

# A Study of Incubators and Accelerators

**2016**



**Coordinating Secretariat for Science Technology & Innovation**

## COMPILED BY

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## EXECUTIVE SUMMERY

Innovation is one of the key terms for the economic development of the country. Sri Lanka has deliberated this in the budget speech 2016 as in the box. It is clearly stated that the Government is planning to establish a National Innovation Center in Sri Lanka. The concept of innovation center appeared in industrialized countries such as Western Europe and North America as early as 1970's. The main function of the innovation center is, to bring novel technology and novel development from research laboratory to market place, i.e., commercialization. It is not an easy task simply because there are many more factors such as technological and market place barriers which negatively influence the success of the commercialization. Therefore, Innovation centers acts as business incubators of a government to support the difficult part of the commercialization. Main services include,

- Intellectual property support
- Testing of economic viability
- Testing of technical feasibility
- Legal support
- Assist to develop a business plan

To establish such a center, it is mandatory to map the present incubator and accelerators in Sri Lanka. In this context, COSTI conducted a survey to collect information on incubators and accelerators in Sri Lanka and literature survey on world accelerators and incubators and their ranking system. Chapter 1 presents the literature survey and Chapter 2 is on the present system of incubators and accelerators in Sri Lanka.

### Budget Speech 2016

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“Investment in Science, Technology and innovation has failed to keep up with the growth in GDP. Its impact is evident in the low percentage of high-tech value addition to our manufactured exports (0.9 percent in Sri Lanka compared to 50-75 percent in developed industrialized countries) poor contribution of patents and research based service industry to our economy. This has to change rapidly if our economy is to be led by innovation. We expect high-tech manufactured exports constitute at least 10 percent of our exports by 2020.

# 1. INTRODUCTION

Today Sri Lanka is facing economic crisis with low economic growth. Professional migration is increasing than predicted due to the shortage of productive jobs.

The most of the countries have developed their economies through innovation which supports significantly improved, value added products or services.

The latest edition of the OECD Oslo Manual defines "innovation" as the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations.

A startup incubator is physically locating the business in one central work space with many other startup companies. In many cases, the startups in these incubators can all be venture funded by the same investor group. Particular business stays in the space as long as they need to, or until the business has grown to the scale it needs to relocate to its own space. The mentorship is typically provided by proven entrepreneurial investors, and by shared learnings of the startup CEO peers.

A startup accelerator is very similar, but has some distinct differences. Time in the space is typically limited to a 3-4 month period, basically intended to jump-start the business and then kick the business out of the nest. The cash investment into the business from the accelerator itself is very minimal but time in the accelerator should largely improve the chances of raising venture capital from a third party entity on the back end.

Since accelerators have target outputs within a short period of time, it has well developed common curriculum and well trained instructors for business coaching. These Mentors or coaches support the product development and networking with the industry. In general, after a training period of 3-6 months, business accelerator will offer an official Demo Day for fund raising.

In short, aside from funding, a major difference between accelerators and incubators is the time frame. Accelerators are designed to hasten the progress of a startup within a short, specified time. The classic structure of an accelerator is a relatively low investment (between \$5-25K), including about 4 months of guidance and support, in exchange for a percentage of the shares in the company. Incubators, on the other hand, tend to work with companies that may be earlier in the process and do not tend to operate on a set schedule.

## Budget Speech 2016 contd.

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A **National Innovation Centre** will be set up in the Ministry of Science, Technology and Research which will manage the Innovation Accelerator Fund set up as a revolving fund. It is proposed to allocate Rs 100 million as seed capital to this Centre while another Rs.3,000 million will also be provided within a period of 3 years.”

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**Table 1: Comparison of incubators and accelerators**

Incubator	Accelerator
Operated mostly by University and Non-profit organization	Operated mostly by private companies
Office (up to three years)	Office ( typical 3-6 months)
Introduction of Government funding or loan	Investment funding from private sectors (including its own funding)
Introduction of Professional services	Run by professional staffs (with different expertise)
Minor in business mentoring	Strong in business mentoring/coaching
Connect to local business	Connect to local and global business (through networking)
Introduction of University resources (if operated by University)	N/A in most cases

**Budget Speech 2016 Contd.**

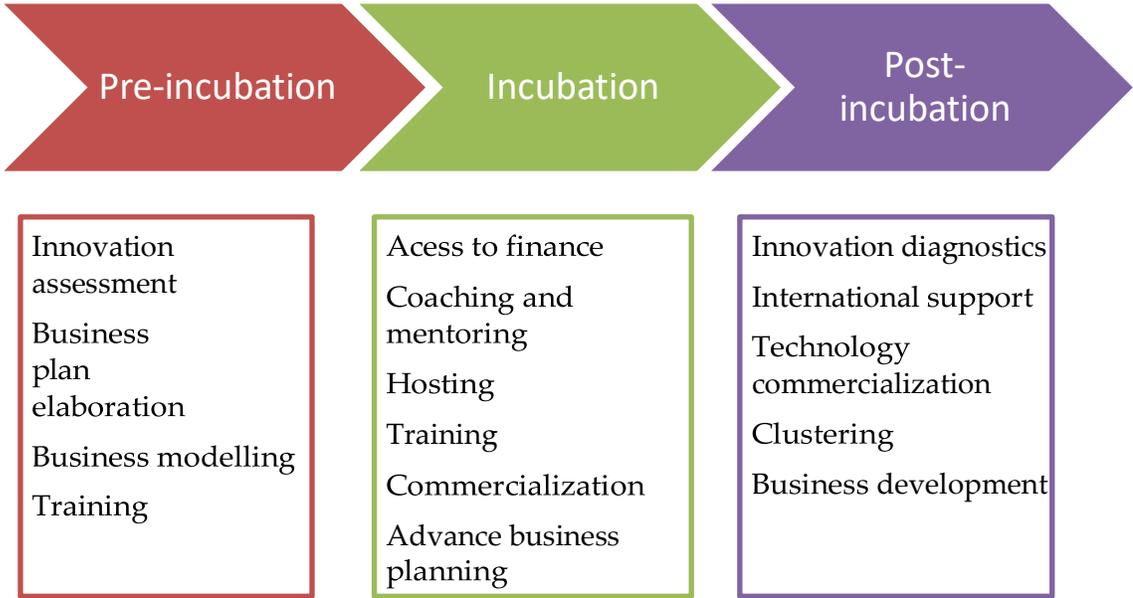
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To expedite this process, it is proposed to set up **an Innovation Accelerator**, a platform that will combine the National Innovation Programmes (NIPs) of the **Coordinating Secretariat for Science Technology and Innovation (COSTI)** and the National Thematic Research Programme (NTRP) and the technology support schemes of the **National Science Foundation (NSF)**, with clear deliverables directed towards three pillars of sustainability; economic development, social justice and the environmental quality.

