



## Visit to Sid Martin Biotechnology Incubator Alachua, Florida, USA December 2013



*A few weeks back, AESA published a blog by Dr P Sethuraman Sivakumar and Mr I Sivaraman on “agribusiness incubation” and the role of extension professionals in promoting entrepreneurship through agribusiness incubators. In this meeting note, the same authors share experiences from their visit to one of the best university biotechnology incubators in USA.*

### CONTEXT

As a part of North-Florida Chapter Fulbright Association, we visited Sid Martin Biotechnology Incubator, a technology business incubator of University of Florida, Gainesville, USA during December 2013 to understand the process of successful business incubation. Sid Martin is recognised as World’s Best Biotechnology Incubator in 2013. They won the National Business Incubator Association's Dinah Adkins Incubator of the Year, Technology Focus and also the Randall M. Whaley Incubator of the Year awards and also listed as “World’s Best University Biotechnology Incubator,” by University Business Incubator, Sweden-based research group.



**Sid Martin Biotechnology Incubator, Alachua, Florida, USA**

#### **Box 1. University of Florida (UF) Sid Martin Biotechnology Incubator**

Built in 1995, UF Sid Martin Biotechnology Incubator is one of the U.S.’s first bio-business incubators and home of several successful bio-companies. Sid Martin is a technology based business incubation program, focuses on developing new biotechnology- based start-ups related to the UF’s research areas including medicine, agriculture and the chemical and environmental sciences.

Sid Martin incubator has a customized program to help biotechnology start-ups and provides laboratory space, animal facilities, fermentation facilities, greenhouses, US\$ 1 Million worth of scientific equipments, training and conference facilities. Its members include Resident Companies, Graduates (former resident companies) and other external companies called Affiliates (early or seed stage) or Associates (more mature companies) who are selected through a strict screening process.

The services are offered at a price which is far-below market prices @ \$26.00 per square feet per annum. Some of the prominent Sid Martin graduate companies are EraGen BioSciences (acquired by Luminex), Pasteuria Bioscience (acquired by Syngenta), Nanotherapeutics and AxoGen.

## WHAT WE LEARNED?

During our visit, we interacted with several officials including Ms. Merrie Shaw, Manager of the incubator. We visited several laboratories and interacted with few resident companies. Based on our observations and interactions, we could draw several lessons to improve the agricultural technology commercialisation efforts back in India. Though Sid Martin is not exclusively an agricultural technology incubator and located in a high-income country, making comparisons with the Indian agricultural technology commercialisation system can help in highlighting some of the critical gaps to improve our system. Since its inception in 1995, the Business incubation program of Sid Martin Incubator has successfully created several commercially viable technology-based enterprises in the state of Florida (Box 2). Sid Martin's success is driven by interplay of social, economic and cultural factors.

### **Box 2. Significant achievements of Sid Martin Biotechnology Incubator**

- Since its inception, the Sid Martin Biotechnology incubator has had 28 companies graduate out of the facility or be acquired by other companies and they attracted more than USD1 billion in equity investment, contracts, grants, and M&A activity.
- Since 1995, the Sid Martin Incubator has created over 1500 jobs which are 2.8 times higher than the global average.
- Sid Martin graduate companies have had a total economic impact of USD753 million on the Alachua County that helped the Florida state to stand first at the national level in terms of business development.
- AxoGen, Inc., a graduate company of Sid Martin Incubator has been awarded the 2014 North American New Product Innovation Leadership Award by the preeminent global research organization, Frost & Sullivan.

## RECOGNITION OF RESEARCH AS AN INSTRUMENT FOR ECONOMIC DEVELOPMENT

United States university research system is undoubtedly the best in the World and acts as a role model for several countries. Policy makers' recognition of the centrality of knowledge creation to economic growth through university innovations acts as a catalyst for R&D in US Universities. In 2013, the US Federal government has spent USD 40 billion for University R&D programs, whereas Indian Government allotted only USD 1.15 billion together for all research institutions including strategic, industrial and university research.

The University of Florida alone spent about USD 650 million (through public and private funding) on its research programs, which is USD 77 million more than the total budgetary allocation given for Indian agricultural research in the Union Budget 2013. This situation reflects the low importance given to scientific research in general and agricultural research in particular by the Indian government. Sid Martin receives a significant amount of UF's research funding to help the technology start-ups to develop into full-fledged enterprises.

## FOCUS ON COMMERCIALISING UNIVERSITY R&D

Commercializing University R&D has been a priority for US Universities for several decades. With the passage of the Bayh–Dole Act in 1980, which empowers the university, small business, or non-profit institution to gain ownership of an invention funded by Federal government, the technology licensing and commercialisation started growing at a faster rate.

A recent survey by the Association of University Technology Managers (AUTM) (<http://www.autm.net/>) indicates that the US Universities created about 5130 new licenses, 591 new commercial products and 705 start-up companies in 2012-2013 demonstrating their strong commercial focus. However, active commercialization of Indian R&D innovations began only after enacting The Protection and Utilization of Public Funded Intellectual Property Bill in 2008. However, most of the Indian Universities are yet to understand the technology commercialisation process.



