

22nd January, 2020



INSTITUTE OF ENGINEERING & MANAGEMENT, KOLKATA

INNOVATION AND ENTREPRENEURSHIP POLICY

Preamble

In November 2016, the All-India Council of Technical Education (AICTE) released a Start-up Policy document for AICTE-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-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 education institutions, a need was felt for a more elaborate and comprehensive policy guiding document, which could be applicable to all the HEIs in India. A fifteen membered committee was constituted by the Ministry of Human Resource Development to formulate detailed guidelines for various aspects related to innovation, Start-up, and entrepreneurship management. This committee deliberated on various facets for nurturing the innovation and Start-up culture in HEIs, which covered Intellectual Property ownership, revenue-sharing mechanisms, norms for technology transfer and commercialization, equity sharing, etc. After multiple rounds of meetings, the National Innovation and Start-up Policy 2019 for students and faculties of HEIs was prepared.

Vision

To create a world-class technology and knowledge-driven entrepreneurial ecosystem by nurturing the innovative and creative abilities of the new-age innovators and entrepreneurial talents to promote a culture of innovation, entrepreneurship, and development of innovative technology solutions, useful goods, and services that contribute to an increase in value, knowledge, wealth, employment in the society and have a positive social impact.

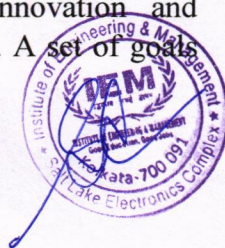
Mission

1. To promote the entrepreneurship and innovation ecosystem for the development of innovations, and become a regional leader, and then finally grow as one of India's leading incubators/innovations centers.
2. To provide guidance to Institute stakeholders for developing entrepreneurial ventures, controlling Intellectual Property Rights (IPR) ownership, technology licensing, and equity sharing in student-run and faculty-run businesses.
3. To orient the educational infrastructure and facilities towards the growth of innovation-based entrepreneurship in order to bring socio-economic change.

National Innovation and Start-up Policy for the Institute of Engineering and Management

1. Strategies and Governance

- a) To carry out the entrepreneurial vision of the Institute of Engineering and Management (IEM), which places a high focus on the development of innovation and entrepreneurship, a well-articulated strategy has been created (I & E). A set of goals



and associated performance indicators are created to assess and monitor the development of the entrepreneurial ecosystem within the firm.

- b) Implementing the innovative entrepreneurial policy is the responsibility of a senior person who is knowledgeable about the industry and start-up culture, such as a dean, director, or anyone in a position of authority comparable to that. When creating the policy, the institute's goals and missions are taken into account.
- c) A resource mobilization strategy will be created at the IEM to support the facilities and infrastructure needed for pre-incubation, incubation, and innovation. A sustainable finance plan will be devised to reduce organizational barriers to implementing the entrepreneurial agenda.
 - 1. At least 1% of the institution's annual budget should be set aside for financing and supporting innovation- and start-up-related activities by creating a separate "Innovation fund."
 - 2. The plan should also involve getting money from a variety of sources to reduce dependency on government assistance. Both government (state and federal) and non-government sources, such as DST, DBT, MHRD, AICTE, DSIR, CSIR, MSDE, MSME, BCCI, and others, should be encouraged to provide external financing.
 - 3. Academic institutions may contact the business and corporate sectors to obtain money for the support of technological incubators, as per Section 135 of the Company Act of 2013.
 - 4. The institute should actively involve alumni in promoting entrepreneurship and innovation (I&E).
 - 5. Additionally, the institute may raise money through sponsorships and donations.
 - 6. By empowering the NISP team, hierarchical obstacles will be reduced in order to speed up decision-making, and individual autonomy and initiative ownership will be encouraged.
 - 7. The importance of the innovation and entrepreneurial agenda should be recognized throughout IEM and should be highlighted and promoted through institutional programs like conferences and seminars, among other events.
 - 8. The growth of an entrepreneurial culture shouldn't be restricted to the Institute's perimeter. The institute should be the one to spearhead the creation of an entrepreneurial culture in the area (regional, social, and community level). Additionally, it is important to encourage international exchange programs, internships, and the participation of international faculty in both teaching and research.

