



# **CEC - INNOVATION AND STARTUP POLICY**

## **(Aligned with National Innovation and Start-up Policy (NISP)-2019)**

**CAPITAL ENGINEERING COLLEGE, BHUBANESWAR**

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**(Affiliated to Biju Patnaik University of Technology, Rourkela, Odisha, Approved by AICTE, New Delhi, Recognized by Govt. of Odisha)**

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**Vision**

To create an ecosystem to promote Innovation and Entrepreneurship among students, faculty and local community and guide them towards successful startups and enterprises.

**Mission**

- Integrate innovation and entrepreneurship courses as a part of academics.
- Develop innovation and incubation ecosystem by conducting Hackathons, Ideathons and design competitions
- Create collaboration with industry and academic experts to share expertise on innovation and entrepreneurship
- Conduct pre-scheduled awareness and training programs on social innovation and entrepreneurship
- Establish the required infrastructure to support the ecosystem.

**Short-term Goals**

- To develop novel, innovative, design and critical thinking skills to motivate students and faculties towards innovation and entrepreneurship through course projects, Mini-projects and inter disciplinary major projects
- To reinforce the institution-industry interactions and to channel its outcome towards achieving the mission.
- To nurture entrepreneurial culture by organizing a large number of relevant FDPs, STTPs, seminars, hackathons and workshops.
- To assist student groups to prototype their innovative ideas.

**Long-term Goals**

- To promote research and IPR activities among the students and faculty community as part of their Teaching and learning activities
- To associate with the government bodies like DST, CII, TNASC, MSME and other academic institutions for transferring world class facility to the stakeholders of CEC.
- To extend a dedicated support to Indian based start-ups developing innovative technology solutions for serving the basic needs of our society
- To provide a platform for young students to develop products with global recognition that can generate business opportunities.
- To encourage start-up initiatives by providing opportunities to explore more into consultancy activities.

## 1. Strategies and Governance

- a. To facilitate development of an entrepreneurial ecosystem in the CEC and nearby area, specific objective and associated performance indicator will be periodically defined for assessment.
- b. Resource mobilisation plan will be worked out at the CEC for supporting innovation, pre-incubation, incubation infrastructure and facilities. A sustainable financial strategy will be defined in order to reduce the organizational constraints to work on the entrepreneurial agenda.
  - i. Minimum 1% fund of the total annual budget of the institution should be allocated for funding and supporting innovation and startups related activities through creation of separate 'Innovation fund'.
  - ii. The strategy should also involve raising funds from diverse sources to reduce dependency on the public funding. Bringing in external funding through government (state and central) such as DST, DBT, MHRD, AICTE, TDB, TIFAC, DSIR, CSIR, BIRAC, NSTEDB, NRDC, Startup India, Invest India, MeitY, MSDE, MSME, etc. and non- government sources should be encouraged.
  - iii. To support technology incubators, academic institutes may approach private and corporate sectors to generate funds, under Corporate Social Responsibility (CSR) as per Section 135 of the Company Act 2013.
- c. Institute may also raise funding through sponsorships and donations. Institute should actively engage alumni network for promoting Innovation & Entrepreneurship (I&E).
- d. For expediting the decision making, hierarchical barriers will be minimized through empowering the NISP team and individual autonomy and ownership of initiatives will be promoted.
- e. Institute should develop and implement I&E strategy and policy for the entire institute in order to integrate the entrepreneurial activities across various centers, departments, faculties within the institute, thus breaking the barriers.
- f. Importance of innovation and entrepreneurial agenda should be known across CEC and should be promoted and highlighted at institutional programs such as conferences, workshops, etc.
- g. Development of entrepreneurship culture should not be limited within the boundaries of the Institute. Institute should be the driving force in developing entrepreneurship culture in its vicinity (regional, social and community level). Moreover, international exchange programs, internships, engaging the international faculties in teaching and research should also be promoted.

## 2. Startups Enabling Institutional Infrastructure

Pre-incubation and incubation facilities for nurturing innovations and startups will be created. Incubation and Innovation can be organically interlinked and effort will be to link Innovation to Enterprises to Financial Success.

