

Innovation and Startup Policy 2021-22

Velammal College of Engineering and Technology (Autonomous)

Madurai – 625 009



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Preamble

In November 2016, All India Council of Technical Education (AICTE) released a Startup Policy document for AICTE approved institutions, to address the need of inculcation of innovation and entrepreneurial culture in higher education institutions (HEIs). The policy primarily focused on guiding the AICTE approved institutions in implementing 'Startup Action Plan' of Government of India. Subsequent to release of the Startup 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 for all the HEIs in India. This leads to the 'National Innovation and Startup Policy (NISP)'.

The Institution Innovation and Startup Policy is catalyst in creating innovation and entrepreneurial ecosystem in our institute. This will provide ample opportunities to the faculty, research scholars and students give shape to their random ideas into deliverable empathetic solutions to various technical and societal problems. This Institution Innovation and Startup Policy is aligned with National Innovation and Startup Policy (NISP) considering the parameters highlighted in ARIIA framework. This policy is subject to review and amendments whenever necessary with prior recommendation by the Head of the Institute, Principal, Velammal College of Engineering of Technology. The policy is drafted by the 'Institution Innovation and Startup Policy Formulation Committee' setup on 17th September 2022 with the head of the HEI; the Principal, Velammal College of Engineering and Technology.

Vision

To provide an entrepreneurial ecosystem to develop innovation and entrepreneurial culture and opt it as a career option

Mission

To identify student innovators, promote and support them to evolve self sustaining business models. Supporting pre-incubation, incubation infrastructure and facilities to promote and develop entrepreneurial activities.

Objectives

1. To develop a comprehensive innovation and entrepreneurial strategy and policy document
2. To implement innovation and entrepreneurial strategy and policy
3. To describe evaluation parameters of pre-incubation, incubation, entrepreneurship education of VCET
4. To develop the strategy to raise funds for supporting incubators
5. To promote importance of innovation and entrepreneurial conduct various institutional programs such as conferences, workshops, etc.

1. Strategies and Governance

- a. Developing an innovation, startup and entrepreneurial ecosystem is one of the priorities of VCET enabling the faculty and students to realize their innovative technical potentialities.
- b. The Vision and Mission statements and the Objectives of the institute set a framework for the implementation of the innovation and startup policy emphasizing achievement of the set goals rather than coercive control system. The management of the institute ensures a committed support in the implementation of the policy.
- c. The administration authorities of the institute give importance on creating an academic ambience to develop innovative and entrepreneurial mindset among the faculty and students.
- d. The institution with academic autonomy; the Board of Studies of all branches of engineering incorporate the courses educating students (both in Undergraduate and Postgraduate courses) to acquire skills and knowledge on creative thinking, innovation and entrepreneurship and business policies.
- e. At institution level, resource mobilization plan will be made to support the innovation and incubation infrastructure and other related facilities in order to achieve a sustainable entrepreneurial agenda. An effort will be made to search for diverse external sources of funding of students' projects and innovative activities which involve government agencies and organizations (such as DST, KSCST, DBT, MSME, Startup India, Invest India, MSDE, etc.) and non-government sources (NGOs, Venture Capitalist, etc.)

- f. The importance of Innovation, Intellectual Property Rights and Entrepreneurship always highlighted in organizing technical events and fests, competitions and exhibitions, workshops, conferences, seminars and such other events.
- g. The necessary action plan will be worked out to promote entrepreneurship culture through industry-institute interaction, public participation for internships, research, higher education, technical know-how and faculty which could directly or indirectly help in promoting innovation and entrepreneurship culture

2. Startups Enabling Institutional Infrastructure

- a. The faculty and students are encouraged to pursue research and innovation. The institution manages to provide the necessary support and guidance to the faculty and students in applying for IP protection (patent, design patent, trademark, copyrights, etc.).
- b. The students are encouraged to actively involve and participate in various institution level and department level research and innovation oriented technical clubs managed by the student teams under the guidance of a designated staff (teaching or support staff or an external expert) such as Robotics Club, Mobile App club, etc., are in place and active.
- c. Entrepreneurship Development Cell (EDC) organizes the entrepreneurship awareness and training programmes for the students inviting the resource persons from MSME Centres, Ministry of MSME, Government of India and experts from the industries, start-ups, incubation centres and academia. It also organizes job and skill oriented training programmes to the rural youth and women and students from various technical institutes.
- d. VCET started Centre for Innovation and Product Development center since 2011. We need to set up Pre-incubation center which will accessible 24x7 to students, staff and faculty of all disciplines and departments/ Institutes across VCET.
- e. VCET can offer mentoring and other relevant services through Pre-incubation/Incubation units in-return for fees, equity sharing and (or) zero payment basis.

