



Bengal Institute of Technology

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(Approved by AICTE & affiliated to MAKAUT)

INNOVATION & STARTUP POLICY

Preamble

In November 2016, the All-India Council of Technical Education (AICTE) released a Start-up Policy document for the AICTE's approved institutions to address the need for the inculcation of innovation and entrepreneurial culture in higher education institutions (HEIs). The policy primarily focused on guiding the AICTE's approved institutions in implementing the 'Start-up Action Plan' of the Government of India. Subsequent to the release of the Start-up policy by AICTE and further interaction & feedback received from different educational institutions, a need was felt for a more elaborate and comprehensive policy guiding document, which could be applicable to all the HEIs in India. This leads to the development of 'The National Innovation and Start-up Policy (NISP)'.

In the context of the NISP, thirteen members committee was constituted at the Bengal Institute of Technology (BIT) to formulate detailed guidelines for various aspects related to innovation, start-up, and entrepreneurship management of the Institute. This committee is required to deliberate on various facets for nurturing the innovation and start-up culture in BIT covering Intellectual Property ownership, revenue sharing mechanisms, norms for technology transfer and commercialization, equity sharing, etc. Based on a number of meetings, this National Innovation and Start-up Policy for students and faculties of the Bengal Institute of Technology has been prepared.

Vision

The vision of NISP is to promote student-driven innovations & start-ups and engage the students and faculty in innovation and start-up activities in the Institute. The policy aims at enabling the Institute to build, streamline and strengthen the innovation and entrepreneurial ecosystem in the campus, and to make the Institute instrumental in leveraging the potential of science, student's creative problem solving and entrepreneurial mindset, and promoting a strong intra and inter-institutional partnerships with ecosystem enablers and different stakeholders at regional, national and international level. The entrepreneurial ecosystem in the Institute will play a key role in identifying, mentoring, nurturing the innovative and entrepreneurial potential of students, faculties, and staff, and transforming them into start-up entrepreneurs by providing avenues of funding, investment opportunities, and networking support to make the innovation and venture successful.

Mission

The 'Missions' of NISP at BIT are:

- To set up a world-class incubation centre for supporting the young intrapreneurs and entrepreneurs to instill the start-ups.
- To instill the practice of applying periodically for Intellectual Property rights (IPR).

- To impart the need for innovative thinking among the faculty members and students of BIT.
- To inculcate the skills required for students and faculty members to become a successful entrepreneur.

The topics had been deliberated and discussed as per the guidelines of the innovation cell of MoE, Government of India. Based on the deliberation, the undermentioned short term and long-term objectives including Key Performance Indicators (KPIs) for the Bengal Institute of Technology, have been finalized:

A. Short term Objectives (3 years)

The Short-term objectives are framed for 3 years duration to fulfil the following:

1. Help student groups for prototyping their ideas.
2. Improve innovation, creativity, and design thinking among the student community.
3. Effective utilization of leading-edge technology.
4. Incubation facility for faculty-driven start-up and student/Alumni start-up.
5. Organize FDP, seminars, and workshops, invite talks for students, faculty, and alumni and promote entrepreneurial culture.
6. Strengthen interaction between institute and industry.
7. Conduct professional training programs frequently for the students to enrich their entrepreneurship skills.
8. Promote and support IPR activities in the Institute.
9. Conduct Institute-level Hackathon to promote entrepreneurship.
10. Construct incubation facilities in BIT for fostering innovations and start-ups among the students and faculty members.

B. Long Term Objectives (5 years)

The long-term objectives are for 5 years to meet the following:

1. Attract start-ups from external persons, and develop at least 10 start-ups in the next five-year time period.
2. Bring external funding from potential government departments (state and central) such as DST, DBT, MHRD, AICTE, Start-up India, Invest India, MSME, etc., and also, from non-governmental sources.
3. The Institute should also explore the possibility to raise funding through sponsorships and donations.
4. Engage alumni network for promoting Innovation & Entrepreneurship (I&E).
5. Improve the quality of research work among students and explore attaining patents that can be commercially used in production.
6. Provide a platform for students to develop innovative products with global recognition for generating business opportunities.
7. Develop awareness, and motivate students and faculties on IPR related activities.
8. Create an innovation pipeline and pathway for entrepreneurs at the Institute level to ensure exposure of maximum students for innovation, and pre-incubation activities at their early stage.

