness of current infrastructure support

Overall Program effectiveness

In addition to these specific tasks measurements, baseline information will also be gathered for overall program effectiveness:

Number of new (less than 2 years old) technology companies in Space Coast region
Number of Venture Capital or Angel Investment deals in the region

Number of technology companies in region
Number of new products introduced to the market from university or industry labs
Average time to market from inception for area start-up companies
Percentage of technology workers in region
Increases in university / industry partnerships
Demographic data on technology workforce

Track the key indicators

During the duration of the project and beyond, the changes to policies and procedures will be documented. Each of the preceding indicators will be tracked and documented on an annual basis.

Prepare a self-study document

The project PIs with assistance from the Florida Tech Office of Institutional Research will develop the guidelines and templates for the self-study document to be used. The data collected during the course of the project will form an essential part of the self-study. As a minimum, the following elements will be required:

1. Statement of the vision, goals and objectives of *SCION*
2. Detailed description of each task including responsibility, costs and justification / impact
3. Presentation and analysis of trend data on success indicators in education, technology transfer, infrastructure and minority outreach
4. Benchmarking data from other high tech hubs where innovation occurs more frequently
5. Critical review of the project (strengths, weaknesses, opportunities, and threats)
6. Recommendations for Continuous Improvement and Sustainability

External Team review

A team of six assessors external to *SCION* will review the outcomes of this partnership activities: two from external regions such as Boston or Austin, two from industry trade associations such as Florida Energy Office or BMTA or MEP, and two from Professional organizations such as the National Business Incubation Association (NBIA) or the Florida Business Incubation Association or the (AUTM) Association of University Technology Managers. Annual visits are recommended, with an initial visit early in the program to allow the group to assess the initial conditions. The reviewers will be chosen on the basis of their expertise and experience with successful innovation practices, their familiarity with specific targeted industries, and their familiarity with successful entrepreneurship education and incubation programs in other regions. The review team members will be provided with copies of the self-study in advance of their visit. The primary focus of the review team will be to evaluate the following elements of the project:

- The impact of education programs in entrepreneurship
- The impact of technology/engineering manager education on improving tech transfer
- The impact of the incubation network to enable successful technology start up companies
- The impact of *SCION* on increasing the technology industry base in the region
- The impact of *SCION* on increasing number of technologies commercialized in the region

- The impact of *SCION* on creating a diversified economy for the region with less dependence on the tourism and hospitality industry
- The impact of *SCION* on increasing participation by underrepresented groups

The external review team will have complete freedom to meet with students and faculty, administrators, incubator managers and clients, government and industry participants and *SCION* leaders. They may examine all project materials, programs, activities, events, data, and facilities.

Initial Impact of the *SCION* Partnership Activities

In true entrepreneurial spirit, *SCION* activities have been initiated without funding. The initial impact of the nascent *SCION* Partnership activities has been remarkable. The "Engineering Entrepreneur in the Spotlight" double-header seminar series featuring local innovators and entrepreneurs, their research collaborators and entrepreneur networking / service providers such as FNBIC, SATOP, TRDA, the Alumni Entrepreneur Alliance and other local organizations have seen increasing attendance and have become an increasingly important networking and discussion forum for local entrepreneurs, inventors, business service providers, investors, students and faculty.

Two NCIIA grants, totaling about $40K for Florida Tech have been central to the rapid increase in entrepreneurial participation by undergraduates in the College of Engineering. One of the grants funds entrepreneurial multi-university wireless senior design projects, while the other supports a series of Electrical and Computer Engineering Department senior design teams with entrepreneurial commitment. This grant requires participating teams to improve their academic entrepreneurial credentials by participating in the series of graduate engineering entrepreneurship courses offered by College of Engineering. The response to these grants has been extremely positive, with 7 of 13 entrepreneurial senior design teams this year intending to launch businesses around their senior projects. Florida Tech was awarded its first E-Team grant in 2004.

A contagious culture of entrepreneurship and high degree of entrepreneurial awareness has been created on campus. Student Entrepreneurs Clubs affiliated to SIFE and C-E-O has been formed and are very active, with weekly meetings and activities. The SBIR workshops conducted by the Florida-NASA Business Incubation Center and the Space Coast EDC drew entrepreneurs and inventors from North, South and West Florida to the Space Coast. The NCIIA "Invention to Venture" workshop held at UCF in Orlando saw an exponential increase in attendees from the Space Coast. These activities have got considerable publicity from the local media. [27, 28,29]

Conclusions

The initial impact of the nascent *SCION* Partnership is testimony to the fact that synergistic multi-disciplinary, multi-college, industry/government research partnerships can effectively provide innovative, multi-faceted education programming and networking / support activities to stimulate engineering entrepreneurship and enable technology transfer. It is anticipated that this comprehensive partnership model can be extended to other universities and geographical regions where technical entrepreneurship and technology transfer have been slow to develop. [30]

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Biographies:

Dr. Carmo A. D'Cruz is Associate Professor in the Engineering Systems Department at Florida Tech. A twenty-year veteran of the semiconductor industry, Dr. D'Cruz has concurrently studied and taught at Engineering and Business schools. His industry experience ranges from R&D and engineering to manufacturing, operations, marketing and business development. He has developed pioneering courses in Systems Engineering Entrepreneurship, Technical Marketing, High Tech Product Strategy and Technology Commercialization Strategies.

Dr. Mihalis Halkides is Assistant Professor of Management and Entrepreneurship in the School of Business at Bethune-Cookman College in Daytona Beach, Florida. He also serves as Executive Vice President at LLF Partners, a Florida-based economic development, technology commercialization and business development firm. He has extensive multidisciplinary expertise and national reputation in high tech business development, business strategy, high tech business development, international business, incentives negotiations, economic research and evaluation and economic development