



Tagore Centre for Green Technology Business Incubation (TCGTBI)

An initiative of



Indian Institute of Engineering Science and Technology (IEST) - Shibpur

Supported by

National Science & Technology Entrepreneurship Development Board (NSTEDB) – Govt. of India

August 2017

FROM THE DESK OF PRESIDENT -TCGTBI



*IEST-Shibpur
12th. August, 2017*

On behalf of IEST- Shibpur it gives me immense pleasure in introducing to you the Tagore Centre for Green Technology Business Incubation (TCGTBI) of this Institute. This is an important milestone in this age-old premier technology institute in nurturing innovation as its ongoing research activities and promoting entrepreneurial culture amongst the institute fraternity. TCGTBI is the embodiment of a new approach - a new basis - for commercialisation and utilisation of research outputs towards benefiting the society at large.

This incubation centre is a partnership between the IESTS, NSTEDB-GoI with the association of other partner organisations. With limited opportunities of incubation support in this part of the country. I am confident that this facility will bring new rays of hope and scope for technology-based entrepreneurship towards a self reliant India. We reaffirm our commitment to ensure the growth, expansion, success and right positioning of TCGTBI in the days to come.

Professor Ajoy Kumar Ray
President-TCGTBI
&
Director, IEST-Shibpur

ENTREPRENEURIAL ECO-SYSTEM AND EMERGENCE OF TECHNOLOGY BUSINESS INCUBATORS

Despite India's phenomenal economic rise and proven dominance in technology-related fields on a global scale, the country has consistently been plagued by disparity in the economic status amongst the people. One can fathom this from the fact that though there are four Indians in the global list of top ten richest people, there is a large population which lives below poverty line. While the brilliance of India's technical professionals have taken the country to the position of a global R & D hub, there is a large pool of semi skilled and unskilled workforce in various sectors.

Therefore, despite the obvious advantages of a young talent pool, there have been constraints while forming development policies. Indian policy makers are faced with the magnanimous task of balancing the aspirations of the skilled and talented with the basic needs of those at the bottom of the pyramid.

Today, India has made commendable progress in terms of growth of a scientific and technological culture. It occupies a prominent place in the world map with regards to its contribution towards knowledge driven products and services, its emergence as a global R&D hub, and the quantity and quality of its professionals related to science and technology.

In order to sustain this growth in an ever-changing, ever-challenging global business environment, the speedy

translation of innovative ideas into products, processes and services for the market is the need of the hour. Solely individual talent, hard work and initiatives would not be able to guarantee such speed in the face of tremendous pressure and demands of global standards. For that, an appropriate enabling ambience and support system need to be built including provision for initial investment and networking opportunities.

In India, while there are a good number of individual level of innovations happening, the systems to productize them through commercial ventures are yet to be fully developed. This is aggravated by the absence of linkages of researchers and innovators with the market, and the social milieu that does not accept failure very kindly. In spite of these hurdles the number of innovative start-ups is rising at a phenomenal rate.