Key Performance Indicators (KPIs)

KPIs are meant to assess the impact and outcome of the following factors in comparison to before and after making the incubation centre. These KPIs are:

1. Number of events conducted.
2. Ideation and prototype generated.
3. Number of patents filed and granted.
4. Number of innovators identified and the number of those awarded/recognized.
5. Number of faculty innovators with a DIN number, and annual turnover.
6. Number of student projects turn to (commercialize) innovations.

Thrust Areas

The Committee discussed elaborately the idea of start-up and decided to identify 5/6 important verticals, which are workable and implementable. The identified thrust areas are:

- 1) Organize an Internal hackathon by the Institution based on some selected problem statements or verticals, and develop MVP (Minimal Viable Product)
- 2) Identification of Incubation support for the students, and faculties can work on their innovative projects and can set up start-ups.
- 3) Organize motivational sessions for the students by successful entrepreneurs.
- 4) Raise funds for start-up projects by following different ways.
 - a. Institute should actively engage alumni network for promoting Innovation & Entrepreneurship.
- 5) Provide mentorship support to the students by taking support from the industry experts, resource persons, Faculties, and alumni.
- 6) Start-up has to be prioritized and converted to the business plan.

National Innovation and Start-up Policy 2019 for Students and Faculty

STRATEGIES AND GOVERNANCE

The promotion and development of the start-ups have to address one of the primary objectives for BIT.

1. Encourage students and faculties to come out with their innovative ideas and help them to make it product using BIT's incubation centre.
2. The students with the entrepreneur attitude are to be identified and encouraged to develop models using our incubation facilities.
3. Develop an entrepreneurial ecosystem in the Institute with specific objectives and associated performance indicators defined for assessment.
4. Persuasion of the entrepreneurial agenda should be the responsibility of the Head of the Institution and the IIC of BIT.
5. Heads of all departments, IIC, NISP chairman, and coordinator of BIT should work together to successfully implement the entrepreneurship culture.
6. BIT should evolve as one of the innovation hubs to promote entrepreneurship culture in West Bengal by providing opportunities for young minds.

RESOURCE MOBILIZATION

- Resource mobilization plan should be worked out at the Institute for supporting pre-incubation, incubation infrastructure, and creation of facilities. A sustainable financial strategy should be developed to reduce the organizational constraints while working on the entrepreneurial program.
- Investment in entrepreneurial activities should be a part of the Institutional financial strategy. BIT has to have a financial outlay of the order of 1% of its annual budget for the promotion of start-ups, entrepreneurship, and intellectual property rights.
- Institute should develop strategies to raise funds from government agencies (state and central) namely, DST, DBT, MHRD, AICTE, TDB, TIFAC, DSIR, CSIR, BIRAC, NSTEDB, NRDC, Start-up India, Invest India, MeitY, MSDE, MSME, etc. and non-governmental agencies to reduce the dependency on the public funding.
- To support technology incubators, BIT may approach private and corporate sectors to generate funds under Corporate Social Responsibility (CSR) as per Section 135 of the Company Act 2013.
- Institute may also raise funding through sponsorships and donations and should actively engage alumni networks to promote Innovation & Entrepreneurship (I&E).
- For expediting the decision-making, hierarchical barriers should be minimized and individual autonomy and ownership of initiatives should be promoted.
- Importance of innovation and entrepreneurial agenda should be known across the Institute and should be promoted and highlighted at Institutional programs such as smart India hackathons, conferences, convocations, workshops, etc.
- The various departmental and club activities of BIT should be integrated to develop a healthy research ecosystem inside the campus.

Start-ups Enabling Institutional Infrastructure

- 1) Pre-incubation facility (e.g., IIC-BIT, e-Cell. Start-up Community, etc.) and Incubation Centre having co-working space need to be created.
- 2) This pre-Incubation/Incubation facility needs to be accessible to students, staff, and faculties of all departments across the college with proper discipline & monitoring.
- 3) Incubation Centre facility has to be within the college campus with a separate identity.
- 4) Other facilities such as; Prototype center, Tinkering Lab, Fab Lab also need to be created by raising funds from various government sources and also by mobilizing resources from internal and external sources.
- 5) Zero rental fees have to be charged for Startups from BIT availing of Incubation facilities for the first year.