- a. CEC will provide facilities to support pre-incubation and Incubation/acceleration by mobilizing resources from internal and external sources.
- b. Pre-Incubation/Incubation facility will be accessible 24x7 to students, staff and faculty of all disciplines and departments across the institute.
- c. Centre for I2RE should be Registered under Section-8 of company act 2013 or Society registered under Society Registration Act with independent governance structure. This will allow more freedom to Incubators in decision making with less administrative hassles for executing the programs related to innovation, IPR and Startups. Moreover, they will have better accountability towards investors supporting the incubation facility.
- d. Mentoring and other relevant services may be offered through Pre-incubation/Incubation units in-return for fees, equity sharing and (or) zero payment basis

## 3. Nurturing Innovations and Start ups

- a. CEC will establish processes and mechanisms for easy creation and nurturing of Startups/enterprises by students (UG, PG, Ph.D.), staff (including temporary or project staff), faculty, alumni and potential start up applicants even from outside the institutions
- b. While defining their processes, institutions will ensure to achieve following:
  - i. Incubation support: Offer access to pre-incubation & Incubation facility to start ups by students, staff and faculty for mutually acceptable time-frame.
  - ii. CEC will allow IPR license on the developed technology on easy term, either in terms of equity in the venture and/ or license fees and/ or royalty to obviate the early-stage financial burden.
  - iii. CEC will allow their students / staff to work on their innovative projects and setting up start ups (including Social Start ups) or work as intern / part-time in start ups (incubated in any recognized HEIs/Incubators) while studying / working. Student Entrepreneurs may earn credits for working on innovative prototypes/Business Models. Institute may need to develop clear guidelines to formalize this mechanism. Student inventors may also be allowed to opt for start up in place of their mini project/ major project, seminars, summer trainings.
- c. Students who are under incubation, but are pursuing some entrepreneurial ventures while studying will be allowed to use their address in the institute to register their company with due permission from the Principal, CEC.
- d. Students entrepreneurs should be allowed to sit for the examination, even if their attendance is less than the minimum permissible percentage, with due permission from the institute.
- e. CEC will allow their students to take a semester/year break (or even more depending upon the decision of review committee constituted by the institute) to work on their startups and re-join academics to complete the course. Student entrepreneurs may earn academic credits for their efforts while creating an enterprise.
- f. The institute should explore provision of accommodation to the entrepreneurs within the campus for some period of time.

- g. Allow faculty and staff to take off for a semester / year (or even more depending upon the decision of review committee constituted by the institute) as sabbatical/ unpaid leave/ casual leave/ earned leave for working on startups and come back. Institution may consider allowing use of its resource to faculty/students/staff wishing to establish start up as a fulltime effort.
- h. Institute will facilitate the startup activities/ technology development by allowing students/ faculty/ staff to use institute infrastructure and facilities, as per the choice of the potential entrepreneur in the following manners:
- i. Short-term/ six-month/ one-year parttime entrepreneurship training.
  - ii. Mentorship support on regular basis.
  - iii. Facilitation in a variety of areas including technology development, ideation, creativity, design thinking, fund raising, financial management, cash-flow management, new venture planning, business development, product development, social entrepreneurship, product costing, marketing, brand-development, human resource management as well as law and regulations impacting a business.
  - iv. Institute may also link the startups to other seed-fund providers/ angel funds/ venture funds or itself may set up seed-fund once the incubation activities mature.
  - v. License institute IPR as discussed in section 4 below.
- i. In return of the services and facilities, institute may take 2% to 9.5% equity/ stake in the startup/ company, based on brand used, faculty contribution, support provided and use of institute's IPR.
- For staff and faculty, institute can take no-more than 20% of shares that staff / faculty takes while drawing full salary from the institution; however, this share will be within the 9.5% cap of company shares, listed above.
  - No restriction on shares that faculty / staff can take, as long as they do not spend more than 20% of office time on the startup in advisory or consultative role and do not compromise with their existing academic and administrative work / duties. In case the faculty/ staff holds the executive or managerial position for more than three months in a startup, then they will go on sabbatical/ leave without pay/ earned leave.
  - In case of compulsory equity model, Startup may be given a cooling period of 3 months to use incubation services on rental basis to take a final decision based on satisfaction of services offered by the institute/incubator. In that case, during the cooling period, institute cannot force startup to issue equity on the first day of granting incubation support.
- j. The institute will also provide services based on mixture of equity, fee-based and/ or zero payment model. So, a startup may choose to avail only the support, not seed funding, by the institute on rental basis.
- k. Institute could extend this startup facility to alumni of the institute as well as outsiders
- l. Participation in start up related activities needs to be considered as a legitimate activity of faculty in addition to teaching, R&D projects, industrial consultancy and management duties and must be considered while evaluating the annual performance of the faculty. Every faculty may be encouraged to mentor at least one startup. Product development and