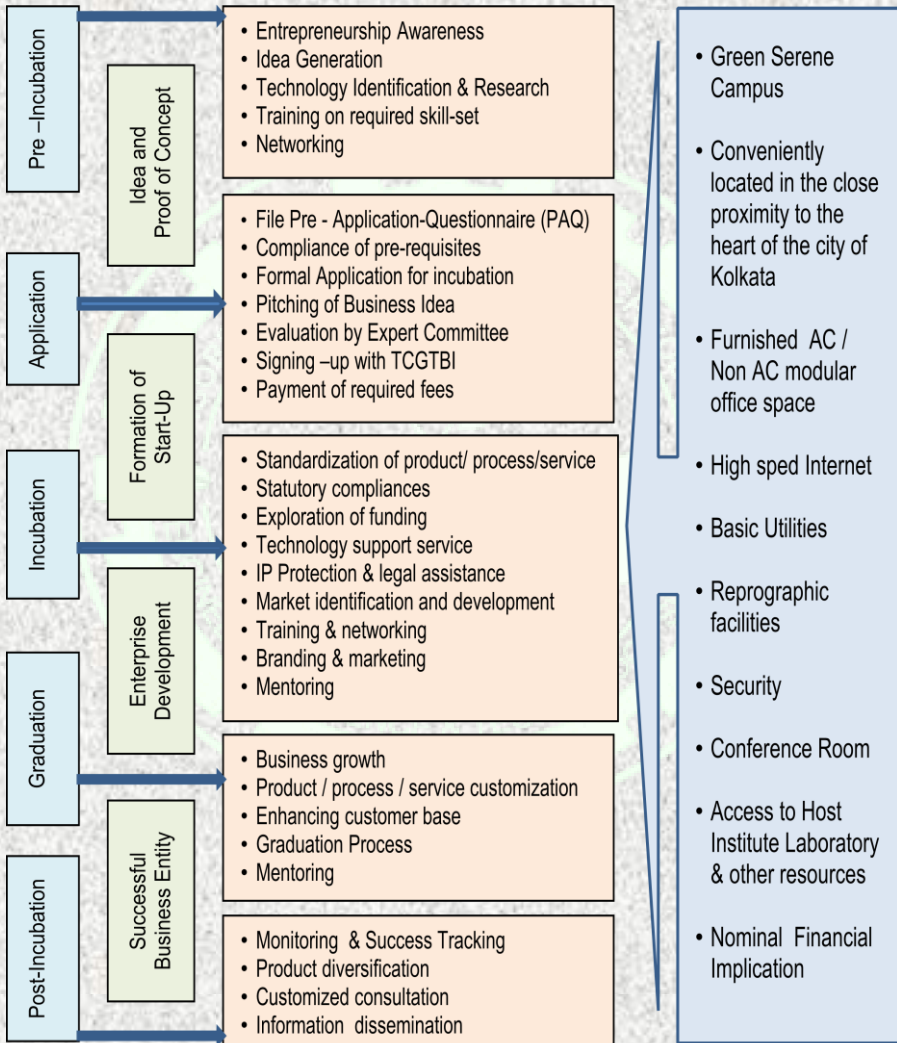
Having seen this rising level of interest in entrepreneurial and innovative ventures, particularly in technology related fields, the Government of India (GoI) has initiated setting up of Technology Business Incubators (TBIs) to nourish and promote these ventures through incubation. The process is aimed at enabling individual and group level technology ventures to contribute towards wealth creation and new job creation in their regions.

TCGTBI is such an initiative of the Government of India.



INCUBATION PROCESS

TCGTBI Purview : Idea Generation to Successful Business Venture



Different Stages of Incubation Process , Functions & Availability of Resources

DON'T HOLD BACK YOUR BIG IDEAS

Innovative Technology-led start-ups, enterprises in new technology process – we are the only Technology Business Incubator (TBI) of its kind in Eastern India to encourage and support every big idea in technology.

Tagore Centre for Green Technology Business Incubation (TCGTBI) is an initiative of Indian Institute of Engineering Science and Technology, Shibpur (IIESTS), supported by NSTEDB, Department of Science & Technology (DST), Government of India.

TCGTBI would facilitate translating your entrepreneurship dreams to reality and make it globally successful.

With numerous unmet needs of the society that require innovative solutions and a pressing need to develop affordable devices and processes, now is the ideal time for you to engage put on your thinking cap. There are ample opportunities to innovate in the technology field which include Bio-engineering, Information Technology, Automobile Engineering, Solar Technology and many other fields.



FIND AN UNFAILING SUPPORT SYSTEM

Entrepreneurs to avail incubation support could be anyone: student innovator, faculty or technology professional with:

- ❑ **An innovative, creative, technical solution for an unmet technical need of the society**
- ❑ **The know-how, IPR and strategy for producing affordable technology product or process**
- ❑ **A commitment to developing reliable, marketable and good quality products**
- ❑ **Passion, enthusiasm and commitment**

You could even be a small enterprise (SME) or a Start-up with plans to contribute towards Make in India.