2. Start-ups Enabling Institutional Infrastructure

- a) Facilities for pre-incubation and incubation of ideas and companies will be built. Innovation and incubation are inextricably intertwined, and efforts are being made to connect innovation to successful businesses and the bottom line.
- b) By utilizing resources from both internal and external sources, IEM will establish the Centre of Innovation, Pre-Incubation, IIC, Innovation Cell, Start-up Cell, Student Clubs, etc.



- c) The pre-Incubation/Incubation facility will be open 24 hours a day, 7 days a week to all institute personnel, faculty, and students regardless of their departments or fields of study.
- d) The IEM Centre for Incubation and Innovation, a distinct organisation created under Section 8 of the 2013 Company Act with the permission of the Governing body, would be in charge of managing the pre-incubation facilities. This will provide incubators greater discretion in making decisions and reduce the administrative burden of carrying out initiatives connected to innovation, intellectual property rights, and start-ups. Additionally, they will be more responsive to the investors that fund the incubator.
- e) Through the Preincubation/Incubation process, IEM will provide mentorship and other pertinent services for fees, equity sharing, or on a zero-payment basis. Depending on the type of services provided, the equity-sharing arrangements in start-ups backed by these units would vary.

3. Nurturing Innovations and Start-ups

- a) IEM will set up procedures and systems to make it simple for students, employees (including temporary or project workers), teachers, alumni, and potential start-up applicants even from outside the institutions to create and nurture start-ups/enterprises.
- b) The goals that the business incubator will work to attain are as follows:
 - I. Pre-incubation and incubation space for start-ups by students, staff, and teachers for a time period that is mutually agreeable.
 - II. IEM will permit licensing of IPR from the institute to start up: Students and faculty members intending to launch a start-up based on the technology they have developed or co-developed, or the technology owned by the institute, will be allowed to take a license on the said technology on the easy term, either in terms of equity in the venture, or license fees, or royalty payments, to avoid the early-stage financial burden.
 - III. With the proper authorization from a competent government, IEM may let its students and employees work on their creative ideas, launch start-ups (including social start-ups), or work as interns or part-time employees in start-ups (incubated in any recognized Incubators). Students who are entrepreneurs will be able to receive credit for developing novel prototypes and business models. Clear guidelines will be created by IEM to define this method. The option of a start-up may be chosen by student innovators in place of their mini project, major project, seminars, and summer training. The student's chosen start-up topic might be interdisciplinary or multidisciplinary. However, the student must explain how they will clearly differentiate and distinguish between the work being done now and their ongoing research efforts as a student.
- c) With the proper approval from the President (IIC) and the Principal, IEM, students who are in incubation but are undertaking certain entrepreneurial endeavors while studying will be authorized to utilize their address at the institute to establish their firm.
- d) Grace attendance provisions up to a maximum of 20% may be made for student start-up teams that feature at least one woman as a cofounder and have been approved by



relevant authorities on an individual basis and at the discretion of the principal. Such a favour must be in accordance with the current IEM Regulations and authorized by governing organizations like the Academic Council and the affiliating University.

- e) IEM will allow students to take a semester or year off from class (or even longer depending on the review committee's decision) to concentrate on their start-ups before returning to class to finish the course. Students who start their own businesses will be able to receive academic credit for their work. A review committee will be established by IEM for the purpose of reviewing the students' first work, and depending on the results, the committee may decide to award academic credit where it is due.
- f) Depending on availability for a certain amount of time, IEM may think about offering entrepreneurs housing on campus.
- g) IEM may let academics and staff take a semester or year off (or perhaps longer depending on the review committee's decision) as sabbatical time, unpaid time off, or earned time off in order to work on a start-up and then return. The institute should think about letting academics, students, and employees who want to launch a start-up work full-time access its resources. For such personnel or professors, the seniority and other academic rewards during that time may be kept.
- h) IEM may allow students and employees to enroll in a part-time or full-time MS, MBA, or PGDM program in innovation, entrepreneurship, and venture development, which is offered by the sister institute and allows participants to earn a degree while fostering a start-up company in accordance with AICTE guidelines.
- i) By allowing students, teachers, and staff to use Institute infrastructure and resources in the ways that the potential entrepreneur chooses, IEM will encourage start-up activities and technology development:

- I. Short-term, part-time, six-month, or one-year entrepreneurial training.
- II. Mentorship support on regular basis.
- III. The facilitation of a variety of activities, such as technology development, ideation, creativity, design thinking, fundraising, financial management, cash-flow management, new venture planning, business development, product development, social entrepreneurship, product costing, marketing, brand development, and human resource management.
- IV. Once the incubation operations are complete, the institute may also connect the firms with other seed-fund providers, angel funds, venture funds, or build up its own seed fund. Additionally, when needed, the required resources, infrastructure, funding, time, and support for students and faculty will be made available.

- j) **Revenue Sharing-** Amount received against the Revenue for usage of the IPR through Licensing and/or Assignment with other Company/Organisation will be shared by both/all the parties in this agreement at the **ratio of 50:50** or at the changed ratio as agreed with other co-“Inventor”/ “Assignor”/ “Creator” with prior consent of the Institute.



- k) Additionally, the institution will offer services using a combination of equity, fee-based, and/or zero payment models. Therefore, a firm may decide to use the institute's support services alone rather than its initial money.
- l) This initial facility might be made available to both University graduates and visitors by the institute.
- m) In addition to teaching, R&D projects, industrial consulting, and management responsibilities, faculty participation in start-up-related activities has to be seen as a valid activity. This activity will be taken into account when evaluating the faculty's annual performance. It is possible to urge each professor to mentor at least one company.
- n) Now, in addition to the minimum mandated teaching and mentoring, product development and commercialization as well as involvement in and nurturing of start-ups would be added to a bucket of faculty duties. Each faculty member would choose a mix and match of these activities, and then the respective faculty member would be evaluated accordingly for their performance and promotion.
- o) The institute may also need to alter the aforementioned regulations on professor and staff performance evaluation.
- p) IEM makes sure that it never becomes liable for anything related to a start-up's operations.

4. Product Ownership Rights for Technologies Developed at Institute

Copyrightable Works

Ownership of copyright of all copyrightable work including books and publications shall rest with the creator of the original work with the following exceptions:

- (i) If the work is produced during the course of sponsored and / or collaborative activity, specific provisions related to IPR made in contracts governing such activity shall determine the ownership of the copyright.
- (ii) Institute shall be the owner of the copyright of work, including software, created with significant use of Institute resources.
- (iii) Institute shall be the owner of the copyright on all teaching material developed as part of any of the academic / distance learning programs of Institute. However, the creator(s) shall have the right to use the material in her / his professional capacity.

Trade Mark(s) / Service Mark(s)

- Ownership of Trade Mark(s), Service Mark(s) logos created for Institute shall be with the Institute.
- In cases of all IP produced at the Institute, the Institute will retain a non-exclusive, free, irrevocable license to copy / use the IP for teaching and research purposes only, consistent



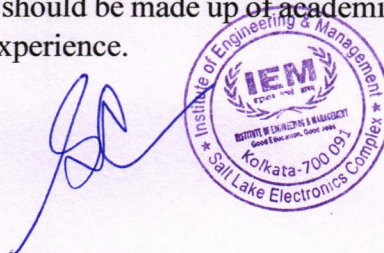
with confidentiality agreements entered into by the Institute, if any. This is to enable the Institute to benefit from IP created by its staff and students for carrying out its teaching and research functions.

Evaluation and Management of IP

The IPR Committee of the Research Cell of the Applicant / Institute is responsible for evaluating, protecting, marketing, licensing and managing the IP generated at the Institute. The creators of the IP shall provide all the necessary information to Research Cell to enable it to determine whether the Institute desires to own and manage the IP. An Invention will typically be patented by the Institute if it has ultimate commercial motivation and viability, even if it is not in the immediate future. If the Institute decides not to own and manage the IP, it shall permit the creator(s) to file patents and protect the IP on their own. However, share of the Institute in revenue resulting to the employee I student from licensing from such IP will be determined as described in Section 9. In the case of patentable IP, it is essential that patent protection is filed before publication or disclosure in any other form in public domain of the patentable IP.

