



## National Innovation and Startup Policy



*"In Pursuit of Global Competitiveness"*

## GOVERNMENT COLLEGE OF ENGINEERING

*An Autonomous Institute of Government of Maharashtra*

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## **Preamble:-**

Government Engineering College Aurangabad has been at the forefront of promoting creativity and incubating business ideas in order to provide an atmosphere where its students and faculty can explore their potential. Members of the faculty are continuously engaged in the generation and distribution of information, just as students are finding ways to launch business ideas to influence society and solve problems in the real world.

The conversion of research activity into entrepreneurial ventures, where Students, Scholars, Faculty, Alumni and Prospective Entrepreneurs express interest in knowledge generation. A large number of R&D activities are being proposed to be carried out by stakeholders in several cutting-edge science and technology areas. However, most of these research outcomes do not get translated into commercial products, benefiting the society in general, due to several reasons including lack of interest in the industry in commercializing new and futuristic technologies and restriction on the institute's employees to start entrepreneurship.

Towards this end, Government College of Engineering Aurangabad in line with the best practices of other institutes of higher learning across the world, encourages interested stakeholders to incorporate companies to engage in the businesses, that are direct result of the research and development and also creativity and innovation activities.

## **VISION:-**

To be a leading promoter of innovation and entrepreneurship that fosters synergy between the innovator, academia, and the industry to create a startup ecosystem.

## **MISSION:-**

- To motivate, build and promote out of the box thinking and development of innovative ideas.
- To create an ecosystem in campus to nurture innovation for promoting entrepreneurship through industry collaborations by providing incubation facilities and services for greater social impact.
- To promote activities related to Ideation, Pre-incubation and Incubation to support startups

## **Thrust Areas:**

Different Sectors where incubation, innovation and startup can be provided are among, but not limited to:

- Renewable Energy Technology
- Automation Technology
- Water Resource Engineering and Management
- Agro Technology and Allied sectors
- Other emerging areas or of Social / National Importance

## **Objectives**

The main objectives of the entrepreneurship policy will be as follows:

- To provide a platform to the faculty and students to pursue their own ideas towards becoming partners in economic development process.
- To build entrepreneurship culture in the institution.
- To promote knowledge based and innovation driven enterprises.
- To promote employment opportunities amongst students.
- To offer platform for dynamic start-ups by motivating educated youth to consider entrepreneurship as a preferred and viable career.
- To support early phase of entrepreneurship development including the pre-start up as well as early post start-up phase and growing enterprises.
- To ensure adequate availability and flow of information to potential entrepreneurs, eliminate entry and exit barriers, create a business-friendly environment in order to reduce various kinds of compliances and regulations.

## **Scope**

This policy will cover and guide all the innovative /entrepreneur activities of bona fide students (undergraduate and post graduate), alumni and faculty of the college. The policy aims at enabling the college to build, streamline and strengthen the innovation and entrepreneurial ecosystem in campus and will be instrumental in leveraging the potential of science using student's creative problem solving and entrepreneurial mind-set 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 college will play key role in identifying, mentoring, nurturing innovative and entrepreneurial potential of faculty and students and transforming them into start-up entrepreneurs by providing avenues of funding, investment opportunities and networking support to make the innovation and venture successful.



## **Short Term Plans and Goals for Implementation of NISP at Government Engineering College Aurangabad**

- To promote creative, novel and innovative thinking among the community of students and the faculty. At least one hackathon will be conducted every year.
- To assist student groups to prototype their innovative ideas. At least one such idea per department will be promoted.
- To offer an improved incubation facility to at least one alumni startup per year for enhancing better entrepreneurial ecosystem.
- To nurture entrepreneurial culture by organizing a large number of relevant FDPs, STTPs, seminars and workshops. Every department will host one activity in each semester.
- To reinforce the institution-industry interactions and to channel its outcome towards achieving the mission. Every department will arrange lectures on recent trends in industry per semester