Nurturing Innovations and Start-ups

1. Entrepreneurship Development Cell & incubation center have to be given key importance for the facilitation & conduct of events at the Institute.
2. Student/Faculty start-ups may use the college address as their company official address by getting prior approval duly signed by the principal on letterhead.
3. Students' entrepreneurs may be allowed to sit for the examination, if their attendance is less than the minimum permissible percentage, with due permission from the principal duly endorsed by the Entrepreneurship Faculty-in-charge. A clear guideline on relaxation in attendance is given in norms for student start-ups.
4. Award of internal marks to students winning Innovation competitions/Business Plan Competition can be given. A clear guideline is given in norms for Student Start-up/innovators.
5. Participation in start-up-related activities can be considered as a performance activity for the faculties in addition to teaching, R&D projects, industrial consultancy, and management duties. These aspects can be given due weightage while evaluating the annual appraisal of the faculties.

6. Product development and commercialization as well as participating and nurturing student start-ups can be considered as an assignment for faculty duties in addition to their regular duties and each faculty may choose either product development or mentoring student start-up or both (in addition to the minimum required teaching and guidance), and then respective faculty can be evaluated accordingly for their performance and promotion.
10. In return for the services rendered and facilities provided, the institute may take equity/stake in the start-up/company, based on brand used, faculty contribution, the support provided, and use of the institute's IPs. The quantum of stake/royalty can be based on mutually agreed terms. Other factors for assessing royalty would be space, infrastructure, mentorship support, seed funds, support for accounts, legal, patents, etc.

Product Ownership Rights for Developed Technologies

- 1) In case of Institute's facilities/funds are used substantially on Product/Prototype development, or when an IPR is developed as a part of curriculum/ academic activity, the IPR is to be jointly owned by inventors and the Institute.
- 2) Inventors and the Institute can together license the product / IPR to any commercial organization, with inventors as the primary stake. License fees could be either/or a mix of:
 - a) *Upfront fees or one-time technology transfer fees,*
 - b) *Royalty as a percentage of the sale price,*
 - c) *Shares in the company licensing the product.*

As an academic organization, College cannot be allowed to hold the equity as per the current status, so BIT's Proposed Incubation Centre can hold equity on Institute's behalf.

- 3) If one or more of the inventors wish to incubate a company and license the product to that company, the royalties cannot be more than 4% of the sale price, preferably, 1 to 2%, unless it is a pure software product. If it is shared in the company, the shares will again be 1% to 4%. For a pure software product licensing, the revenue sharing can be decided mutually between the Institute's consultancy cell or its incubation unit and the incubated company.
- 4) In case, product/ IPR is developed by innovators not using any Institute's facilities, outside office hours (for staff and faculty), or not as a part of the curriculum of the student, then product/ IPR will entirely be owned by inventors in proportion to the contributions made by them. In this case, inventors can decide to license the technology to third parties or use the technology the way these deem fit.
- 5) Institute's IPR cell or incubation center that acts as a coordinator and facilitator for providing services to faculty, staff, and students, will have no say on how the invention is carried out, how is patented, or how is to be licensed.
- 6) All decision-making bodies with respect to incubation / IPR / technology-licensing will consist of faculty and experts who have excelled in technology translation.

Organization capacity, HR & Incentives

1. Recruitment of faculty/technical staff should be such that they satisfy the requirement of strong innovation and entrepreneurial/ industrial experience, behaviour, and attitude. This will help in fostering the I&E culture.
2. Some of the relevant faculty members with prior exposure and interest would be deputed for training to promote I&E.
3. To achieve better engagement of staff in entrepreneurial activities, institutional policy on career development of staff has to be promoted with constant upskilling.
4. Faculties and departments need to be worked incoherence, and cross-departmental linkages have to be strengthened through shared faculty, cross-faculty teaching, and research in order to gain maximum utilization of internal resources and knowledge.
5. Periodically some external subject matter experts such as guest lecturers or alumni can be engaged for strategic advice and bringing in skills that are not available internally.
6. Faculty and staff are to be encouraged to do courses on innovation, entrepreneurship management, and venture development. In order to attract and retain the right people, the institute needs to be developed academic and non-

academic incentives and reward mechanisms for all staff and stakeholders who would be actively contributing and supporting the entrepreneurship agenda and activities.