commercialization as well as participating and nurturing of startups would now be added to a bucket of faculty-duties and each faculty would choose a mix and match of these activities (in addition to minimum required teaching and guidance) and then respective faculty are evaluated accordingly for their performance and promotion.

- m. CEC will update/change/revise performance evaluation policies for faculty and staff as stated above.
- n. CEC ensure that at no stage any liability accrue to it because of any activity of any startup.

#### 4. Product Ownership Rights for Technologies Developed at Institute

- a. When institute facilities / funds are used substantially or when IPR is developed as a part of curriculum/ academic activity, IPR is to be jointly owned by inventors and the institute.
  - i. Inventors and institute could together license the product / IPR to any commercial organisation, with inventors having the primary say. License fees could be either / or a mix of
    - 1. Upfront fees or one-time technology transfer fees
    - 2. Royalty as a percentage of sale-price
    - 3. Shares in the company licensing the product
  - ii. CEC will not hold the equity as per the current statute, so Incubation center will hold equity on their behalf.
  - iii. If one or more of the inventors wish to incubate a company and license the product to this company, the royalties would be no more than 4% of sale price, preferably 1 to 2%, unless it is pure software product. If it is shares in the company, shares will again be 1% to 4%. For a pure software product licensing, there may be a revenue sharing to be mutually decided between the Incubation center and the incubated company.
- b. On the other hand, if product/ IPR is developed by innovators not using any institute facilities, outside office hours (for staff and faculty) or not as a part of curriculum by student, then product/ IPR will be entirely 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 they deem fit.
- c. If there is a dispute in ownership, a minimum five membered committee consisting of two faculty members (having developed sufficient IPR and translated to commercialisation), two of the institute industry experts / alumni (having experience in technology commercialisation) and one legal advisor with experience in IPR, will examine the issue after meeting the inventors and help them settle this, hopefully to everybody's satisfaction. CEC can use alumni/ faculty of other institutes as members, if they cannot find sufficiently experienced alumni/ faculty of their own.
- d. CEC incubation center will only be a coordinator and facilitator for providing services to faculty, staff and students. They will have no say on how the invention is carried out, how it is patented or how it is to be licensed however in specific case, clarifications can be sought. When CEC is paying for patent filing, institute will constitute a committee which can examine whether the IPR is worth patenting. The committee should consist of faculty who have experience and excelled in technology translation. If inventors are using their own funds or non-university funds, then they alone should have a say in patenting.
- e. Institute's decision-making body with respect to incubation / IPR / technology-licensing will

consist of faculty and experts who have excelled in technology translation. Other faculty in the department / institute will have no say, including heads of department, heads of institutes, deans or registrars.

- f. Interdisciplinary research and publication on startup and entrepreneurship should be promoted by the institutions

#### **5. Organizational Capacity, Human Resources and Incentives**

- a. CEC will recruit staff that have a strong innovation and entrepreneurial/ industrial experience, behaviour and attitude. This will help in fostering the I&E culture
  - i. Some of the relevant faculty members with prior exposure and interest should be deputed for training to promote I&E.
  - ii. To achieve better engagement of staff in entrepreneurial activities, institutional policy on career development of staff should be developed with constant upskilling
- b. Faculty and departments of the institute have to work in coherence and cross-departmental linkages should be strengthened through shared faculty, cross-faculty teaching and research in order to gain maximum utilization of internal resources and knowledge.
- c. Periodically some external subject matter experts such as guest lecturers or alumni can be engaged for strategic advice and bringing in skills which are not available internally.
- d. Faculty and staff should be encouraged to do courses on innovation, entrepreneurship management and venture development.
- e. In order to attract and retain right people, institute should develop academic and non-academic incentives and reward mechanisms for all staff and stakeholders that actively contribute and support entrepreneurship agenda and activities.
  - i. The reward system for the staff may include sabbaticals, office and lab space for entrepreneurial activities, reduced teaching loads, awards, trainings, etc.
  - ii. The recognition of the stakeholders may include offering use of facilities and services, strategy for shared risk, as guest teachers, fellowships, associateships, etc.
  - iii. A performance matrix will be developed and used for evaluation of annual performance