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Total process of idea to market place can be divided in to three different stages such as Pre-incubation, Incubation and post-incubation. Pre-incubation usually related with the assessment of idea, training and direct one-to-one assistance which basically guide client to write a full business proposal. University affiliated incubators are acting like this. In incubation stage involves with the entrepreneurs from start-up phase to expansion phase. Within two three years of time growth of venture and probability of success as mature company can be measured. Finally post incubation is the process which is done by the accelerators. Figure 1 summarizes the process as follows,

Figure 1 the incubation process



The basic requirements to set up an incubator are as follows,

- Office Space (up to 3 years)
- Introduction of Government resources
- Introduction of Professional services in legal, accounting, technical consultant (if operated by universities), and etc.
- Minor in business mentoring
- Connecting to local business

## 2. INCUBATOR SUPPORT FOR THE GROWING BUSINESS

Incubators came to the existence because of the risk of sustaining of business start-ups. This can be explained with the typical stages of the business as follows (Davis, 2015),

- Concept stage
- Start-up stage
- Growth stage
- Later stage

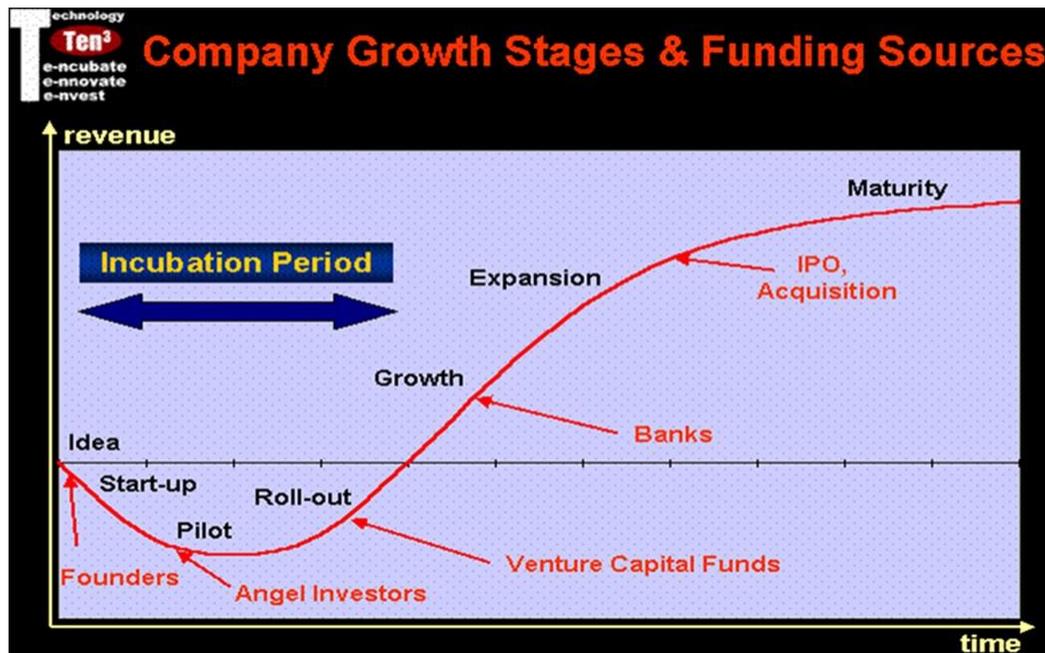


Figure 2: Company growth stages and funding sources

At the concept stage, the initial idea is explored with the feasibility analysis and target customers, partners, distributors and competitors are identified. Funding will be needed for the development of the proof of concept, establishment of business model, generate financial plan and generally launch the venture. Most possibly funding may be a grant and external support is need by others like family members, friends etc. (Churchill, 1983)

When business transforms to the start-up stage, the business model should be there to deliver product or service to attract target market. In case an organization is a simple one, the owner does everything and directly controls subordinates. The owner is the business, performs all the important tasks, and is the major supplier of energy, direction, and, with relatives and friends, capital. Still business has no or minimal revenue to survive, however prospective customers are indicating their willingness to test the products and services. In terms of funding, angel investors are interested in funding as single or in a syndicate. Sometimes seed investors come in to the picture to co-invest with angel investors. The funding received in the start-up phase will be used to,

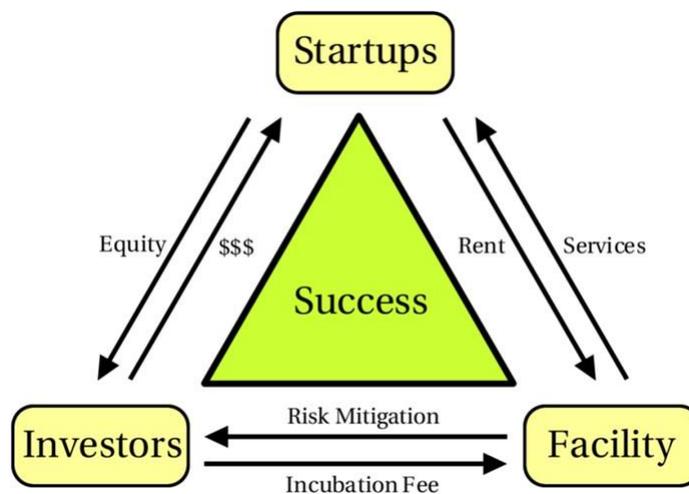
- Develop a viable product from the technology
- Build products or services for early-customer prospects to test
- Develop a marketing and sales plan for the product launch

At the growth stage, business starts to expand and attract investors. Growth-stage capital is often invested through a process of financing rounds, called the Series A, Series B and Series C rounds, named for the class of preferred shares issued to investors each time.

Series A rounds may be the seed investment round, or the round immediately thereafter. Series A funds are used to achieve the important milestone of shipping commercial products to customers.

Series B rounds are often used to scale the business from a marketing, sales, distribution, and operations perspective, Venture capital investors and other investors hope that for most businesses. The Series C round will be the final round of funding that enables the business to achieve a significant scale in revenue and to generate a positive cash flow from its operation, thus drawing interest for business partnerships (critical for further growth and attracting exit opportunities).

At later stage, some venture capital funds specialize in acquisition, turn-around or recapitalization of public and private companies that they deem to represent favorable investment opportunities. Alternatively, a later-stage venture capital firm may invest to help companies acquire another company as a way to achieve scale, or to provide liquidity and an exit for the company's founders and early investors.



**Figure 3: Sustainable model of business incubation** (Graham, 2010)

Business incubation is required to reduce the risk at the early stages of the business. Therefore incubation model is much critical for the success of the incubator as well as the success of the graduated companies. An incubator deals with three key stakeholders such as (i) Business (ii) the facility and (iii) the investors. There would be an incubation agreement drawn up between the stakeholders, but the key element holding the stakeholders together is the success of the occupant company. Success is determined as profitability, funding, or acquisition, which contribute to the local economy. The functions of the key-stakeholders are depicted in the figure 3.

## **The role of Incubator in the success of the company**

The incubation facility provides two primary functions: value-derived services to the startup and risk mitigation for the investor. Businesses at the early start-up stage join with the incubator to expedite their success. Thus, incubator plays dominant role to support the occupant business in a formal and informal way. In an informal way, incubator has dynamic staff with positive mindset for the innovations and physical facility which has bright, creative and inspired spaces with supportive infrastructure such as internet/Wi-Fi. This environment organically supports transferring of knowledge relating to the success of the business. In addition to that, incubators conduct formal knowledge transfer courses which are structured programmes with subject matter experts, trainers, and technology domain expertise. The structured incubation program is a topic in and of itself and needs to be tailored to the specific technology and market verticals that the occupant clients are targeting.

### 3. INCUBATORS/ACCELERATOR MODELS IN THE WORLD

The total numbers of functioning accelerator/incubators are hard to count, and according to Angellist counts, there are 3,338 “incubators” but these clearly include a significant percentage of accelerators such as Y Combinator, which is by definition an accelerator due to its fixed time batches, and only 309 “accelerators”. Seed-DB, another often quoted source of data, lists only 232 programs worldwide and F6s has 5261 “accelerators” programs.

The tech eco systems across the globe are so diverse. Thus different types of accelerator/incubator models are tested and run in the world. Key cities where accelerator programs exist in high numbers include Silicon Valley, New York, Hong Kong, London, and Singapore. Berlin, Bangalore and Tel Aviv are not far behind in the global race. Each of these cities has a strong ecosystem of startups and is known for particular sector strengths, whether it be fintech, cyber security, software or e-commerce (Gref, 2015).