7. The reward system for the faculties and staff may include sabbaticals, office and lab space for entrepreneurial activities, reduced teaching loads, awards, training, etc.

Creating innovation pipelines & pathways

1. To ensure exposure of maximum students to innovation and pre-incubation activities at their early stage and to support the pathway from ideation to innovation to market, mechanisms have to be devised at the Institute.
2. Spread of awareness among students, faculties, and staff about the value of entrepreneurship and its role in career development or employability should be a part of the institutional entrepreneurial agenda.
3. Students/ staff need to be taught that innovation (technology, process, or business innovation) is a mechanism to solve the problems of society and consumers. Entrepreneurs should innovate with a focus on the market niche.
4. Students should be encouraged to develop an entrepreneurial mindset through experiential learning by exposing them to training in cognitive skills (e.g. design thinking, critical thinking, etc.), by inviting first-generation local entrepreneurs or experts to address young minds. Initiatives like idea and innovation competitions, hackathons, workshops, boot camps, seminars, conferences, exhibitions, mentoring by academic and industry personnel, throwing real-life challenges, awards and recognition should be routinely organized.
5. To prepare the students for creating the start-up through education, integration of education activities with enterprise-related activities needs to be carried out.
6. The Institute has to link its start-ups and companies with a wider entrepreneurial ecosystem by providing support to students who show potential, in the pre-start-up phase. Connecting student entrepreneurs with real-life entrepreneurs will help the students in understanding real challenges, which may be faced by them while going through the innovation funnel for increasing the probability of success.
7. The Institute has established an Institution's Innovation Council (IIC) as per the guidelines of MHRD's Innovation Cell and allocated an appropriate budget for its activities. IIC of BIT would guide the institution in conducting various activities related to innovation, start-up, and entrepreneurship development. Collective and concentrated efforts need to be undertaken to identify, scout, acknowledge, support, and reward proven student ideas and innovations and to further facilitate their entrepreneurial journey.

Collaboration, Co-creation, Business relation

1. Stakeholder engagement needs to be given prime importance in the entrepreneurial agenda of the institute. Institute has to find potential partners, resource organizations, micro, small, and medium-sized enterprises (MSMEs), social enterprises, schools, alumni, professional bodies, and entrepreneurs to support entrepreneurship and co-design the programs.
2. The institute has to develop policies and guidelines for forming and managing relationships with external stakeholders including private industries.
3. Knowledge exchange through collaboration and partnership should be made a part of institutional policy, and the institute must provide support mechanisms and guidance for creating, managing, and coordinating these relationships.
4. Through formal and informal mechanisms such as, internships, teaching and research exchange programmes, clubs, social gatherings, etc., faculties, staff, and students of the institute should be given the opportunities to connect with their external environment.

Periodic Assessment

Impact assessment of entrepreneurial initiatives such as, pre-incubation, incubation, entrepreneurship education needs to be performed regularly using well-defined evaluation parameters, such as:

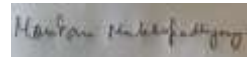
1. Monitoring and evaluation of knowledge exchange initiatives, and engagement of all departments and faculty in entrepreneurial teaching and learning.
2. Number of start-ups created, support system provided at the institutional level and satisfaction of participants, new business relationships created by the institutes.
3. Impact would also be measured for the support system provided by the institute to the students' entrepreneurs, faculty, and staff for pre-incubation, incubation, IPR protection, industry linkages, exposure to the entrepreneurial ecosystem, etc.
4. Formulation of strategy and impact assessment should also go hand in hand. The information on the impact of activities has to be actively used while developing and reviewing the entrepreneurial strategy.
5. Impact assessment for measuring the success could be in terms of sustainable social, financial and technological impact in the market.



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