3. Nurturing Innovations and Start ups

- a. For easy creation and nurturing of Startups/enterprises by students (UG, PG and Ph.D.), staff, faculty, alumni and potential start up applicants even from outside VCET will ensure to achieve the following:
 - i. Incubation support: Offer access to pre-incubation & Incubation facility to startups by students, staff and faculty for mutually acceptable time-frame.
 - ii. licensing of IPR from institute to start up support: Ideally students and faculty members intending to initiate a startup based on the technology developed or co-developed by them or the technology owned by the VCET, should be allowed to take a license on the said 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
- b. Student inventors may also be allowed to opt for startup in place of their mini project/ major project, seminars, summer trainings. The area in which student wants to initiate a startup may be interdisciplinary or multidisciplinary. However, the student must describe how they will separate and clearly distinguish their ongoing research activities as a student from the work being conducted at the start up. Students who are under incubation, but are pursuing some entrepreneurial ventures while studying should be allowed to use their address in the institute to register their company with due permission from the institution.
- c. 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.
- d. VCET should 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. Institute should set up a review committee for review of start up by students, and based on the progress made, it may consider giving appropriate credits for academics.
- e. The institute should explore provision of accommodation to the entrepreneurs within the campus for some period of time.
- f. 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 should consider allowing use of its resource to faculty/students/staff wishing to establish start up as a fulltime effort. The seniority and other academic benefits during such period may be preserved for such staff or faculty.

- g. Entrepreneurship course is part of Undergraduate course for students with B.Sc (EMS). We can start a certification program for the students with 2 credits for undergraduate students. We can also start PG Diploma (Innovation, entrepreneurship and venture development) program where one can get degree while incubating and nurturing a startup company. AICTE has already issued guidelines for a similar program.
- h. VCET 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 part-time 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. VCET could extend this startup facility to alumni of the institute as well as outsiders.
- j. Participation in startup 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 competent faculty may be encouraged to mentor at least one startup
- k. 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.

- I. VCET should ensure that at no stage any liability accrue to it because of any activity of any startup.
- m. Pre incubation facility - In the pre-incubation planning phase, the following activities are to be performed:
 1. Identification of problems: Students will visit various sectors like villages, hospitals, urban areas etc. and will visualize practical problems that are associated with those sectors. Various other field visits may occur for identification of real life problems.
 2. Idea generation: Depending upon the problems students have to come out with a potential solution for a specific problem. That idea should be novel, innovative and can be able to solve a real life problem effectively.
 3. Collection of Ideas: Students have to submit the ideas in proper format to the authority in online mode. The ideas may be considered to take part in Toycathon, smart India Hackathon and National Innovation Contest I.e. conducted by MoE.
 4. Screening of Ideas: Selected applicant will be invited to give presentation to evaluation committee based on their potency of idea they will be shortlisted.
 5. Supporting, mentoring and strengthening of ideas: The shortlisted ideas will go through series of workshops, webinars, lecture series etc. In order to improve their ideas to solve problems and know various aspects of startups. Each idea may be under mentorship of a mentor from KIIT DU. Under his/her provision ideas may go to incubation stage.
 6. Business plan preparation: Workshop will be conducted on 'business plan development' for awareness of students by inviting renowned expert from industry or academia. Selected ideas are required to present their business plan with market analysis.
 7. Prototype development: Finally students have to prepare a prototype for their ideas. The prototype may be prepared under direct supervision of mentor assigned.
 8. Basic Idea Testing: Student idea needs to be tested before applying for incubation. Academic Institutions must ensure pre-incubation qualification of a student's business idea.
 9. Promoters Details: Relevant details of promoters are required to be validated before allowing start-ups to enter the incubation process.
 10. Registration of Start-up: The Student Start-up needs to be registered under a form of business entity like Partnership Firm, LLP, Private Limited Company.

4. Product Ownership Rights for Technologies Developed at VCET

- a. When VCET 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 VCET.
 - i. Inventors and VCET could together license the product / IPR to any commercial organization, with inventors having the primary say. License fees could be either / or a mix of
 - Upfront fees or one-time technology transfer fees
 - Royalty as a percentage of sale-price
 - Shares in the company licensing the product.
 - ii. 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. For a pure software product licensing, there may be a revenue sharing to be mutually decided between the VCET 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 members committee consisting of two faculty members (having developed sufficient IPR and translated to commercialization), two of the VCET's alumni/ industry experts (having experience in technology commercialization) 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. Institute can use alumni/ faculty of other institutes as members, if they cannot find sufficiently experienced alumni / faculty of their own.
- d. VCET IPR cell or 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. If institute is to pay for patent filing, they can have 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 institute funds, then they alone should have a say in patenting.

