National Innovation and Startup Policy- 2019

Mohandas College of Engineering and Technology, Trivandrum

Contents

1. Abstract

The National Innovation and Startup Policy 2019 of Mohandas College of Engineering and Technology will enable active engagement of students, faculties and staff in innovation and entrepreneurship related activities. This framework will also facilitate in bringing uniformity and standardization in terms of Intellectual Property ownership management, technology licensing and Institutional Startup Policy, thus enabling the creation of a robust Innovation and Startup Ecosystem among other HEIs .

2. Vision

To become a centre of excellence in the field of Innovation and Entrepreneurship (I&E) promoting creativity, out of the box thinking, startup culture and bringing out socially viable startups which contribute on national development.

3. Mission

To produce excellent entrepreneurs with social commitment through set of well formulated training along with the culture of research and development among the students and faculty of this institution.

4. Goals

Long term goal

- To become a centre of excellence in the field of Innovation and Entrepreneurship by providing suitable services to students and faculty for the same.

Short term goal

- To produce excellent professionals with social commitment and innovative culture amidst the students and faculties of the institution through regular training programs assisted by experienced personalities, researchers and providing incubation and patenting facilities.
- To enhance the infrastructural facilities to provide a best in class platform for the students in the area of Innovation and Entrepreneurship.
- To enhance the incubation space and facilities for the upcoming student/faculty startups of the Institution.
- To motivate students and faculty to do innovative research work and help them to register their patents through established IPR Cell.

5. Challenges

- Lack of funds from National agencies for developing innovation and entrepreneurial culture.
- Less time for students to involve in part-time activities.
- Lack of technical knowledge in students.
- Lack of modern technology lab (FAB lab, Robotics lab).
- Lack of practical skills among students.

6. Opportunities

- IEDC provides a platform to demonstrate socially viable projects.
- Involvement of faculties in new communities which promotes innovation culture.
- Access to Students for exploration and development of space (SEDS) international organisations&Atal Incubation Centre (AIC).
- MCET provides incubation support to offer access to pre-incubation and incubation facilities to start-ups by students , staff and faculty for a convenient time frame.
- MCET allows licensing of IPR from institute to startup through a fully functional IPR cell.
- Access to central government funding will help to improve both infrastructural and innovation centre .
- Research hub offers new technical exposure to students.
- Start-ups by alumni provide job opportunities, internships and guidance for students.
- MCET provides well oriented labs to create quality projects.
- Faculty involvement in researches will provide opportunities to include new courses.

Committee for 'National Innovation and Startup Policy 2019' of Mohandas College of Engineering and Technology

Core Committee

1. **Dr.AshalathaThampuran**(Director-MCET) - Chairman
2. **Dr. Sheela S**(Principal-MCET) - Secretary
3. **Prof. R Pradeep Raj**(Head of Innovation Centre, MCET) - Coordinator-NISP
4. **Dr. N Rajesh Prabha**(Associate Professor, Dept. of ME) - Member Secretary
5. **Dr. AjithPrabhu V (**Chief Scientist ,Sci-'& Nodal Officer –PIC-K) - External Expert

1. **Prof. SoumyaKumari L K** (Asst. Professor, Dept of CSE)
2. **Prof. ShyamSundar V** (Asst. Professor, Dept of ME)
3. **Prof. Lekshmi M Nair** (Asst. Professor, Dept of EEE)
4. **Prof. AchuGovind**(Asst. Professor, Dept of ECE)
5. **Prof. Punnia Prasad** (Asst. Professor, Dept of BT&BCE)
6. **Prof. Vaidehi S R** (Asst. Professor, Dept of CE)
7. **Mr. Rahul Radhakrishnan**(Director & CEO at ClouAi Technologies P. Ltd)
8. **Mr.Vishal B Kadam**(Technical Officer, Incubation- Kerala Startup Mission)
9. **Ms. Jancy Jose** (Founder, Managing Director and CEO at Strava Technologies)
10. **Ms. HarshaPuthusserry**(Founder and MD at Iraah Loom International Pvt Ltd.)
11. **Mr. AzharMuhammed. NR** (Co Founder, QC and PDE, Heylyx Humboldt Pvt Ltd.)
12. **Mr. AnandDev VS** (Assistant System Engineer at Tata Consultancy Service)
13. **Mr. Adarsh S** (Deputy Manager at AGS Transact technologies)

Institutional Policy in view of NationalInnovationandStartupPolicy2019forStudentsandFaculty of MCET

1. Strategies andGovernance

a. Innovation and Entrepreneurship promotion and development are one of the major dimensions of MCET.

b. To facilitate development of an entrepreneurial ecosystem in the organization, specific objectivesandassociatedperformanceindicators are identified.

c. A panel of faculty members including Head of the Institute is identified for promoting Innovation and Entrepreneurship and also to develop a mindset about Innovation and Entrepreneurship compared to other academic activities.

d. The Faculty Coordinator of NISP should be very carefully chosen from faculties who understand the myths and facts of Innovation and Entrepreneurship.