The IPR Committee will examine the IP application and will then make specific recommendations regarding Patentability / Registration of the proposal by the Institute. The committee may seek the assistance of experts for this purpose. In all these endeavours confidentiality of the IP shall be strictly ensured.

- a) In case the Contract / Agreement / MOU with a sponsor specifies that the sponsor will manage the process of filing of patents and bear the associated costs, the creators will provide information to the Patent Cell / Office of each such filing / application. Details of the invention need not be provided in such cases in the interest of confidentiality, if so desired. Progress of the application through various stages, such as PCT, national phase, etc. will be informed to the Patent Cell / Office by the creators as and when the creators become aware of such progress.
- b) If there is a disagreement over ownership, a minimum five-person committee made up of two faculty members (who have sufficiently developed their intellectual property and translated it to commercialization), two institute alumni/industry experts (who have experience in technology commercialization), and one legal advisor with experience in IPR will look into the situation after meeting with the inventors and help them resolve it, hopefully to everyone's satisfaction. If an institute cannot locate alumni or professors with the necessary experience from the inside, it may utilize people from other institutes.
- c) A committee may be established to determine if the IPR is worthy of patenting if the institute is to pay for patent filing. The committee should be made up of academics with expertise in technology translation and relevant experience.



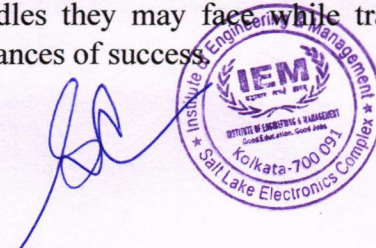
- d) Faculty and professionals who have succeeded at technology translation will make up the majority of the institute's decision-making body for incubation, intellectual property rights, and technology licensing.
- e) The institutions will support interdisciplinary research and writing on entrepreneurship and start-ups.

5. Organizational Capacity, Human Resources, and Incentives

- A. Faculty members with relevant industrial experience and I&E abilities will be assigned to teach students and promote I&E activities.
- B. Faculty and employees would be encouraged to pursue Entrepreneurship and Management Development Program (MDP) courses relevant to I & E.
- C. Interdisciplinary teaching and research will be encouraged to maximize the use of internal resources and expertise.
- D. Entrepreneurs, industry professionals, and subject matter experts will be asked to give strategic guidance to improve I&E initiatives.
- E. Students who participate in I&E activities will be considered for the 'Achievers' award at the Institute Day function to stimulate and reward the bright minds.
- F. IEM will constantly devise techniques to recognise and reward students, teachers, staff, and alumni who actively contribute to and support I&E initiatives.

6. Creating Innovation Pipeline and Pathways for Entrepreneurs at Institute Level

- A. Mechanisms should be developed at the institutional level to provide maximum student exposure to innovation and pre-incubation activities at their early stages, as well as to support the pathway from ideation to invention to market.
 - i. The institutional entrepreneurial agenda should include raising awareness among students, teachers, and staff about the benefits of entrepreneurship and its role in career development or employability.
 - ii. Students/staff should be taught that innovation (technology, process, or commercial innovation) is a method for solving societal and consumer problems.
Entrepreneurs should innovate while focusing on a certain market segment.
 - iii. Students should be encouraged to acquire an entrepreneurial mindset through experiential learning by exposing them to cognitive skill training (e.g., design thinking, critical thinking, etc.) and by bringing first generation local entrepreneurs or experts to speak to young minds. Idea and innovation competitions, hackathons, workshops, bootcamps, seminars, conferences, exhibits, mentorship by academic and industrial experts, real-life challenges, rewards, and recognition should be arranged on a regular basis.
 - iv. Integration of education activities with enterprise-related activities should be done to prepare students for launching a start-up via education.
- B. The institute should connect its start-ups and enterprises to the larger entrepreneurial ecosystem, as well as provide support to students who demonstrate potential during the pre-start-up period. Connecting student entrepreneurs with real-life entrepreneurs would assist students to grasp the genuine hurdles they may face while traveling through the innovation funnel, increasing their chances of success.