New models are being developed around the world, a few examples include hybrids between investment, incubation and acceleration like 500Startups or Betaworks, no equity accelerators such as Mass Challenge or Bento, very short no-equity programs like Startup Weekend or Startup Bus, online programs such as 1M/1M or Society3, co-working spaces like Betahaus or Campus, or stage-agnostic larger campus models like Factory.

One business model that YC executed brilliantly is (as Paul Graham called it) the **seed fund** model. The thesis of the model is based on a combination of “high-quality filter” and “broad portfolio” approaches. The high-quality filter approach attempts to ensure that the very best minds, teams and ideas get into YC. After their acceptance, they spend three months getting to the next stage. On the other dimension, the broad portfolio approach, statistically, discovers a few breakaway companies, like Airbnb and Dropbox, in order to provide the big returns to investors. YC is funding close to 200 companies this year. So it is reasonable to say that a broad portfolio approach is fundamental to its strategy.

The 31 new launches of such programs were almost equally split with ten new launches in the U.S., eleven in Europe and the Middle East and ten in Asia Pacific. As recent research shows, the corporate accelerator landscape is growing and shifting cross-border. Western companies are increasingly launching Asia-based accelerator programs.

Many companies have launched cross-border programs in regions far away from their home base. The appeal of cross-border launches is the access to new talent pools and exposure to ideas from different markets. As more corporations launch such programs, they compete for the best ideas, which are sometimes found abroad.

As corporations feel the pressure to innovate, accelerators may be a de facto program, a good starting point. But companies are beginning to explore other formats which don't necessarily involve equity stakes or any form of venture capital. Pre-accelerator programs and hackathons are formats which allow companies to work with startups which are just at the concept stage. This provides an early look at newly formed startups before they join an accelerator or receive venture funding. Some companies are also exploring later stage programs which intentionally attract startups which have already raised a Series A round. The aim of such programs is to explore commercial partnerships or co-creation of products where both parties collaborate on prototyping or market entry.

Of the 85 corporate accelerator programs worldwide, eighteen are based in Asia. Shanghai, Hong Kong, Singapore, Bangalore, Sydney, Melbourne and Kuala Lumpur make up the seven cities where corporations have chosen to plant their innovation programs. Several of these accelerators are based outside of their company headquarters. Microsoft MSFT +0.00% Ventures, Pitney Bowes PBI +5.26%, Target TGT +1.39% Corporation and Unilever represent four large companies which have chosen to plant either launch or extend their programs to Asia. Even within the region, some companies are crossing their home country borders to launch an accelerator. Telstra's Muru-D program, DBS, Infiniti and AIA have launched programs within the region but outside their headquarters country.

The move towards Asia is likely to continue as companies look for diverse and new ideas to augment their businesses. Financial services, including insurance, and the technology sectors are the most active in launching such programs globally and in various locations. Combined, the two sectors account for 35 corporate accelerators worldwide. Retail banking and other consumer facing financial services are being digitized and scaled at a quick pace by entrepreneurs who are offering efficient and more convenient services. Accelerators provide a relatively fast and easy avenue to interact with and invest in these fintech startups.

Asia also presents some sector specific strengths depending on the city. The startup ecosystems in Hong Kong are more attuned to the potential of being an Internet of Things hub, given the proximity to Shenzhen and the factory provinces in southern China. Hong Kong, Singapore and Sydney have strong banking presence and are vying for the fintech hub lead position. Bangalore has long been known for its IT and software prowess. Companies can now leverage what was once just a back office or shared services center, as a creative, innovation hub to pilot new concepts and technologies.

Kuala Lumpur, which has recently become a more visible hub in the region, looks poised to draw technology startups from around the world. The Malaysian government has funded the transformation of **Cyberjaya**, a technology hub just 30 km south of Kuala Lumpur. The project has attracted over 800 companies, 40 of which are multinational corporations in the technology sector. Cyberjaya's website touts its value for money, a combination of lower wages and lower real estate prices, compared to other cities in the region. The government has also provided tax incentives for startups to setup their companies and private funding has been coming in from both foreign and domestic sources.

Overall, the Asia Pacific region presents a compelling angle for large corporations to consider. While home base may feel more convenient, a cross-border innovation play might be a smarter and more efficient bet (Forbes, 2015).

## 4. FEW EXAMPLES OF INCUBATORS/ACCELERATORS IN DIFFERENT COUNTRIES



In Israel, the government provides funding to business incubators, supporting its view of entrepreneurship and innovation as a chief catalyst for the country's economic growth.

The **Israel Innovation Authority** operates several incubator programs, in partnership with major companies, to provide startups with the complete infrastructure needed to develop their product. This includes office space, laboratory, scientific and technological guidance as well as business, legal and marketing consulting. Apart from a conditional grant (up to 85% of the approved budget, with a budget limit of 3.5 million NIS), the incubators also mentor startups through the product development process. These incubators are scattered throughout the country and some even specialize in specific fields, including aerospace, cybersecurity, biotechnology, and others.

Then there are the business accelerators. Unlike incubators, which enjoy state funding, accelerators are operated by companies or NGOs, both Israeli and foreign. These programs are designed to bring external innovation into corporations, from established R&D centers. Many of these companies are looking for new technologies that break the traditional mold or introduce new concepts to enhance existing products and technologies.

Today, more than 90 business accelerators operate in Israel, and this number is growing. One of the largest is the *Microsoft Accelerator*, which was also the company's first accelerator in the world.



Taiwan

### **NCTU Accelerator (IAPS):**

IAPS is the university based Accelerator program which handles nearly 60-80 startups each year. It has strongest alumni Innovation ecosystem and leads National Accelerator Program 300 companies 25 selected companied for global promotion. IAPS NCTU is the initiator of the Asia Pacific Accelerator Network (AAN).

The Centre actively integrates Multiple Jiaotong energy technology, construction and corporate strategy research partners to complete other business incubation industry mechanisms to promote government departments and the private sector together to create a pluralistic acceleration mode, and laid a solid foundation to accelerate new business creators and patent development strategy research resources. Hope that through the space presence, interactive learning, business counseling, business matchmaking, strategic planning and international breeding and other practices to accelerate the introduction of high-quality companies to help expand business opportunities and gradually establish comprehensive accelerator functions, integration of related resources to play a synergy to expand production school services energy, promote industrial technology and value-added development. More recently established among the first co-working space Hsinchu - "Yes Co- working Space" Open Studio and Yes course, an attempt to build a garage Taiwan Cafe, stationed in attracting top talent. let Accelerator Center is not just a space, but is a venture College, through carefully designed entrepreneurship "Yeser startup Program" to help young people who practice entrepreneurial vision to accelerate.



China

### **Huazhong University of Science & Technology**

UBI **global** 3<sup>rd</sup> best university incubator: The state university science park in the Wuhan East Lake High-Tech Development Zone, in the pattern of 'Multi-Universities in One Park', was established in 1999 as one of the first 22 state university science parks. The science park in the development zone comprises of 6 independent science parks including the science parks from HUST, Wuhan University, Wuhan University of Technology, Huazhong Normal University, Huazhong Agriculture University and the Great Wall Park.

These science parks have made significant achievements and become an important part of business incubator and innovative source of high-tech enterprises' sustainable development. However, with the rapid development of the science parks, the previous 'Multi-Universities in One Park' pattern cannot meet the increasing demands.

After ten years' development, the HUST science park has formed a structure with a leading industry of optoelectronics, and synchronous development in manufacturing industry, new material and software industry. During the process, the science park has prospered a group of state high-tech exemplary

industrialization bases, such as the numerical control system industrial base, the laser industrial base, the sensitive element industrial base and the optical communication industrial base.