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

- a. 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 will be devised at institute level.
  - i. Spreading awareness among students, faculty and staff about the value of entrepreneurship and its role in career development or employability will be a part of the CEC entrepreneurial agenda.
  - ii. Students/ staff will be taught that innovation (technology, process or business innovation) is a mechanism to solve the problems of the society and consumers. Entrepreneurs will innovate with focus on the market niche.
  - iii. Students will be encouraged to develop 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, bootcamps, seminars, conferences, exhibitions, mentoring by academic and industry personnel, throwing real life challenges, awards and recognition will be routinely organized.
  - iv. To prepare the students for creating the start up through the education, integration of education activities with enterprise- related activities will be done.
- b. CEC will link their start-ups and companies with wider entrepreneurial ecosystem and by providing support to students who show potential, in pre- startup 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 and will increase the probability of success.
- c. CEC will establish Institution's Innovation Councils (IICs) as per the guidelines of MHRD's Innovation Cell and allocate appropriate budget for its activities. IICs should guide institutions in conducting various activities related to innovation, startup and entrepreneurship development. Collective and concentrated efforts should be undertaken to identify, scout, acknowledge, support and reward proven student ideas and innovations and to further facilitate their entrepreneurial journey
- d. For strengthening the innovation funnel of the KITW, access to financing must be opened for the potential entrepreneurs.
  - I. Networking events must be organized to create a platform for the budding entrepreneurs to meet investors and pitch their ideas.
  - II. Provide business incubation facilities: premises at subsidised cost. Laboratories, research facilities, IT services, training, mentoring, etc. will be accessible to the new startups.
  - III. A culture needs to be promoted to understand that money is not FREE and is risk capital. The entrepreneur must utilize these funds and return. While funding is taking risk on the entrepreneur, it is an obligation of the entrepreneur to make every effort possible to prove that the funding agency did right in funding him/ her.

## 7. Norms for Faculty Startups

- a. For better coordination of the entrepreneurial activities, norms for faculty to do startups will be created by the CEC. Only those technologies will be taken for faculty startups which originate from within the CEC.
  - i. Role of faculty may vary from being an owner/ direct promoter, mentor, consultant or as on-board member of the startup.
  - ii. Institutes will 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.
  - iii. Faculty startup may consist of faculty members alone or with students or with faculty of other institutes or with alumni or with other entrepreneurs.
- b. 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.
- c. Faculty must clearly separate and distinguish on-going research at the institute from the work conducted at the startup/ company.
- d. 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.
- e. Faculty must not accept gifts from the startup.
- f. Faculty must not involve research staff or other staff of institute in activities at the startup and vice-versa.
- g. Human subject related research in startup should get clearance from ethics committee of the institution.

## 8. Pedagogy and Learning Interventions for Entrepreneurship Development

- a. Diversified approach should be adopted to produce desirable learning outcomes, which should include cross disciplinary learning using mentors, labs, case studies, games, etc. in place of traditional lecture-based delivery.
  - i. Student clubs/ bodies/ departments must be created for organizing competitions, bootcamps, workshops, awards, etc. These bodies should be involved in institutional strategy planning to ensure enhancement of the student's thinking and responding ability.
  - ii. Institute will start annual 'INNOVATION & ENTREPRENEURSHIP AWARD' to recognize outstanding ideas, successful enterprises and contributors for promoting innovation and enterprises ecosystem within the institute.
  - iii. For creating awareness among the students, the teaching methods should include case studies on business failure and real-life experience reports by startups.
  - iv. Tolerating and encouraging failures: Our systems are not designed for tolerating and encouraging failure. Failures need to be elaborately discussed and debated to imbibe that failure is a part of life, thus helping in reducing the social stigma associated with it. Very importantly, this will be a part of institute's philosophy and

culture.