## **Long Term Plans and Goals for Implementation of NISP at Government Engineering College Aurangabad**

- To spread awareness among the students and the faculty on research and IPR activities. Minimum two(02) Indian IPR needs to be filed per year.
- To extend a dedicated support to Indian/ Local based start-ups developing innovative technology solutions for serving the basic needs of our society. At least one such startup per year will be promoted.
- To associate with the government bodies like DST, CII, TNASC, MSME and other academic institutions for transferring/Sharing / Using world class facility to the students and faculties of Government Engineering College Aurangabad. At least 20% of the projects at UG/PG/PhD level will be in support with above institutions.
- To encourage the stakeholders of Government Engineering College Aurangabad to work on innovative projects based on commercial products that will serve the needs of our country. At least two projects will be converted in entrepreneur activity per year.
- To provide a platform for young students to develop products with global recognition that can generate business opportunities. At least 5% of Engineering Exploration Course projects to be commercialized per year.

# **The National Innovation and Startup Policy Document for Government**

## **College of Engineering Aurangabad Maharashtra**

The National Innovation and Startup Policy Document for Government college of Engineering Aurangabad Maharashtra was finalized based on various components suggested for framework and various important and practical aspects of promoting and supporting innovation, technology commercialization and startups in academic setup

### **A. Strategies & Governance for Promoting Innovation & Entrepreneurship**

The National Innovation and Start-up Policy 2019 for students and faculty of Government College of Engineering Aurangabad Maharashtra will enable the institutes to actively engage students, faculties and staff in innovation and entrepreneurship related activities. These guidelines will enable institute to actively support their faculty, staff and students to participate in innovation and entrepreneurship (I&E) related activities, thus encouraging students and faculty to consider start-ups and entrepreneurship as a potential career option.

A.1 Entrepreneurship promotion development will be one of the major dimensions of the Government Engineering College Aurangabad strategies. To facilitate development of an entrepreneurial ecosystem in the Government Engineering College Aurangabad and nearby area, specific objective and associated performance indicator will be periodically defined for assessment.

A.2. Implementation of entrepreneurial vision in Government Engineering College Aurangabad will be achieved through mission statements rather than stringent control system. The entrepreneurial agenda will be responsibility of all the stake holders to bring in required commitment.

A.3 Resource mobilization plan will be worked out at the Government Engineering College Aurangabad level for supporting innovation, pre-incubation, incubation infrastructure and facilities. A sustainable financial strategy will be defined to reduce the organizational constraints to work on the entrepreneurial agenda.

i. Investment in the entrepreneurial activities will be a part of the institutional financial strategy. Minimum 1% fund of the total annual budget of the institution will be allocated for funding and

supporting innovation and startups related activities through creation of separate ‘Innovation fund’.

ii. The strategy will also involve raising funds from diverse external funding sources 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 nongovernment sources.

iii. To support technology incubators, Government Engineering College Aurangabad will approach private and corporate sectors to generate funds, under Corporate Social Responsibility (CSR) as per Section 135 of the Company Act 2013.

iv. Government Engineering College Aurangabad will also raise funding through sponsorships and donations. We will actively engage alumni network for promoting Innovation & Entrepreneurship.

A.4 For expediting the decision making, hierarchical barriers will be minimized through empowering the IIC team and individual autonomy and ownership of initiatives will be promoted.

A.5 Importance of innovation and entrepreneurial plan will be known across the Government Engineering College Aurangabad and will be promoted and highlighted at Institute Academic Calendar programs such as conferences, convocations, workshops, etc.

A.6 Action plan will be formulated at Government Engineering College Aurangabad level, having well-defined short-term and long-term goals.

A.7 Government Engineering College Aurangabad will develop and implement innovation and entrepreneurship strategy and policy for the entire Institute in order to integrate the entrepreneurial activities across various center for excellence, departments, faculties, career services within the Institute.