Gradually a number of well-known enterprise brands came into being, like HUST Tech, HUST Laser, HUST Numerical Control, Tianyu Information. Now it is home to 89 companies including the well-known enterprises such as Huawei, Kingdream, Raycus Fiber Laser, Zhong Yuan Hua Dian, of which, 60% companies focus on optoelectronic industry and 70% built upon the industrialization of HUST scientific achievements or set up by HUST alumni. Above all, the HUST science park is now honored as the backbone of the Optics Valley of China in Wuhan. The enterprises in the Park, together with HUST shared about 70 scientific technology projects of national, provincial and municipal level, greatly pushing forward the university scientific research and disciplines development.

As a result, HUST Science Park is increasingly becoming the model base for university's production, study and research, the high-tech enterprises incubation center and the cultivation center for entrepreneurship.

Honored as the only state university science park approved this time in Hubei province, the HUST science park will devote itself to entrepreneurship and innovation of scientific enterprises, and spare no efforts in building its reputation as a top rank university science park.

## France



A high-level support, corporate strategy, financial engineering, sales and marketing strategy, logistic support: these skills are supported by a team of 19 people and made available to entrepreneurs together. The support offered by the BIC starts up to 2 years ahead of the creation of the company and can continue until 3 to 5 years downstream. The meeting between the contractor and his coach are regular; their frequency is a function of the news of the company.

The BIC is ISO9001 certified since 2008 and publishes an annual economic survey based on a questionnaire sent to all alumni companies.

## USA



**Techstars** is a mentorship-driven seed stage investment program. It runs a three month long program in Austin (TX), Boston (MA), Boulder (CO), Cloud (San Antonio, TX), Chicago (IL), New York City (NY), Seattle (WA), and London (UK) once each year. Additionally, It runs a several powered by Techstars programs with some of the best brands in the world. Techstars are very selective – hundreds of companies apply and only take about ten companies per city. These companies get \$18,000 in seed funding. In addition, companies accepted into the program are offered a \$100,000 convertible debt note by a group of prominent VCs immediately upon acceptance into Techstars.

Techstars founders also get great perks such as free hosting and services, a nice place to work, three months of intensive top-notch mentorship, and the chance to pitch to angel investors and venture capitalists at the end of the program. There is immeasurable value in the mentorship-driven connections and advice. The supportive network of Techstars alumni, mentors, and investors is unrivaled. The opportunity to pitch to angel investors and venture capitalists at the end of the program is provided during our Investor and Demo Day. Historically, Techstars companies go on to average more than \$1.5M raised in outside capital after the program.

Ex: Financial terms:

6% equity stake for \$18k seed capital and the option for a convertible note of \$51k-100k, Season: Summer (3 Months)



Bill Gross started Idealab in 1996 to create, build and operate companies that challenge the status quo. Idealab has prototyped and tested hundreds of ideas, and from those, has formed and operated more than 125 companies spanning a wide range of markets. Idealab accelerates technology innovation and provides the infrastructure to help early stage technology companies succeed.

Idealab itself employs about 55 people who provide support to the start-up companies. Employees of Idealab are compensated by Idealab and receive Idealab benefits. Idealab operating companies are companies that are developed from ideas created by Idealab. They are legally separate entities managed by independent teams of executives who report to their respective boards of directors. Employees of Idealab operating companies are compensated by the operating company itself (not by Idealab), and typically hold stock options in the particular company, and receive that company's benefits. -

## 5. GLOBAL INCUBATOR/ACCELERATOR NETWORKS

### **GAN-The Network (GAN-Global Accelerator Network, 2013)**

In 2010, two co-founders of TechStars—Brad Feld and David Cohen—had the grand idea to connect the top mentorship-driven, seed-stage accelerators around the world. At the time, TechStars was becoming more well-known and accelerators were popping up everywhere. Alongside the White House's Startup America Initiative, we launched to align top accelerators and create a standardized model for their success. The concept was: Six continents, 100+ cities, 70+ accelerators—1 standard for entrepreneurial excellence.

#### Program Criteria

What qualifies an accelerator program for GAN membership?

- Short-Term: 3-6 month long program
- Mentorship-Driven: 40-80 mentors
- Small class size: Up to 10-20 companies going through a program at a time
- Accelerator funding: Each program has set aside funding & resources for multiple sessions
- Terms are favorable to entrepreneurs
- Companies are not charged to join the accelerator program
- A small equity stake (usually 6-8% in the U.S. and 8-10% non-U.S.)
- Space, internet and desk/chair provided to the entrepreneurs
- Strong management teams (who are usually entrepreneurs themselves)
- Have run at least 1 successful program.

#### Quick Stats:

- GAN Compass Over 100 Graduated Companies Compass 81-100%
- Companies' Funded \$750k-1m
- Funding per Company over \$100m
- 90+ Available Mentors

Calendar 5+ Years of Operation

## **The iBridge Network**

The iBridge Network began as a pilot project in 2005 by the Kauffman Innovation Network as a web-based network for the gathering of and dissemination of innovations such as research results, reports, innovations, intellectual property, and patents. The network aggregates research materials, technologies, and discoveries on the site, providing innovation seekers with access to university-developed innovations, leading to further advances and next-generation products and services. In today's current environment, innovation and collaboration are critically important to driving economic recovery and the iBridge Network provides the tools, resources and relationship opportunities to ensure tangible outcomes. <https://www.ibridgenetwork.org>

The iBridge Network has become a global leader as an innovation catalyst with a vibrant, online community enabling universities, companies and entrepreneurs to connect, collaborate and license tomorrow's research, products and services. Many of the nation's leading research institutions utilize the iBridge Network regularly to promote, share and advance their innovations and identify appropriate partners. Since its inception, the Network has grown to over 10,000 members and hosts over 22,000 innovations from over 168 universities and research organizations.

## **The APEC Accelerator Network (AAN )**

The APEC Accelerator Network (AAN ) launched and maintained by Chinese Taipei now boasts 15 APEC entities and 47 incubators and accelerators worldwide, including the famed US-based Plug & Play. A quick review of the challenges held in the past two years showed magnificent results. 2013 winner Gogolook was successfully acquired by LINE's mother company Naver for US\$18 million while Computerlogy, Thailand-based startup and Evenesis, Malaysia-based startup received an investment of US\$1 million respectively after the Challenge. 2014 winner AirSig also saw an investment of US\$2 million from Foxconn after its participation in the Intel Global Challenge 2014, making AirSig the most valuable start-up company ever seen in Chinese Taipei. These success stories are solid testimonies to the effectiveness and benefits of AAN and APEC Challenges as a way to gain early-stage funding for start-ups and a springboard to the international community.

In the APEC Challenge 2015, four areas of innovation competition have been revealed by Intel and Siemens. They are 1) Interactive Learning, 2) Immersive Collaboration, 3) Smart Mobility, and 4) Smart Home. The four areas are believed to be where breakthroughs will be made for the information technology and industry of the next generation.

## **6.STATUS OF SRI LANKAN INCUBATORS AND ACCELERATORS**

### **1. Electronics incubator-University of Moratuwa**

Sri Lanka set up first technology incubator for electrical and electronic industry in 2013. Ministry of Industry and commerce provided initial capital of US\$90,000 to launch the E&E incubator which is expected to serve between 5 to 10 innovators and entrepreneurs at first. The objective of the setting up of the incubator is to verify the commercial viability of prototyped new product and development of business plan and commercialization. According to the 2009 data Sri Lanka's \$141 million E&E industry (2009 data) consists of home appliances, home appliances (electronic), electrical parts, industrial products (electronics), and industrial products (electrical). There are more than 100 firms engaging in E&E, employing about 10000 workers. Products are mainly exported to USA, UK, Australia, Finland, Singapore, Taiwan, India, Pakistan, Italy, Belgium, the Middle East, and Africa. India and Pakistan identified as untapped potential markets.