- v. Innovation champions should be nominated from within the students/ faculty/ staff for each department/ stream of study.

b. Entrepreneurship education should be imparted to students at curricular/ co-curricular/ extracurricular level through elective/ short term or long- term courses on innovation, entrepreneurship and venture development. Validated learning outcomes should be made available to the students.

- i. Integration of expertise of the external stakeholders should be done in the entrepreneurship education to evolve a culture of collaboration and engagement with external environment.
- ii. In the beginning of every academic session, institute will conduct an induction program about the importance of I&E so that freshly inducted students are made aware about the entrepreneurial agenda of the institute and available support systems. Curriculum for the entrepreneurship education should be continuously updated based on entrepreneurship research outcomes. This should also include case studies on failures.
- iii. Industry linkages should be leveraged for conducting research and survey on trends in technology, research, innovation, and market intelligence.
- iv. Sensitization of students should be done for their understanding on expected learning outcomes.
- v. Student innovators, startups, experts must be engaged in the dialogue process while developing the strategy so that it becomes need based.
- vi. Customized teaching and training materials should be developed for startups.
- vii. It must be noted that not everyone can become an entrepreneur. The entrepreneur is a leader, who would convert an innovation successfully into a product, others may join the leader and work for the startup. It is important to understand that entrepreneurship is about risk taking. One must carefully evaluate whether a student is capable and willing to take risk.

c. Pedagogical changes need to be done to ensure that maximum number of student projects and innovations are based around real life challenges. Learning interventions developed by the institute for inculcating entrepreneurial culture should be constantly reviewed and updated.

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

a. Stakeholder engagement will be given prime importance in the entrepreneurial agenda of the CEC. Institute will 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.

- i. To encourage co-creation, bi-directional flow/ exchange of knowledge and people will be ensured between institutes/ organisations such as incubators, software technology parks of India and science parks, etc.
- ii. CEC will organize networking events for better engagement of collaborators and will open up the opportunities for staff, faculty and students to allow constant flow of ideas and

knowledge through meetings, workshops, space for collaboration and lectures etc.

- iii. Mechanism will be developed by the institute to capitalize on the knowledge gained through these collaborations.
  - iv. Care will be taken to ensure that events don't become an end goal. First focus of the Technology Business Incubator will be to create successful ventures.
- b. The institute will develop policy and guidelines for forming and managing the relationships with external stakeholders including private industries.
- c. Knowledge exchange through collaboration and partnership should be made a part of CEC policy and institute will provide support mechanisms and guidance for creating, managing and coordinating these relationships.
- i. Through formal and informal mechanisms such as internships, teaching and research exchange programmes, clubs, social gatherings, etc., faculty, staff and students of CEC will be given the opportunities to connect with their external environment.
  - ii. Connect of the CEC with the external environment must be leveraged in form of absorbing information and experience from the external ecosystem into the institute's environment.
  - iii. Single Point of Contact (SPOC) mechanism should be created in the institute for the students, faculty, collaborators, partners and other stakeholders to ensure access to information.
  - iv. Mechanisms will be devised by the institute to ensure maximum exploitation of entrepreneurial opportunities with industrial and commercial collaborators.
  - v. Knowledge management should be done by the institute through development of innovation knowledge platform using inhouse Information & Communication Technology (ICT) capabilities.

#### **10. Entrepreneurial Impact Assessment**

- a. Impact assessment of institute's entrepreneurial initiatives such as pre- incubation, incubation, entrepreneurship education should be performed regularly using well defined evaluation parameters.
  - i. Monitoring and evaluation of knowledge exchange initiatives, engagement of all departments and faculty in the entrepreneurial teaching and learning should be assessed.
  - ii. Number of start ups created, support system provided at the institutional level and satisfaction of participants, new business relationships created by the institute will be recorded and used for impact assessment.
  - iii. Impact should also be measured for the support system provided by the institute to the student entrepreneurs, faculty and staff for pre-incubation, incubation, IPR protection, industry linkages, exposure to entrepreneurial ecosystem, etc.
- b. Formulation of strategy and impact assessment should go hand in hand. The information on impact of the activities should be actively used while developing and reviewing the entrepreneurial strategy.

- c. Impact assessment for measuring the success should be in terms of sustainable social, financial and technological impact in the market. For innovations at pre-commercial stage, development of sustainable enterprisemodel is critical. COMMERCIAL success is the ONLY measure in long run.