- C. Where they do not already exist, institutions should create Institution Innovation Cells (IICs) in accordance with the criteria of the MoE's Innovation Cell and give adequate funding for their operations. IICs should assist institutions in carrying out different activities connected to the growth of innovation, start-ups, and entrepreneurship. To better assist students' entrepreneurial journeys, collective and concerted efforts should be made to find, scout, recognize, encourage, and reward proved student ideas and inventions.
- D. Access to capital for future entrepreneurs must be made available in order to boost the institute's innovation funnel.
- Networking events must be planned in order to provide a venue for aspiring entrepreneurs to meet investors and present their ideas.
 - Provide facilities for company incubation, such as subsidized office space. Laboratories, research facilities, IT services, training, mentorship, and so on should be available to nascent businesses.

7. Norms for Faculty Startups

- For better coordination of the entrepreneurial activities, norms for faculty to do startups should be created by the institutes. Only those technologies should be taken for faculty startups which originate from within the same institute.
- Role of faculty may vary from being an owner/ direct promoter, mentor, consultant or as on-board member of the startup.
- Institutes should work on developing a policy on 'conflict of interests' to ensure that the regular duties of the faculty don't suffer owing to his/her involvement in the startup activities.
- Faculty startup may consist of faculty members alone or with students or with faculty of other institutes or with alumni or with other entrepreneurs.
- In case the faculty/ staff holds the executive or managerial position for more than three months in a startup, they will go on sabbatical/ leave without pay/ utilize existing leave.
- Faculty must clearly separate and distinguish on-going research at the institute from the work conducted at the startup/ company.
- In case of selection of a faculty start up by an outside national or international accelerator, a maximum leave (as sabbatical/ existing leave/ unpaid leave/ casual leave/ earned leave) of one semester/ year (or even more depending upon the decision of review committee constituted by the institute) may be permitted to the faculty.
- Faculty must not accept gifts from the startup.
- Faculty must not involve research staff or other staff of institute in activities at the startup and vice-versa.
- Human subject related research in startup should get clearance from ethics committee of the institution.

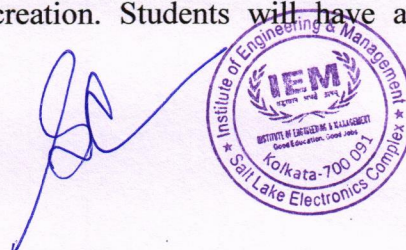


➤ **Conflict of Interests**

Parties should avoid any personal, financial or other interests that might hinder their capability or willingness to perform their job duties. Paid work of any type that parties may have outside their job must not cause a conflict of interests with their duties inside the company. Parties should truthfully declare to the Institute/company any relationship that may influence the integrity of their engagement or business activity.

8. Pedagogy and Learning Interventions for Entrepreneurship Development

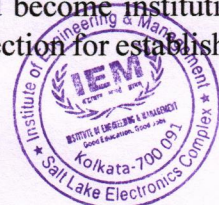
- A. To achieve desired learning results, the institution will take a multifaceted strategy that will involve cross-disciplinary learning via mentors, labs, case studies, games, and so on, rather than typical lecture-based delivery.
- i. All institute departments will be urged to develop student clubs/bodies to organize tournaments, boot camps, prizes, and so on. These bodies would be involved in institutional strategy planning to guarantee that students' thinking and response abilities were improved.
 - ii. These organizations will provide workshops in which students will gain practical experience and training in order to work for their companies. Students from different colleges will be permitted to participate in these sessions.
 - iii. The institute will launch an annual 'INNOVATION & ENTREPRENEURSHIP AWARD' to reward excellent ideas, successful businesses, and contributors to the institution's innovation and entrepreneurial environment.
 - iv. For this prize, students/faculty must apply to IEM IIC through their HOD, and the committee will analyse the concept and select the winner.
 - v. Teaching techniques would incorporate more practical features such as case studies on business failure and real-life experience reports by start-ups to raise awareness among students.
 - vi. Students would be encouraged to devote time to their case study subject in order to master the essential elements of the company and gain experience before embarking on their own venture.
 - vii. Failure tolerating and encouraging: Our systems are not meant to tolerate and encourage failure. Failures must be thoroughly acknowledged and argued in order for people to understand that failure is a natural part of life, hence decreasing the social stigma connected with them. Most significantly, this will be incorporated into the institute's philosophy and culture.
 - viii. IEM IIC will build up a counselling cell for this purpose, where students will be coached on how to deal with work-related stress and failure, if any.
 - ix. For each department/stream of study, innovation champions would be chosen from among the students, professors, and staff.
- B. Entrepreneurship education will be made mandatory at the curricular/co-curricular/extra-curricular levels via elective/short-term or long-term courses on innovation, entrepreneurship, and venture creation. Students will have access to validated learning outcomes.