### **2. Blueprint for SME innovation accelerator**

The international innovation confab in Colombo was co-organized by the National Enterprise Development Authority (NEDA), Sri Lanka's Coordinating Secretariat for Science Technology and Innovation (COSTI), and the Tokyo-based Asian Development Bank Institute (ADBI) to draw a blue print for a ground-breaking Sri Lankan SME Innovation Accelerator. The proposed accelerator is expected to enable SMEs in R&D and demonstrate new marketable products based on new technological applications.

### **3. Conceptnursery.Com**

The Sri Lanka Technology Incubator also known as conceptnursery.com located on the 8th floor of the SLIIT Campus, is established to assist and promote IT enterprises, Innovators and IT start-up companies by providing access to business and technical expertise, financial resources, international industry contacts, communication facilities, training in IT, business advice and business plan development and marketing.

These Companies/establishments use the Institute's state of the art facilities including modern networking infrastructure and also have access to a rich pool of well-trained expertise.

SLIIT students have the opportunity to work in this facility by engaging themselves in research and development projects undertaken by these resident companies. The exposure will provide the students with valuable experience in a working environment. Selected students will also get a chance to earn an extra income by engaging in fruitful work.

#### 4. Colombo Science and Technology Cell

“University of Colombo Science and Technology Cell (UCSTEC)” was formed in 2009 in order for the Faculty of Science to interact with the Sri Lankan industries. This is a joint venture by 7 Departments of the University namely,

- Department of Chemistry
- Department of Mathematics
- Department of Nuclear Sciences
- Department of Physics
- Department of Plant Sciences
- Department of Statistics
- Department of Zoology

The Board of Directors of the Cell consists of 9 members. The Dean of the Faculty is the Chairman and Head or a nominee from each of the 7 Department serves as Directors. The nominee elected at the Annual General Meeting functions as the CEO. The Board of Directors is serving the Cell without any remuneration and the profit is invested in order to sustain the office at the end of the project period.

The main objectives of the cell are,

To promote and serve manufacturing and service industries as well as agriculture in Sri Lanka through research, development, innovation, scientific services and knowledge and technology transfer.

To foster entrepreneurship among members of the University community

To enhance opportunities for the initiation of research projects and consultancies aimed at economic growth.

To facilitate the obtaining and protection of rights to intellectual property developed through the company.



UCSTEC undertakes projects in the following areas.

Agricultural/horticultural

Chemical

Educational (Science related, A.L. and above)

Electrical/Electronics

Environmental

Financial and actuarial

Industrial

Medical/Pharmaceutical

Microbial

Statistical/Computational

Some of the USTEC success stories are,

Bio-Ethanol Feasibility Assessment (B.C.R. Trading Company (Pvt) Ltd.)

Development of a Toilet Bowl Cleaner (Darley Butler)

Analysis of Total Available Phosphorus Content in Bio Fertilizers (Bio Power Lanka (Pvt) Ltd)

Testing of Contaminated Air (UNFPA office)

Value Addition to Graphite (Kahatagaha Graphite Lanka Ltd)

Development of Stable Natural Food Colours (CCS)

## **5. The PIM Genesis business incubation Centre**

PIM Genesis is the first-ever business incubation centre initiated by a State sector higher education institute in Sri Lanka. It was a final year entrepreneurship skills project of two MBA students of the Postgraduate Institute of Management. The genesis of 'PIM Genesis' signifies the need to be entrepreneurial in enriching the economy.

According to its website ([www.pimgenesis.com](http://www.pimgenesis.com)), PIM Genesis is the business incubation facility which specifically targets its mission towards grooming the start-up businesses initiated by the PIM MBAs. This facility assists the PIM entrepreneurs by providing facility based services (work space and utility services), creating opportunities for networking and partnering with the leading local business firms as well as other business professionals and also by providing mentorships.

The vision of the PIM Genesis is to be the master flow of new local businesses to support the national economic development. Its mission has been stated as to promote entrepreneurship among PIM MBAs,

enhance the number, quality and the sustainability of the start-ups by PIM entrepreneurs, and develop the strongest university-based business ecosystem.

Among the main objectives of PIM Genesis are to:

- Increase the number of entrepreneurs developed by the PIM up to 40% per year by 2020
- Connect the PIM students, the Faculty and the Alumni together to generate synchronised outputs in the field of new business development
- Reduce the entry barriers of the business start-ups by PIM MBAs by providing facility based services, networking and mentoring
- Partnering with other leading local and regional business incubators and other service providers that supports businesses and to expose start-ups to the local investors in order to provide opportunity to initiate partnerships. In doing so, it aims to create a new PIM culture in supporting start-ups

## 6. SLINTEC

SLINTEC specializes in Nanotechnology research & development to make innovative products and add value to natural resources. SLINTEC currently focuses on five primary research areas, namely Agriculture, Apparel, Water purification, Healthcare and Mineral resources.

*Establishing a pre-incubation programme in the nanotechnology park:*

Pre-incubation, in the context of science and technology parks, is a process that focuses on finding entrepreneurs who have ideas for driving technology up the value chain. It is specific in that it is concerned with creating a micro-company that has the potential to become a SME, and ideally one with a global reach and high growth rate.



The strategic and operational objectives of pre-incubation programme in the nanotechnology park include:

- Establishing links between academic and incubator training courses.
- Applying new effective ways and methods for the commercialization of ideas.
- Reducing the risks associated with establishing new companies/start-ups.

- Increasing product quality through a competitive approach.
- (In most cases) initiating from-scratch production in any field as a response to the real needs of the local community aimed at reducing industrial imports.
- Assessing the economic validity and technical feasibility of business ideas.
- Drawing up a business plan outlining the actions, strategies and related information to meet business growth objectives.
- Ensuring a suitable business team is put together.
- Providing necessary business training.
- Providing technical advice and consultation
- Selecting technologically-innovative business ideas with high potential for success.



Each of these objectives is about risk reduction and revolve around the uncertainty concerning technology, its market, the competition, and investment including the cost to develop a product or service and bring it to market and the cost to breakeven., For the pre-incubation programme there is a need for both the process with associated facilities and management team as well as interested entrepreneurs. The main focus is on the support programme; however, there needs to be a minimum level of facility to provide a focal point for this programme.

### *Facilities*

The majority of pre-incubation facilities are recognized as a business unit and based in an office space specifically for pre-incubation activities in an existing research institute or university. The typical size of the space is approximately 75 sq. m, which is enough for 12 workstations with a desk and chair plus some lockable storage, a small office with a desk for an administrator/manager, two private meeting rooms. Each desk needs access to a broadband service, space for a computer workstation with file security (although today most entrepreneurs have their own lap top) . Each work station needs a telephone with a direct dial number that is dedicated to the entrepreneur. Many of these facilities also have a tea or coffee room. Others have a breakout area with coffee tables used for socialising. Secure 24/7 access is preferable because entrepreneurs work long businesses hours when they are developing their business plans.



If some technical work is expected, soldering or other laboratory work, then space needs to be allocated to this but it is suggested that this is not actually furnished for this work at the start of the project because what may be required by any business will be bespoke and it is impossible to pre-determine what this might comprise.

The pre-incubation programme assists start-up companies by providing:

Office space: a working benchmark might be to allocate each pre-incubatee partitioned or open space of approximately 6-9 m<sup>2</sup>; however, this does depend on the nature of the company.