Commercializing technology can be very challenging and too complex to be achieved individually. You may require an entire multidisciplinary support system to succeed. This is what you will find at TCGTBI.



GET MORE ROOM FOR YOUR IDEAS

Co-working office space and necessary common services on rental basis within the premises of TCGTBI will give you the opportunity to incubate in one of the most vibrant technology campuses in the country.

Lower your investment risks by hiring the much needed clean space facility for your pilot production. You will also get access to some of the most sophisticated technical laboratories of the host institute- IESTS.

ACCESS THE BEST OF OPPORTUNITIES

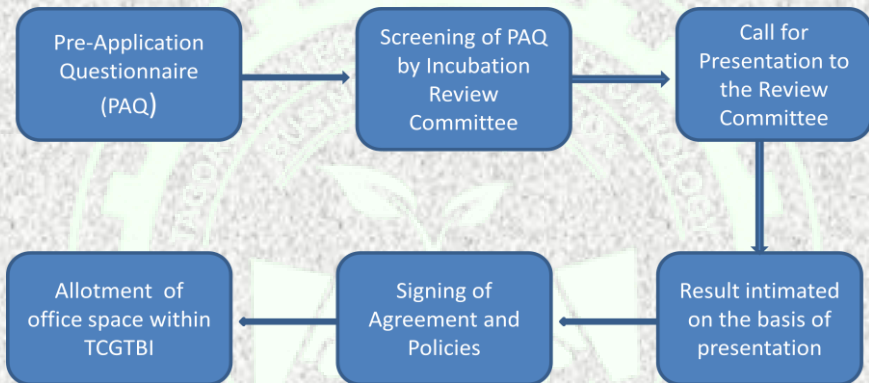
- ❑ Mentoring by well-experienced, domain-specific Faculty members of the Host Institute and external business and technical mentors.
- ❑ Opportunity to connect to potential investors, government funding and many more
- ❑ Get assistance from experts for issues related to Legal and IPR Protection
- ❑ Exposure to various exhibitions and seminars supported by TCGTBI



STEP INTO TCGTBI TO REVOLUTIONIZE YOUR IDEA

Talk to us about your dream venture.

If you have a business plan ready, send it to us through our website. Download the Pre-Application Questionnaire from our website and mail it to us. The incubate selection process is very simple as given below:



The Incubation facility will be available generally up to 3 years. We firmly believe that after 3 years you will be self-sufficient to move to a suitable location for commercial operation. Your successful exit from TCGTBI is our pride.



WE WILL DO THE HANDHOLDING TILL YOU ARE READY

Our target is to provide the much needed platform for speedy commercialization of technologies developed by you to reach the end users. Your association with TCGTBI will boost the much needed networking between academic, R&D institutions, industries and financial institutions.

In addition, we also render support to our incubates in taking up R&D activity and the technology upgradation activities.

Through our services provided to its incubatees as well as to the existing technology dominated SMEs, we aim at value addition.

WORK WITH IESTS – THE BEST OF THE HOSTS

Indian Institute of Engineering Science and Technology, Shibpur, is a Centrally Funded Technical Institute (CFTI), recognised as an institute of National Importance, stands out to be one of the premier seat of higher technological education (since 1856) and a hub for frontier research in the country; and TCGTBI is the incubation facility created by IEST-Shibpur, enabling the prospective start-ups to work in a secure, innovative and entrepreneurial environment as they progress through various stages of entrepreneurial development.

Being a Technical Institute, IESTS has a talent pool of students pursuing specialized courses in various fields and they may be available to you as interns, if needed.