e. Resource mobilisation plan worked out by the Institution for supporting pre-incubation, incubation infrastructure andfacilities.Asustainablefinancialstrategy is also definedin order to reducetheorganizationalconstraintstoworkontheEntrepreneurialagenda.

   i. Investmentintheentrepreneurialactivitiesshouldbe a part oftheinstitutionalfinancialstrategy. Minimum 1% fund of the total annual budget of the institution should be allocated for funding andsupportinginnovationandstartupsrelatedactivitiesthroughcreationofseparate‘Innovation fund’.

   ii. Thestrategyshouldalsoinvolveraisingfundsfromdiversesourcestoreducedependencyonthepublicfunding.Bringinginexternalfundingthroughgovernment(stateandcentral)suchasDST, DBT, MHRD, AICTE, TDB, TIFAC, DSIR, CSIR, BIRAC, NSTEDB, NRDC, Startup India, InvestIndia,MeitY,MSDE,MSME, etc andnon-government source shouldbeencouraged.

   iii. To support technology incubators, academic institutes may approach private and corporate sectorstogeneratefunds, under Corporate Social Responsibility (CSR)asperSection135ofthe Company Act2013.

   iv. Institute may also rise funding through sponsorships and donations. Institute should actively engagealumninetworkforpromotingInnovation&Entrepreneurship (I&E).

f. For expediting the decision making, hierarchical barriers should be minimized and individual autonomyandownershipofinitiativesshouldbepromoted.

g. Importanceofinnovationandentrepreneurialagenda will bepromoted and highlighted at institutional level through conferences, bootcamps, workshops and ideation camps.

h. In order to break the myths, proper I&E strategy and policies for the entire institute will be developed and same will be communicated through various activities across departments, faculties and students of the Institute.

i. Producttomarketstrategyforstartupsis developedbytheinstituteoncasetocasebasis.

2. InstitutionalInfrastructure

a. The Institution is facilitated with MoE's Innovation Cell, IEDC (Kerala Startup Mission), Student Research Hub, Women Empowerment Cell, Design Hub, IPR Cell, IdeaCafe and Technology Business Incubation Centre to promote/accelerate the Innovation culture, supporting pre-incubation and incubation and also connects resources from internal and external source.

b. The Technology Business Incubationfacilityisaccessible24x7tostudents, staffandfacultyofall disciplinesanddepartmentsacrosstheinstitution.

c. Pre-Incubation facility will be available for the students who register their startups during their final year. Incubation facility will be available for the Alumni students of the Institution.

2.1. Nature of Relationship with Pre-Incubators

a. The MOU is for collaboration between both parties, for mutual benefit, for the many purposes set out in Annexure to enable prospective entrepreneurial aspirants from among the students of MCET to conceptualize, establish and operate business ventures.

b. The MOU hall is valid for a period of 3 years from the date and each party shall be at full liberty to terminate the collaboration, with a notice period of 2 months.

c. Both parties shall take all reasonable steps to ensure the successful completion of the collaboration and co-operate with each other in duly carrying out the obligation agreed upon.

d. TBIC-MCET shall provide the incubating company a working space not exceeding 20 m^2 with computers, electricity, internet connectivity, telephone, library facility and know-how wherever possible and managerial skill development support to enhance the performance level of the incubating company.

e. The Incubating Company shall give the TBIC-MCET, a nominal usage and support charge of Rs. 250 per month initially for one year and Rs. 500 for the next 2 years, which will be reviewed and changed on mutual agreement.

f. The Incubating Company shall also transfer to TBIC-MCET, 5% of its share capital, as gratis, as and when the shares are floated in public.

g. The Incubating Company shall work in the provided time, after 4:30 P.M to 8 P.M during the normal working days, and only with the prior permission of the coordinator of IEDC during class hours while pursuing B.Tech.

I. Mutual Obligation:

a. This collaboration shall not be exclusive to both parties and shall not disallow each party having similar collaboration with others. Except as expressly stated in the MOU. There shall no obligation on any party to compensate the other in any manner or to make any claim.

b. Each party shall meet the expenses between them as mutually agreed.

c. Each party shall respect the Intellectual Property (IP) and shall not use any trademark, symbol or designation belonging to other, without prior written approval. No party shall hold out as an agent or representative of the others or create any liability for the other. The parties shall indemnify the other for breach of this clause.

d. Both parties shall maintain confidentiality about any information, plans, discussions, strategies or any material which shall be deemed confidential and marked accordingly. Any information, course material or other contents in the public domain shall not be part of this commitment.

II.Limitations and Warranties:

a. Each party shall ensure that the other party is not put to any liability for any act of the respective party.

III.General:

a. Both parties shall not use the name of the other in any advertisement or make any public announcement without the prior written approval of the other.

b. Any dispute under this MOU shall be settled in Trivandrum. Through arbitration, if necessary. In written whereof both parties put their hard seal on the day, month and year herein mentioned

2.2. Nature of Relationship with Incubators

The Nature of Relationship with Incubators is same as that of Pre-Incubator's except for the validity of MoU being 2 years.