Information services including internet and access to university libraries – ICT support.

### *Staffing*

A balance needs to be reached on manning pre-incubators. Over manning adds cost and under providing, results in no services.

In locations such as a university or college it would be normal to have an on-site administrator that manages the unit and provides administrative support to entrepreneurs. Manning the centre for 24/7 access is not possible which means the room needs to be secure for after hour use by entrepreneurs. In addition it is suggested that the position of Pre-incubation manager be reserved for a graduate. Depending on costs it may be appropriate to create this pre-incubation programme in association with a university Industrial liaison office or research and enterprise service. This role could be to set up and manage all pre-incubators programmes in Sri Lanka but would be based in Homagama. Establishing this through a university team would help the nanotechnology park to connect to the both the business base, universities and research institutes in the country.

The administrator's role would include preparing occupancy contracts, ensuring payment for the use of the space, making sure the IT equipment is fully operational, dealing with booking meeting rooms, security, maintenance and financial administration, as well as providing advice in recruiting new tenants, creating a list of business mentors etc. Other options include recruiting overseas advisors to provide initial support for the programme. It is suggested that "clinic" times are prearranged with a booking system to manage the process.

### *Timeframe*

Pre-incubation takes place before the actual start-up of the business and generally lasts up to 18 months, though it may last longer.

Activities in both these programmes usually combine providing space in which companies can develop and a range of relevant services to support entrepreneurs as they develop a commercially founded activity.

The pre-incubation process is usually confined to preparing a business plan which has the potential for securing finance. The incubation process is normally associated with implementing the business plan. However, there are no real clear boundaries as different parts of the company may be doing both at the same time on different product or service lines.

The extent and scale of this process varies widely depending on whether the technology or product is being driven by a market pull or technology push, its functionality and performance against that functionality, how this is demonstrated and how much indifference or interest the market shows in the change. It also involves creating the right company with appropriate personnel to progress the business.

This process requires a good source of as many ideas as possible, open minded business, the ability to test the ideas against the market, and then if appropriate, mobilize the resources necessary to develop the company.

#### *Gateway criteria*

There are normally gateway criteria required for entry into pre-incubators. A sample contract for reviewing access to and occupation of pre-incubation is attached in appendix 3 for reference. Admission to the pre-incubation period may be granted to teams of university graduates (sometimes with academic or industrial peers on their team), members of academic staff or people from the business community that have a business idea that they want to pursue.

Normally these ideas should have the potential for high growth and global reach; however, in the context of developing countries, it is appropriate to take in groups which have ideas, which may be new to the world, region or country, that have the potential to be used in the domestic or regional market. Not all companies are founded on disruptive technologies; there are examples of some successful enterprises that are founded on incremental innovation. Criteria include:

The business must have global reach potential for example, address international markets.

Have the potential for high growth.

Must be technology-based.

Ideally, it should be linked to the technology base in the host university; however, that is not always essential.

Preference may be given to those that have the potential for production but experience has also shown that consultancy businesses can be used as revenue generators by entrepreneurs while they are building an intellectual property-based business.

The major activity in the pre-incubation period includes the development of a business plan that can be used to secure finance. At the end of a successful pre-incubation period those involved should have raised finance for the next stage of the process which would be to register their company in the incubator.

### *Finance*

The financing allocation for capital and revenue expenditure needs to be calculated for each tenant. Costs can be calculated based on price per workstation for equipment, and for services based on local costs such as broadband, telephones, staffing, marketing and administration. It is suggested that when the finance plan is established and refined that it should be submitted to the aid/donor agencies for funding.

It is also important that the project fits into emerging science and technology plans and or innovation systems in order to have some criteria to determine whether or not to fund a business plan when this has been prepared. It is suggested that technologies that coincide with national priorities on technology may be eligible for larger sums of funding than those which are meeting other priorities.

### *Marketing plan*

The nanotechnology park needs to raise its profile which means that it requires some marketing material to communicate its purpose and attract new companies/projects. The minimum information to communicate includes: the entry criteria, prices, services and progress reporting (to enable the pre-incubation programme to be managed and not clogged up with low progress companies). If also for example the pre-incubation programme will focus mainly on IT or biotechnology then this needs to be communicated or if the park has particular equipment, etc this should be highlighted.

### *Operational plan*

The operational plan is comprised details of how the pre-incubator will operate. A number of operational models have been developed for incubators. Two examples are noted in appendix 2. The most common is to attract in pre-incubatees after they have formed a company.

### *Exit policy*

The exit policy from a pre-incubator beyond the obvious of a choice by the entrepreneur does need managing.

Most pre-incubators have a review panel for the companies in the park. Meetings with the review panel are meant to help guide companies but also assess their performance.

The maximum stay in most pre-incubation centres is 18 months after which time the company must move to alternative space. Options are to move into the incubator centre by taking an individual office space from which to operate and there come under the guidance of a higher level of business support; or continue to develop their business in an alternative shared work space but receive less guidance.

## Business education for capacity building

At the same time as the development of the pre-incubation programme on the nanotechnology park, it is suggested that educational programmes be put in place to reinforce and promote the innovation culture. Special measures are required to develop a new generation of entrepreneurs, who can start and sustain their own enterprises. These measures may include developing entrepreneurship courses and training in routine educational curricula which can be deployed across all universities in Sri Lanka.

As a first step, the requirements for improving the profile of university graduates in terms of their business skills according to real world requirements must be assessed. The results from this assessment can be used in the design of courses and the improvement of the curriculum. A sound knowledge of management and management skills along with an understanding of economic principles will be a must for such university courses. Within this framework, an understanding of social systems, national laws and regulatory systems, social psychology, general trade and market practices prevalent in the society, potential sources of assistance and opportunities, and banking and funding systems are among the major components that can be incorporated in the courses.

Each pre-incubatee is essentially characterized by its pivotal business idea. This is the main activity field from which the future SMEs intends to build its revenue base. Certain companies may require assistance to manufacture their product prototypes which can be displayed to potential users for full production lines.

Special training workshops during the pre-incubation period can be offered by both local and international experts who can be invited for short periods of time to offer these courses. Sri Lankans in the diaspora are a good source of these skills and knowledge.

The business plan prepared by pre-incubatees may include identification and statement of market opportunities, recognition of challenges, economic assessment, market evaluation, identification of target competitive markets, demand analysis, development of advantageous products to gain a competitive advantage in the its market.

It is normal that any pre-incubation programme should help pre-incubatees to develop a sound and working business plan that can attract funding and secure admission to the incubation programme. It can also be used for a remedial strategy for applicants who have a good idea but the business plan needs further refinement in order to meet the standard criteria for the incubation programme.

Examples of capacity building modules and courses can include:

**Entrepreneurship and creativity:** helps define the process of entrepreneurship and provides insights into the various theories of entrepreneurship and their roles and functions, as well as the factors affecting its development.

**Entrepreneurial strategy (as opposed to a corporate strategy):** provides insight on the skills and competences required to lead and manage an entrepreneurial venture in the 21st century.

**Entrepreneurial marketing:** links the core business discipline of marketing to the concept of entrepreneurship.

**Organizational behaviour:** integrates the study of forms, structures and processes of organizations the psychology of work from a human perspective and is intended to provide insights into the fundamentals on which organizations are built, and provide analytical processes for understanding behaviour at work and managerial processes. **Financial management:** provides the foundations for

understanding, analysing and interpreting financial information, including the application of accounting principles and financial theories in decision making across management disciplines and modern business organizations.

In addition there are topics such as creative industries, innovation management, social enterprise and social entrepreneurship, e-business, project management, and international trade.