A.8 Product to market strategy for startups can be developed by the Institute on case-to-case basis.

A.9 Development of entrepreneurship culture will not be limited within the boundaries of the Institute.

i. Government Engineering College Aurangabad will be the driving force in developing entrepreneurship culture in its vicinity (regional, social and community level). This shall include



giving opportunity for regional startups, provision to extend facilities for outsiders and active involvement of the Institute in defining strategic direction for local development.

ii. Strategic international partnerships will be developed With the support of Global Alumni Network of the institute using bilateral and multilateral channels with international innovation clusters and other relevant organizations. Moreover, international exchange programs, internships, engaging the international faculties in innovation and entrepreneurship will also be promoted.

## **A1. Creating Innovation Pipeline and Pathways for Entrepreneurs**

Awareness programmes will be organized for students, faculty, and staff at institution level.

A1.1 Spreading awareness among students, faculty and staff about the value of entrepreneurship and development, or employability is essential part of the institutional entrepreneurial agenda.

A1.2 Students trained in various training/activities/events to develop entrepreneurial mindset through experiential learning by exposing them to 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 will be organized.

A1.3 Institute will 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.

A1.4 For strengthening the innovation funnel of the institute, access to financing will be opened for the potential entrepreneurs.

A1.5 Networking events will be organized to create a platform for the budding entrepreneurs to meet investors and pitch their ideas.

A1.6 Provide business incubation facilities: premises at subsidized cost. Laboratories, research facilities, IT services, training, mentoring, etc. should be accessible to the new startups.

A1.7 Innovation Tool Kit will be developed and made available on institute's website to answer the queries of the innovators and enlisting the facilities available at the institute.

## **A2. Building Organizational Capacity, Human Resources, and Incentives to support and promote innovative and entrepreneurial activities**

A2.1 Institute with permission of Board of Management will recruit staff that have a strong innovation and entrepreneurial/ industrial experience, behavior and attitude. This will help in fostering the I&E culture.

- i. Some of the relevant faculty members with prior exposure and interest will 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 will be developed with constant upskilling.

A2.2 Faculty and departments of the institutes will work in coherence and cross-departmental linkages will be strengthened through shared faculty, cross-faculty teaching and research in order to gain maximum utilization of internal resources and knowledge.

A2.3 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.

A2.4 Faculty and staff will be encouraged to do courses on innovation, entrepreneurship management and venture development.

A2.5 In order to attract and retain right people, institute will develop 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.

### **Nurturing Innovations and Start ups**

1. Institute will establish processes and mechanisms for easy creation and nurturing of Start ups/enterprises by students (UG, PG, Ph.D.), staff, faculty, alumni, and potential start up applicants even from outside the institutions.

2. 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 timeframe.

- i. In case an institute doesn't have a dedicated facility/ infrastructure of its own, then it will reach out to nearest incubation facilities in other HEIs in order to facilitate access to their students, staff and faculty.



ii. Will allow licensing of IPR from institute to start up: 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 institute, will 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.

iii. Will allow setting up a startup (including social startups) and working part-time for the startups while studying / working: HEIs may allow their students / staff to work on their innovative projects and setting up startups (including Social Startups) or work as intern / part-time in startups (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 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.

c. 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.

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. Institute will allow 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 start ups 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.

### **A3 Collaboration, Co-creation, Business Relationships and Knowledge Exchange**

A3.1 For all the activities relevant to the entrepreneurial agenda of the institute, participation and collaboration of industry partners, institutes of national importance, international institutions, social enterprises, Business schools, alumni, professional bodies and entrepreneurs will be encouraged.

A3.2 Institute will have collaborations with associations of industries like MAGIC, MASSIA, CII, etc., with various government departments and ministries like DST, MeitY research organizations like DRDO, entrepreneurship promoting institutes EDII, and will search for international organizations to carry innovation work and search for funding through venture capitalists etc.