- i. The knowledge of external stakeholders will be integrated into entrepreneurship education in order to develop a culture of cooperation and involvement with the external environment.
 - ii. The IEM IIC cell will sign MOUs with various stakeholders under this initiative to train our entrepreneurs and provide students with exposure.
 - iii. Departments of the institute will perform an introduction program regarding the relevance of I&E at the start of each academic session so that newly enrolled students are informed of the institution's entrepreneurial agenda and accessible support mechanisms.
 - iv. Students will be taken through the aims of entrepreneurship and will be made aware of the expected learning outcomes of the course as part of these introduction events.
 - v. The curriculum for entrepreneurship education will be modified on a regular basis depending on the findings of entrepreneurship research. This will also feature failed case studies.
 - vi. Following the signing of MOUs, industry links will be used to undertake research and surveys on technological trends, research, innovation, and market intelligence.
 - vii. IEM IIC cell will encourage student innovators, entrepreneurs, and experts to participate in the strategy development process so that it is need-based.
 - viii. Each department's professors will be directed to provide specialized teaching and training materials for start-ups, which may include books, PowerPoint presentations, e-content, and so on.
 - ix. It should be mentioned that not everyone is cut out to be an entrepreneur. The entrepreneur is a leader who would effectively transform an idea into a product; others may join the leader and work for the business. It is critical to recognize that entrepreneurship is about taking risks.
 - x. As a result, it will be the mentor's responsibility to carefully select and analyze students who wish to go into business for themselves, and to ensure that the student is capable and prepared to take risks. As a result, this will not be necessary for all students; rather, it will be based solely on the student's aptitude.
- C. Pedagogical modifications are required to guarantee that the greatest proportion of student projects and inventions are based on real-world difficulties. The university's learning interventions for instilling entrepreneurial culture will be examined and revised on a regular basis.

9. Collaboration, Co-creation, Business Relationships and Knowledge Exchange

- A. Stakeholder participation should be prioritised in the institute's entrepreneurial agenda. To promote entrepreneurship and co-design programmes, institutes should seek out possible partners, resource organisations, micro, small, and medium-sized companies (MSMEs), social enterprises, schools, alumni, professional bodies, and entrepreneurs.
- B. The institute should create policies and rules for establishing and maintaining connections with external stakeholders, including commercial industries.
- C. Knowledge sharing through cooperation and partnership should become institutional policy, and institutes should provide support mechanisms and direction for establishing, maintaining, and coordinating these partnerships.



10. Entrepreneurial Impact Assessment

- A. The impact of IEM's entrepreneurial activities, such as pre-incubation, incubation, and entrepreneurship education, would be assessed on a semi-annual and annual basis, using well-defined evaluation parameters.
- Monitoring and assessment of courses, knowledge sharing efforts, and faculty participation in entrepreneurial teaching and learning would all be evaluated.
 - The university provides a pre-incubation and incubation support framework to student entrepreneurs, professors, and staff.
 - The number of businesses collaborating with university incubators, as well as graduate start-ups at the revenue stage.
 - Creation and commercialization of intellectual property rights
 - Industry connections and exposure to the entrepreneurial ecosystem
 - Grants and financing have been acquired for the institute, institute's incubator, and companies.
- B. The institute would take part in ARIIA and strive to enhance its ranks on a regular basis.
- C. Strategy formulation and effect evaluation would go hand in hand. The data on the impact of actions would be actively used in establishing and revising the entrepreneurial strategy.
- D. The impact evaluation for gauging performance should be in terms of the market's long-term social, financial, and technical influence. The establishment of a sustainable company model is crucial for innovations in the pre-commercial stage. In the long term, **COMMERCIAL SUCCESSFULNESS IS THE ONLY MEASURE.**