Full incubation

At the point when it is decided how the technology should be taken forward up the value chain there are a number of options. The alternative to the lower risk intellectual property licensing option is company formation. This would normally be adopted where:

The technology being commercialized may be too embryonic to be licensed.

There may be no existing players in the market who may be attracted to the product.

The full value has not been added to the technology and additional basic development is required.

There is a concern about keeping things local for the sake of economic development.

Business incubation is a process that offers new, recently formed or existing small businesses a package of business development support services, appropriate business infrastructure and access to a team of skilled business support practitioners that assist these companies to develop tradable assets, through any stage in their development, but particularly when they are at a vulnerable stage in their development.

## 7. The Surrey Technology Centre, (The Surrey Research Park).

This building provides pre and full incubation and has produced 40% of the tenants in other buildings on the site.

- Technical services including access to university labs and/or workshops and services provided through networking with related research centres.
- Professional services including dealing with intellectual property, marketing, staffing requirements, funding issues and may include negotiations with the public and private sectors for resources.
- Access to meeting rooms.
- Training workshops on entrepreneurship and management of SMEs. These can be extended to both undergraduates and post graduates. Examples of courses include: innovation and entrepreneurship; innovative ideas and opportunities; teamwork; business plan development; and management skills.
- Access to coaching and mentoring to build the capacity of people with business skills.

Other courses for incubation/post-incubation programmes that can be offered, include: fundamentals of fiscal management; strategic planning and management; human resource management and organizational behaviour; technology management; IT and E-commerce; fundamentals of operations and quality management; business communications management; project

and manufacturing management; purchase and procurement management; new product development; assistance in developing a business plan; assistance with improving a pitch to a funding agent: and assistance with raising finance.

An accessible fund to support the development of appropriate spin out and start-up companies.

#### Allocation of development services

Incubators attract both entrepreneurs wanting to develop a company or commercialize a technology, and business people that have an interest in supporting the process. Of the companies that come into the incubation process looking to build a business there is wide variation: in the skills that they have within the teams they bring with them; the technology they are trying to commercialize; the scale and scope of the market that they are going to address; and the time it is likely for them to get to market. This variation means that the amount of resource that needs to be put behind each company will vary. If only limited funds are available to provide the business development support services, it is suggested that an initial screening process is put in place to determine which companies would best benefit from the investment in building the most productive companies.

The other group of businesses represents an important resource as many of those coming forward to help have significant business experience that can be used to support growing companies. A flow chart showing the screening process is characterised below. It is suggested that companies are given a different status according to the likely outcome of their development.

## 8. Open University of Sri Lanka

It was observed that the findings arising from student research and experimental development projects are not taken beyond a publication. These outcomes are not exploited to create commercial successes. Therefore students need support as well as the guidance to take their products and projects to the next stage of growth and expansion targeting local and international market. In order to provide this service, the open university of Sri Lanka opened a dedicated space at the campus to host selected startups for acceleration.

An entrepreneurship programme was initiated to encourage staff and students to create value through their findings by promoting entrepreneurship by Industry Liaison Center (ILC) and the Faculty of Engineering. Students and past graduates from the Faculty of Engineering Technology were invited to submit business plans. They were given an opportunity to follow an entrepreneurship programme free of charge. The intension of the program was to transfer the necessary enterpreurial skills to the students of the Technology study programme with objective of preparing students to establish commercially viable enterprises. It is expected that some of the business plans will be implemented with investor funding.



The open university of Sri Lanka is a strategic partner of the Startup Sri Lanka, an initiative by SLASSCOM Innovation and Entrepreneurship Forum. This is partnering with Infocomm Investments Pte Ltd (IIP), the investment arm of the Infocomm Development Authority of Singapore (IDA) to support and grow Sri Lankan tech start-ups. This initiative will help local start-ups to explore and access new markets, developing current company offerings, helping to overcome the cultural differences and the lack of both local connections and pave access to the international market.

## **9. Proposed University of Wayamba/NEDA incubator and technology transfer center (Wijewardhana, 2013)**

NEDA has collected opinions of Academia and SME owners about the potential enterprise sectors to be incorporated in the incubator. This is because, the enterprise sectors play a key role in determining the success of an incubator. Hence, NEDA conducted separate stakeholder workshops at the University of Peradeniya (UOP) and at Wayamba University of Sri Lanka (WUSL) for Academia and SME Owners of the relevant regions. Enterprise sectors that have been selected to establish at the ITTC–WUSL are Agri – Bio – Plantation and Advanced Materials as follows,

Dedicated Packaging Facility (liquid, powder, vacuum, solid material, tetra pack, canning)

Animal Husbandry (total mixed ration)

Dairy Product Development and Processing (incubator, cold room, filling machines)

Processing & Value Addition of Horticultural and other Produce (jam, cordial, sauce, syrup, cashew nut, peanut butter, coconut water, Dryer)

Meat and Fish Processing Dr. O.D.A, N. Perera, Dr. Shermila Jayathilke

Services provided by ITTC to Tenants / Incubates

Total solution for packaging (Residential tenants and nonresidential tenants )

Physical space

Machineries and equipment

Technical knowhow/ assistance / consultancy (WUSL and other research institutions)

Business management services (Business planning/ marketing assistance (market promotion and e-marketing) / Business registration) (NEDA)

Financial linkages ( Bank loans / Venture capital options/ grant facilities) (NEDA & MIC)

Security (WUSL)

Utilities (Water / Electricity / WiFi)

Services provided by WUSL to ITTC Tenants/ Incubates

Library Usage

IT facilities (Internet / Web development/ e-marketing)

Product/Process Testing facilities

Laboratory facilities

Technical consultancy

Facilitation to obtain product and process quality certificates

Skill development training (Technical, Entrepreneurial, managerial etc) in collaboration with NEDA

Facilitation to obtain product and process Intellectual Property in collaboration NEDA & MIC

Post-incubation services: (Marketing assistance with NEDA / technical consultancies / laboratory testing / energy management / waste management etc.)

Appointing a technical manager (a demonstrator 1 year term basis)

## **Terms used**

**Equity:** The value of the shares issued by a company.

**Equity stake:** The percentage of a business owned by the holder of some number of shares of stock in that company. Shareholders of a significant equity stake in a company may exercise some level of control, influence, or participation in the activities of the company.

**Seed capital:** The funding required getting a new business started. This initial funding, which usually comes from the business owner(s) and perhaps friends and family, supports preliminary activities such as market research, product research and development (R&D) and business plan development.

**Convertible notes:** are often used by angel investors who wish to fund businesses without establishing an explicit valuation of the company in which they are investing. When an investor purchases equity in a startup, the purchase price of the equity implies a company valuation.

## 7. ANNEX :INCUBATOR AND ACCELERATOR RANKING SYSTEM



### World Top 25 University Business Incubators 2015

A Top University Business Incubator is an incubator managed or formal affiliated with a university, that provide better value for the ecosystem and their startup clients than their regional or global peers. They stand out from average-performing incubators with better outcomes on economy enhancement, access to funds and post incubation performance indicators.