### **B. Norms for Faculty & Students Driven Innovations and Startups**

#### **Norms for Faculty:**

For better coordination of the entrepreneurial activities, norms for faculty are created by the institutes. Only those technologies should be taken for faculty startups which originate from within the same institute. With the approval of Board of Management case by case policies for faculty can be approved.

- 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.

### **Norms for Students:**

- i. Institute may allow students to work on their innovative projects and setting up startups (including Social Startups) or work as interns/part-time in startups while studying.
- ii. Student inventors may also be allowed to opt for startup in place of their mini project/ major project, seminars, summer trainings etc. The area in which a student wants to initiate a startup may be interdisciplinary or multidisciplinary with team members from various departments depending on the need of the project. Such scrutinized proposal shall be forwarded by the Department Academic Committee (DAC) of the concerned department(s) for consideration and further approvals
- iii. The credit points as per the industrial training credits may be awarded to students working for startups with recommendation of IAC, as per the ordinance of Institute.
- iv. The liberty to add competent joint-supervisor and to propose topic of thesis that aims to create a Startup will be provided to the B Tech students/ M Tech students/ Research Scholars working full-time/part-time. Policy favors that the requirements for submission of thesis (for award of Degree) for such students/scholars will be suitably modified with due weightage to Patents/Design/Copyright and product development in lieu of research publications or any other such requirements as per the ordinance of Institute
- v. All Norms for Students active participation will be as per guidelines from Academic Council . Academic council will be suggested to modify rules according to AICTE NISP Guidelines

### **B1. Incentivizing Students for Entrepreneurship and Startup pursuits**

With the approval of Board of Management case by case policies for students can be approved.

### **B2. Incentivizing faculty and Staff for Entrepreneurship and Startup pursuits**

With the approval of Board of Management case by case policies for faculty can be approved.



### **C. Incubation & Pre-Incubation Support and Facility Creation**

Ankur Incubation Centre Foundation (AICF), is a section 8, non-profit organization registered under the support of Government College of Engineering, Aurangabad helping in incubation and preincubation activities supporting competencies specific to entrepreneurial actions: communication, negotiation, Opportunity Identification, Marketing Accounting, Finance, Environmental Scanning- documents and procedures (business plan and techniques for project evaluation), project management etc.

AICF acts as facilitator and resource company to motivate, guide and help prospective and existing entrepreneurs in their entrepreneurial endeavors/efforts through positive training interventions. Entrepreneurship Development Programmes (EDPs) are well formulated and suitably structured programmes conducted with the aim of new enterprise creation. Programme provides details on institutional linkages and assistance, business opportunities, achievement motivation, technical orientation, factory visits, market survey, project report preparation, marketing management aspects, financial aspects, Factory Acts and Labor Laws, etc. A separate incubation and preincubation policy for AICF is already formulated and functioning to the fullest.

### **D. IP Ownership Rights for Technologies Development and Transfer in Institute**

A separate IPR policy is in place for addressing the guidelines and issues regarding Product Ownership Rights for Technologies Developed at Institute. Highlight of the policy is Complete Ownership of IPR by the inventors in case of non-usage of institute's facilities/ resources.

### **E. Pedagogy and Learning Interventions for Innovation and Entrepreneurship Development**

Institute has taken major steps in building entrepreneurial ecosystem in the organization. Government Engineering College Institution Innovation Council (IIC) and Ankur Incubation Centre Foundation (AICF) is a section 8, non-profit organization registered under the support of Government College of Engineering, Aurangabad has been established to empower innovations and entrepreneurial agenda and to nurture the young minds to take up adventurous journey of becoming entrepreneur. In this mission, Services, facilities and supports related to entrepreneurship are in place to boost the students to become job creators instead of job seekers

Following pedagogy inventions are defined:

E.1 The Departments are advised to inclusion of courses in the curriculum to tune with the emerging technologies and align to the requirements of the industry and to introduce courses in entrepreneurship development through incubators.