- e. VCET'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, deans or registrars.
- f. Interdisciplinary research and publication on startup and entrepreneurship should be promoted

5. Organizational Capacity, Human Resources and Incentives

- a. VCET will recruit staff with a strong innovation and entrepreneurial/ industrial experience, behavior and attitude. This will help in fostering the Innovation and Entrepreneurial culture.
 - i. Some of the relevant faculty members with prior exposure and interest should be deputed for training to promote Innovation and Entrepreneurial.
 - ii. To achieve better engagement of staff in entrepreneurial activities, institutional policy on career development of staff should be developed.
 - iii. Faculty and departments of the VCET 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.
- b. 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.
- c. Faculty and staff should be encouraged to do courses on innovation, entrepreneurship management and venture development.
- d. In order to attract and retain right people, institute should develop academic and nonacademic 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, associate, etc.
 - iii. A performance matrix should 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 should be devised at institution level.
 - i. Spreading awareness among students, faculty and staff about the value of entrepreneurship and its role in career development or employability should be a part of the institutional entrepreneurial agenda.
 - ii. Students/ staff should be taught that innovation (technology, process or business innovation) is a mechanism to solve the problems of the society and consumers. Entrepreneurs should innovate with focus on the market niche.
 - iii. Students should 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 should be routinely organized.
 - iv. To prepare the students for creating the start up through the education, integration of education activities with enterprise-related activities should be done.
- b. VCET should link their startups 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. VCET's IIC 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 institute, 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 subsidized cost. Laboratories, research facilities, IT services, training, mentoring, etc. should 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.
- e. VCET must develop a ready reckoner of Innovation Tool Kit, which must be kept on the homepage on VCET's website to answer the doubts and queries of the innovators and enlisting the facilities available at the institute.

7. Norms for Faculty Startups

- a. For better coordination of the entrepreneurial activities, norms for faculty to do startups should be created by the VCET. Only those technologies should be taken for faculty startups which originate from within the same institute.
 - i. Role of faculty may vary from being an owner/ direct promoter, mentor, consultant or as on-board member of the startup.
 - ii. 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.
 - 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 hold 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 e-cell must organize competitions, boot camps, workshops, awards, etc. Ecell should be involved in institutional strategy planning to ensure enhancement of the student's thinking and responding ability.
 - ii. Institutes should 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 should be a part of institute's philosophy and culture.

- v. Innovation champions should be nominated from within the students/ faculty/ staff for each department.
- 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 should 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 VCET for inculcating entrepreneurial culture should be constantly reviewed and updated.

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

- a. Stakeholder engagement should be given prime importance in the entrepreneurial agenda of VCET. VCET is planning to have partner like IIMB, 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 should be ensured between institutes such as incubators, science parks, etc.
 - ii. Institute should organize networking events for better engagement of collaborators and should open up the opportunities for staff, faculty and students to allow constant flow of ideas and knowledge through meetings, workshops, space for collaboration, lectures, etc.
 - iii. VCET should capitalize the knowledge gained through these collaborations.
 - iv. Care must be taken to ensure that events DON'T BECOME an end goal. First focus of the incubator should be to create successful ventures.
- b. Knowledge exchange through collaboration and partnership should be made a part of institutional policy and VCET must 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 programs, clubs, social gatherings, etc., faculty, staff and students of VCET should be given the opportunities to connect with their external environment.
 - ii. Connect of the institute with the external environment must be leveraged in form of absorbing information and experience from the external ecosystem into the VCET's environment.
 - iii. Single Point of Contact (SPOC) mechanism should be created in VCET for the students, faculty, collaborators, partners and other stakeholders to ensure access to information.
 - iv. Knowledge management should be done by the institute through development of innovation knowledge platform.

10. Entrepreneurial Impact Assessment

- a. Impact assessment of VCET'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 startups created, support system provided at the institutional level and satisfaction of participants, new business relationships created by the institutes should be recorded and used for impact assessment.
 - iii. Impact should also be measured for the support system provided by VCET 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 enterprise model is critical. *Commercial success is the only measure in long run.*



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