#	Incubator	Country	University
1	SETsquared	United Kingdom	University of Bath
			University of Bristol
			University of Exeter
			University of Southampton
			University of Surrey
2	Innovation Incubation Center Chaoyang University of Technology	Taiwan	Chaoyang University of Technology
3	The DMZ at Ryerson University	Canada	Ryerson University
4	1871	United States	Northwestern University
			University of Chicago
			University of Illinois
			Loyola University
			Illinois Institute of Technology
			DeVry University
5	PoliHub Startup District & Incubator	Italy	Polytechnic University of Milan
6	Innovate Calgary	Canada	University of Calgary

7	INiTS Universiteres Grunderservice Wien	Austria	Vienna University of Technology
			University of Vienna
8	ATP Innovations	Australia	University of Sydney
			Australian National University
			The University of New South Wales
			University of Technology Sydney
9	YES!Delft	Netherlands	Delft University of Technology
10	Uppsala Innovation Centre	Sweden	Uppsala University
			Swedish University of Agricultural Sciences
11	UtrechtInc	Netherlands	Utrecht University
			University Medical Center Utrecht
			University of Applied Sciences Utrecht
12	Huazhong University of Science and Technology National Science Park	China	Huazhong University of Science and Technology
13	Instituto Genesis PUC-Rio	Brazil	Pontificia Universidade Catolica do Rio de Janeiro
14	Business-Incubator of National Research University Higher School of Economics	Russia	National Research University, Higher School of Economics
15	National Taiwan University Innovation Incubation Center	Taiwan	National Taiwan University
16	TEC Edmonton	Canada	University of Alberta
17	Instituto Internacional para la Innovaci3n Empresarial (3IE)	Chile	Universidad T3cnica Federico Santa Maria
18	ITU SEED (ITU CEKIRDEK)	Turkey	Istanbul Technical University
19	China Agricultural University National University Science	China	China Agricultural University

	Park		
20	Hefei National University Science Park	China	Hefei University of Science and Technology
			Anhui University
			University of Science and Technology of China
21	National Taiwan University of Science and Technology Business Incubation Center	Taiwan	National Taiwan University of Science and Technology
22	BLC3 Incubadora	Portugal	University of Coimbra
			University of Minho
			School of Technology and Management of Oliveira do Hospital
			University of Beira Interior
			University Nova Lisbon
			Catholic University of Portugal
23	Parque Tecnológico de la Salud de Granada (PTS Granada)	Spain	University of Granada
24	Chrysalis	Chile	Pontificia Universidad Catolica de Valparaiso
25	Instituto Pedro Nunes (IPN)	Portugal	Universidade do Coimbra



## World Top 10 University Business Accelerators 2015

A Top University Business Accelerator is an accelerator managed or formal affiliated with a university, that provide better value for the ecosystem and their startup clients than their regional or global peers. They stand out from average-performing accelerators with better outcomes on economy enhancement, access to funds and post acceleration performance indicators.

#	Accelerator	Country	University
1	Entrepreneuriat Laval	Canada	Laval University
2	NDRC	Ireland	Trinity College Dublin
			University College Dublin
			Dublin City University
			Institute of Art, Design & Technology
			National College of Art & Design
3	Mass Challenge	United States	Boston University
			Northeastern University
			Worcester Polytechnic Institute
4	iMinds	Belgium	Katholieke Universiteit Leuven
			Ghent University
			University of Antwerp
			Hasselt University
			Vrije Universiteit Brussel
5	Startup-accelerator iDealMachine	Russia	Saint Petersburg State University of Information Technologies, Mechanics and Optics
6	Knowbel Incubator	Italy	University of Modena and Reggio Emilia
7	Center of Industry Accelerator and Patent Strategy	Taiwan	National Chiao Tung University

8	Melbourne Accelerator Program	Australia	University of Melbourne
9	ITESM Accelerator Network	Mexico	Monterrey Institute of Technology and Higher Education
10	m:lab East Africa	Kenya	University of Nairobi



## World High Impact Incubation Programs 2015

A High Impact Incubation Program is a successful business incubator or accelerator that is managed, affiliated or associated with a university, which has high impact on its ecosystem and provides higher value to their startup clients than their regional or global peers. They stand out from average-performing incubation programs with better outcomes on economy enhancement, access to funds and post incubation performance indicators.

	<b>Incubation Program</b>	<b>Country</b>	<b>University</b>
1	Alcazar & Compañía – NETBA	Mexico	Universidad de la Comunicación
2	Emprende FCH	Chile	Universidad Diego Portales
3	Pulsar Venture Capital	Russia	Kazan (Volga region) Federal University
			Kazan National Research Technological University
			Kazan National Research Technical University named after A.N.Tupolev
			Kazan State Agrarian University
			Kazan State University of Architecture and Engineering
			Tomsk State University
			Perm State University
			Innopolis University
			Higher School of Economics
			Ural Federal University
4	Startupbootcamp HighTechXL	Netherlands	High Tech Campus Eindhoven / Eindhoven University of Technology
5	TechBA	Mexico	Arizona State University
		United States	IC2-The University of Texas Austin

		Canada	Acton School of Business
		Spain	Universidad Autónoma de Madrid
			Universidad Complutense de Madrid
			University of Montreal
			McGill University
			University of Quebec
			ITESM – Monterrey Institute of Technology and Higher Education
			École de technologie supérieure
			University of Washington
			Stanford Business School
			UBC Vancouver Film School
			British Columbia Institute of Technology



## World Top 10 University Associated Business Incubators 2015

A Top University Associated Business Incubator is an incubator with no formal affiliation but works closely with a university, that provide better value for the ecosystem and their startup clients than their regional or global peers. They stand out from average-performing incubators with better outcomes on economy enhancement, access to funds and post incubation performance indicators.

#	Incubator	Country	University
1	Dublin Enterprise & Technology Centre (trading as Guinness Enterprise Centre)	Ireland	Dublin City University
			Trinity College Dublin
			UCD Smurfit School of Business
			BCFE Ballyfermot College of Further Education
			Dublin Institute of Technology
2	Youngstown Edison Incubator Corporation (DBA Youngstown Business Incubator)	United States	Youngstown State University
			Kent State University
			Hiram College
			Case Western Reserve University
			University of Akron
3	Los Angeles Cleantech Incubator (LACI)	United States	University of California
			University of Southern California
			California State University, Northridge
			California Institute of Technology
			Otis College of Art & Design
4	Montpellier BIC	France	University of Montpellier
5	H-FARM	Italy	University of Padova
6	INCUBIO	Spain	Polytechnic University of Catalonia

7	Technoport	Luxembourg	University of Luxembourg
			DFKI
			Université Louvain-la-Neuve
			Université de Lorraine
			Université de Liège
8	Residentship Program of Ingria Business Incubator	Russia	National Research University ITMO
9	InQbator of Poznan Science and Technology Park	Poland	Adam Mickiewicz University
10	THE HIVE	Italy	University of Camerino
			Universitatea Danubius din Galati

## Asia-Pacific Top 3 University Business Incubators 2015

**Top University Business INCUBATOR** is an incubator managed or formal affiliated with a university, that provide better value for the ecosystem and their startup clients than their regional or global peers. They stand out from average-performing incubators with better outcomes on economy enhancement, access to funds and post incubation performance indicators.

#	Incubator	University	Country
1	Innovation Incubation Center Chaoyang University of Technology	Chaoyang University of Technology	Taiwan
2	ATP Innovations	University of Sydney Australian National University The University of New South Wales University of Technology Sydney	Australia
3	Huazhong University of Science and Technology National Science Park	Huazhong University of Science and Technology	China



## Asia-Pacific Top 3 University Business Accelerators 2015

A **Top University Business Accelerator** is an accelerator managed or formal affiliated with a university, that provide better value for the ecosystem and their startup clients than their regional or global peers. They stand out from average-performing accelerators with better outcomes on economy enhancement, access to funds and post acceleration performance indicators.

#	Accelerator	University	Country
1	Center of Industry Accelerator and Patent Strategy	National Chiao Tung University	Taiwan
2	Melbourne Accelerator Program	University of Melbourne	Australia
3	Chung Yuan Christian University Innovation Accelerator Center	Chung Yuan Christian University	Taiwan

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