E.2 Induction program about entrepreneurial ecosystem present in the institute, introductory sessions will be organized for all the students of all the programs.

E.3 Institute level student clubs/bodies/in will be used for organizing competitions, workshops, awards, etc. to ensure enhancement of the student's thinking and responding ability.

E.4 Industry Experts will be leveraged to teach courses at incubators and students who are interested may elect these courses.

E.5 To promote student ideas, projects and innovations based around real life challenges, visits to rural and underprivileged areas in nearby region and hackathons will be organized annually.

E.6 Industry linkages will be established for conducting research and survey on trends in technology, research, innovation and market intelligence. More MoUs with start-ups will be inked for knowledge sharing purpose.

E.7 Failure case studies will be exhibited to show other side of the journey.

## **F. Entrepreneurial Performance Impact Assessment**

F1. Impact assessment of Government Engineering College entrepreneurial initiatives such as preincubation, incubation, entrepreneurship education will be performed regularly using well defined evaluation parameters and support of Ankur Incubation Centre Foundation (AICF)

i. Monitoring and evaluation of knowledge exchange initiatives, engagement of all departments and faculty in the entrepreneurial teaching and learning will be assessed.

ii. Number of start-ups created, support system provided at the institute level and satisfaction of participants, new business relationships created by the will be recorded and used for impact assessment.

iii. Impact will 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.

F2. Formulation of strategy and impact assessment will go hand in hand. The information on impact of the activities will be actively used while developing and reviewing the entrepreneurial strategy.

F3. Impact assessment for measuring the success will be in terms of sustainable social, financial and technological impact in the market. For innovations at precommercial stage, development of sustainable enterprise model is critical. Commercial success is the only measure in long run.



## **NISP Implementation Committee for Government Engineering College Aurangabad**

Its decided that all the activities related to startup and innovation will be under one umbrella and will work for proper implementation of innovation and startup policy

Sr. No.	Name of Member	Member Type (Teaching/ Non- teaching / External Expert)	Key Role/ Position assigned
1	Dr. U. J. Kahalekar	Principal	Institute In Charge
2	Dr. Varsha Ratnaparkhe	Teaching	Dean R&D and IIC President
3	Dr. A. R. Karwankar	Teaching	NISP Coordinator
4	Mr. Sudhir Shiradkar	External Expert	Industry Representative, NISP Formulation
5	Mr. Abhimanyu Patil	External Expert	Industry Representative, NISP Formulation
6	Dr. Y.U. Sathe	Teaching	NISP Formulation and Innovation activity coordinator
7	Dr. S. M. Kabra	Teaching	NISP Formulation and AICF Start-up Activity Coordinator
8	Mr. Shirish Tambe	External Expert	Vice President IIC
9	Prof. S. S. Agrawal	Teaching	Convener IIC and AICF In charge
10	Prof. S. D. Ambekar	Teaching	Internship coordinator
11	Prof. Dr. A. S. Bhalchandra	Teaching	IPR activity coordinator
12	Prof. V. A. Chakkarwar	Teaching	Social media Coordinator
13	Prof. K. S. Gandle	Teaching	NIRF coordinator(optional)
14	Mr. Pankaj Gaikwad	External Expert	Startup Representative
15	Mr. Mukund Kulkarni	External Expert	Expert from Industry
16	Mr. A. T. Wagh	External Expert	Bank representative
17	Mr. Kshitij Chaudhari	External Expert	Representative of Nearby Incubation Center
18	Prof. K. S. Wasankar	Teaching	Member IIC
19	Prof. Dr. N. J. Phadkule	Teaching	Member IIC
20	Prof. S. B. Nemade	Teaching	Member IIC
21	Mr. S. R. Kulkarni	Non- teaching	Member IIC
22	Mr. G. M. Bhombe	Non- teaching	Member IIC