LOCATIONAL DIVIDEND TO TCGTBI

- ❑ **Situated at the Heart of the city**
- ❑ **Super communication facility**
- ❑ **Nested in India's premier tech-school with access to all the resources of an Institute designated as INI.**
- ❑ **Close proximity to industry hub – once known as Sheffield of India**
- ❑ **Huge catchment of entire eastern and north eastern India with little Incubation facility.**
- ❑ **Lush Green Campus right on the bank of river Ganges.**

COLLABORATIVE ORGANISATIONS

Partner Institute:

- ❑ **N B Institute of Rural Technology (NBIRT)-Kolkata**
- ❑ **National Entrepreneurship Network (NEN)**

Support Centres:

- ❑ **NRDC-IIEST Innovation Facilitation Centre**
- ❑ **IPR Cell – IIEST, Shibpur**
- ❑ **Entrepreneurship Development Cell – IIEST, Shibpur**

PHYSICAL SETTING AND INFRASTRUCTURE

- ❑ **Secure, research-focussed, innovative, entrepreneurial ambience.**
- ❑ **Vast alumni network of the Host Institute**
- ❑ **Security and multi-purpose staff support.**
- ❑ **Institutional Association with other Entrepreneurship bodies viz. NEN, ISBA etc.**
- ❑ **Physical infrastructure : dedicated A/C cubicle space with LAN and wifi connectivity with High speed Internet, Reprographic facilities, Fully equipped Conference Room, Self-service pantry, 24 x 7 operation on demand , Wifi enabled common facility area**
- ❑ **Workshop and Large Seminar facility**
- ❑ **Capital Equipment Facility for shared usage**
- ❑ **Library**
- ❑ **Product Display Arena for incubates.**
- ❑ **Visitor's Lounge**
- ❑ **Discussion Kiosk**
- ❑ **Workout facility and CC TV surveillance
(Work underway)**

SOME OF OUR FLOURISHED START-UPS INCUBATED AT TCGTBI

SRIJAN CREATION

Srijan Creation was formed in the year-2013 by two young enthusiastic in the field of additive manufacturing with a mission to carry out fundamental development on 3D printing technologies, and to provide services for quality 3D printing as per individuals requirement.

Their specializations are:

- ❑ Miniature selfies in metal by 3D scanning
- ❑ Lithophane Lamp shed from Photo
- ❑ Customized Signature of individual And many more

Srijan Creations have won quite a few accolades from various organizations, including a prestigious award from Government of West Bengal.



fontikulus

fontikulus is a professional water management company, working in the consultancy field of Water, Waste Water treatment and recycle. They are manufacturer of Solar Operated Water Vending machine which is an excellent solution for potable water with renewable energy source. Increasing demand for clear water and increasing awareness about benefits of consuming purified water are key factors of growth for our vending machine business.



Our working area covers- Water Treatment Plant, Effluent Treatment Plant, Sewage Treatment Plant, RO Systems, Package Drinking Water Treatment Plant, Rain water Harvesting, Water and Wastewater Management feasibility studies including recycling and reuse facility for Zero Liquid Discharge option, Augmentation/Up-gradation Work of existing Plants



CAPACLOUD TRADING SOLUTIONS



CAPACLOUD, India's the most avant-garde climate change company is pioneering a new generation vertical garden product that is maintenance free, connected through IOT and smart enough to let a variety of plants grow on any vertical surface or structure. It

has won several awards such as India's Top 30 Technology Company, Economic Times Power of Ideas, Most Promising Start-up in West Bengal and University of Chicago Urban Labs Challenge.

COSTEEL PROCESSING (P) LTD.

COSTEEL has been formed by a group of IIT-Kharagpur alumni in order to commercialize various products of coloured stainless steel. Unique part of the innovation is that different colours are achieved by controlled oxidation of AISI-304, AISI-316 grades of stainless steel because of "Selective Absorption" of light at different nanometric levels of the artificial oxide films. Another unique aspect



of their creation is that Science and Technology gets combined with Art by using a masking agent. Existing



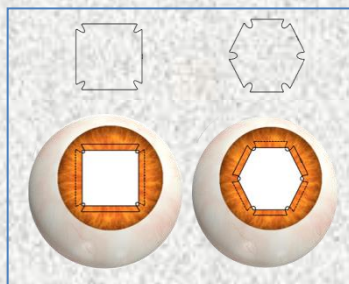
products are Souvenirs, Mementos for corporate bodies & academic institutions, self portraits, portraits of famous people and art forms such as Pata-Chita of Bengal. Stainless steel enables the art forms and other products as permanent without any deterioration.