**Discussion with Ms. Merrie Shaw, Manager of Sid Martin Incubator**

The University of Florida has a vibrant Office of Technology Licensing (OTL), which is actively involved in licensing and commercialising marketable technologies through constant interaction with established industries and prospective entrepreneurs. The technology incubation process at the Sid Martin Incubator is regulated by OTL.

### **FAVOURABLE INVESTMENT CLIMATE**

Venture capital financing is a catalyst for technology commercialisation. It is a type of private equity capital, provided to early-stage, high-potential and growth companies who can't afford funding from commercial credit institutions. Successful long-term growth for most businesses is dependent upon the availability of venture capital. The availability of venture is on the rise in USA, with an amount of USD 29.2 billion invested across 3,354 deals in 2013.

However, the venture capital in India fell from USD14.8 billion in 2011 to USD10.2 billion in 2012 across 551 deals. Despite huge volume, most of the investment was made in the infrastructure and service sectors, not on the technology entrepreneurship. The venture capital for technology start-ups is on the rise in the state of Florida. Sid Martin start-ups have immensely benefited from the 27% growth in life science venture capital (USD 103.5 million) in 2012 - 2013.

### **INCULCATING ENTREPRENEURIAL ATTITUDE AMONG YOUTH**

Entrepreneurship is more than starting a business, converting ideas into revenue; or being socially responsible. Entrepreneurship is an attitude, which represents how we think and act. It is a fearless pursuit to push the limits of conventional wisdom into previously unforeseen and uncommon directions. A sound entrepreneurial attitude is a pre-requisite for creating viable technology entrepreneurs.

In the United States, entrepreneurial attitude is systematically developed among youth through several initiatives at school and college. Technology entrepreneurship is a special kind which requires

a combination of scientific competence and business skills. The US Universities offer several action-oriented technology entrepreneurship courses for the students who develop sound ideas for technology commercialisation.

From our personal interaction with the young incubatees and other motivated youth and students at the University of Florida and Florida State University (FSU), we found that many students are willing to take the risk of developing new ventures. For example, a Technology Commercialisation course offered at the FSU during Spring Semester 2013 has produced four active licences and two technology enterprises from the classroom projects developed by the UG and PG students. An interesting observation is that a sizable number of PhDs and Postdocs of both the Universities have entered into business by creating new technology ventures in their area of specialisation. In contrast, most of the Indian PhDs and Post-docs are settling as Assistant Professors or Scientists rather than venturing into technology business.

### **RIGOROUS SELECTION PROCEDURES FOR SELECTING START-UPS**

Sid Martin follows a rigorous selection procedure to choose the start-ups. Only early stage companies with large market potential that need to conduct R&D for new products or services in the molecular life sciences are invited. The start-ups which earn significant part of revenue come from equity investments, debt, research grants, contract research, or other sources unrelated to the sale of products or services, are preferred. However, most Research Institute/ University based Agri-Business Incubators in India are focusing on developing farmer-entrepreneurs or small scale enterprises using the technologies developed at the host research Institution. There is little or no scope for joint innovation and business diversification.

### **SINGLE-WINDOW OPERATION AND PROFESSIONAL NETWORKING**

At Sid Martin Incubator, all the R&D and business development services are offered in one place. The incubator is located in the Progress Corporate Park, which has several university research establishments, public and private sector companies. The incubator also offers business development services like recruitment of suitable personnel, linking with credit agencies, IP consultancy, business training and education support, professional networking and state-of-art library facilities.

Other specialised services offered by Sid Martin Incubator are:

1. Florida Biodatabase<sup>®</sup> - A free, searchable, online database which provides latest information on Florida's bioscience industry
2. Biotechnology Advisory Committee - Vital component of the incubator, which is comprised of venture capitalists, experienced bio-entrepreneurs and service partners who assists in selection of incubates, guide companies on technical and business aspects and help them to develop professional relationships.
3. Interdisciplinary Center for Biotechnology Research (ICBR) - Serves as a world-class research support center, and provides more than 250 services in the emerging areas of Proteomics, Genomics, Bioinformatics, and Cellomics.
4. The UF Tech Connect<sup>®</sup> - Collaborates with many public and private organizations to foster new business creation by developing new programs, sponsoring events, and facilitating mutually beneficial connections between inventors, investors and entrepreneurs.

5. Florida Biologix® - FDA-compliant facility, provides cGMP manufacturing and testing services to companies and research institutions at very competitive pricing.

This approach helps the incubatees to develop functional relationships with various technology and business development companies.

## FINAL IMPRESSIONS

Sid Martin Incubator has registered phenomenal growth in the past decade owing to macro-supporting factors like massive research funding, commercial orientation, favourable investment climate and strong entrepreneurial attitude among youth as well as micro-support factors like rigorous selection procedures and single-window operation. Though Sid Martin represents a technology incubation process at a high income country in a different socio-cultural context, it offers several lessons for India. Despite being the second most populous country in the world with a high proportion of youth, Indian R&D is yet to develop effective systems for commercialising technologies developed at public sector agencies. Though a humble beginning has been made by several Indian agencies dealing with Science and Technology, Agriculture etc, through initiation of several technology commercialisation programs, there is a need to create a favourable investment climate and motivate students to venture into agri-businesses.

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