Nayan Eye Centre

Adequate dilatation of the pupil with medicated drops is necessary for safe Cataract surgery and implantation of an Intraocular lens (IOL). The pupil does not dilate adequately with medicated drops in 7 to 10 percent of eyes and needs to be mechanically expanded using a 'Pupil expander'. Nayan Eye Centre has invented B-HEX Pupil Expander (Bhattacharjee Pupil Expansion Ring) that is easier to use and provides adequate and safer expansion of the pupil compared to competition.

The B-HEX Pupil expander would be

- ❑ Easier to use Pupil Expander device for Eye Surgeons,
- ❑ Safer pupil expansion for patients,
- ❑ Economical Solution for health care systems and Governments worldwide



SOME OF OUR BUDDING STARTUPS AT TCGTBI

Leopard Trans LLP

They have developed an App for providing transportation logistics by linking both the consigner and consignee through a common application that can be used on computers and smart phones.

Flip Motor Corp

Converting a bicycle into a motorized bike using low capacity engines and subsequently adding on certain accessories retro-fitting with 49cc, 4 stroke petrol engine and vacuum air cooling system having very high fuel efficiency with a power of 2hp/ 6800 rpm.

Maybright Ventures Pvt. Ltd.

Developed an APP, named mPokket providing peer-to-peer lending platform that acts as a marketplace for borrowers and lenders. They facilitate loan transactions but do not lend from their balance sheet or bear any responsibility for repayment.

PedaZoom

PedaZoom is being promoted by some of the alumni of IUESTS with the objective of reaching out to the students of colleges/universities and also to the professionals employed in the industries with short-term industry-oriented courses through online mode. Professors of institutes and engineers from the industries with relevant experience will be the joint instructors in the courses.

Mariposa Green Scape (P) Ltd.

Mariposa has come up with an innovative solution to make bio-inputs/fertilizers and pesticides, exclusively using local materials, for preparation and delivery. The problem of soil degradation is addressed by using micro-organisms available in the soil.

Mariposa is bringing indigenously developed superior and adaptable technology at the doorstep of the farmers. One solution does not fit all. Thus customisation has been adopted by them, as a marketing strategy. They are treating every land separately, and providing the required and balanced solution. The product, along with unique services will solve the problem of:

- ❑ Gradual deterioration in the quality of land by using chemical fertilizers, insecticides, pesticides, etc. on a continuous basis.
- ❑ Non-availability and high cost of chemical inputs.
- ❑ Causing damage to the surrounding areas including ponds and lakes.
- ❑ Excessive use result in detestable produces, often fetching lower prices. This problem is assuming serious proportions in our plantations, that heavily depends on the flavour and aroma, to realise higher prices.

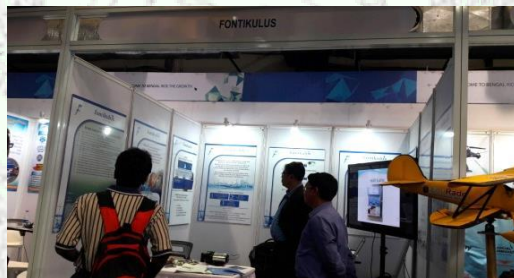
Green Urja & Organic Krishi Development Holding

An energy efficient solar pumping system for irrigation in low solar irradiation zone especially North East region of India and other States having similar topography.

Skai Line Engineering and Construction

It is an online paying guest management software which helps paying guests to manage their stay in a systematic and more convenient way and allows PG owners to be a part of the same family.

GLIMPSES OF EVENTS AT TCGTBI & PARTICIPATION IN VARIOUS PLATFORMS



TCGTBI

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