3. Nurturing Innovations and Startups

a. MCET is ready to establish processes and mechanisms for easy creation and nurturing of Startups/enterprises by students, staff, faculty and alumni of the institution.

b. Whiledefiningourprocess, wewillensuretoachievefollowing:

   i. Incubationsupport:Offeraccesstopre-incubation&Incubationfacilitytostartupsbystudents, staffandfacultyformutuallyacceptabletime-frame.

   ii. Will allow licensing of IPR from institute to start up through a fully functional IPR cell

   iii. Willallowsettingupastartup(includingsocialstartups)andworkingpart-timeforthestartups while studying/working: MCET allow our students / faculty to work on their innovative projectsandsettingupstartups(includingSocialStartups)orworkasintern/part-timeinstartups (incubated in our Organization) while studying/working. Student Entrepreneursare provided withcreditsforworkingoninnovativeprototypes/BusinessModels. We have developed a clear guideline to formalizethismechanism.

c. Students who are under incubation, but are pursuing some entrepreneurial ventures while studying areallowedtousetheiraddress in the institutetoregistertheircompanywithduepermission fromtheinstitution.

d. Student entrepreneurs should be allowed to sit for the examination, even if their attendance is less thantheminimumpermissiblepercentage, withduepermissionaccording to the student startup policy of Kerala Technological University.

e. MCET allow students to take a semester break (or even more depending upon the decision of review committee constituted by the institute) to work on their start ups and re-join academicstocompletethecourse.

f. The students are permitted to stay within the campus for some period of time in order to engage with their entrepreneurial activities.

g. MCET allowsfacultyandstafftotakeoffforasemester/year(orevenmoredependinguponthedecisionof reviewcommitteeconstitutedbytheinstitute)unpaidleave/casualleave/earnedleave for working on startups and come back. Institution will consider allowing use of its resource to faculty/students/staff wishing to establish start up as a fulltime effort. The seniority and other academicbenefits during suchperiodmaybepreservedforsuchstafforfaculty.

h. MCET is ready to start a part-time/full time MS/ MBA/ PGDM (Innovation, Entrepreneurship and Venture Development)programwhereonecangetdegreewhileincubatingandnurturingastartup company as per the AICTE issuedguidelines.

i. MCET will facilitate the startup activities/ technology development by allowing students/faculty/ stafftouseinstituteinfrastructureandfacilities,asperthechoiceofthepotential entrepreneur with support regarding IPR.

j. 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. Other factors for consideration should be space, infrastructure, mentorship support, seed- funds,supportforaccounts,legal,patentsetc.

k. Theinstitutewillprovideservicesbasedonmixtureofequity,fee-basedand/orzeropayment model.So,astartupmaychoosetoavailonlythesupport,notseedfunding,bytheinstituteonrental basis.

l. MCET willextendthisstartupfacilitytoalumnioftheinstitute.

m. Participation in startup related activities will be consideredwhileevaluatingtheannualperformanceofthefaculty.Everyfacultyis advised tomentoratleastonestartup.

4. ProductOwnershipRightsforTechnologiesDevelopedatInstitute

a. When institute facilities / funds are used substantially or when IPR is developed as a part of curriculum/academicactivity,IPRistobejointlyownedbyinventorsandtheinstitute.

b. If there is a dispute in ownership, a minimum five member committee consisting of two faculty members(havingdevelopedsufficientIPRandtranslatedtocommercialisation),twooftheinstitute's alumni/industryexperts(havingexperienceintechnologycommercialisation)andonelegaladvisor with experience in IPR, will examine the issue after meeting the inventors and help them settle this, hopefullytoeverybody'ssatisfaction.

c. InstituteIPRcellorincubationcenterwillonlybeacoordinatorandfacilitatorforprovidingservicesto faculty,staffandstudents.Theywillhavenosayonhowtheinventioniscarriedout, how itispatented orhowitistobelicensed.

d. Ifinstituteistopayforpatentfiling, theycanhaveacommitteewhichcan 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- institutefunds, thentheyaloneshouldhavethe say in patenting.

e. MCET'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. Interdisciplinaryresearchandpublicationonstartupandentrepreneurshipwillbepromotedbythe institutions.

5. OrganizationalCapacity,HumanResourcesandIncentives

a. Head of the Innovation Centre will be the authority to take decisions regarding the I&E culture of the institute which will be jointly approved by the Head of the Institute.

b. The Head of the Innovation Centre will be a faculty having strong innovation and entrepreneurial/ industrialexperience, behaviourandattitude.ThiswillhelpinfosteringtheI&Eculture of the Institute.

   i. Faculty members with prior exposure and interest will be deputed for trainingtopromoteI&E.

   ii. Toachievebetter engagement ofstaffinentrepreneurialactivities,institutionalpolicyoncareer development tostaffwillbedevelopedwithconstantupskilling.

c. Facultyanddepartmentsofthisinstituteworkingincoherenceandcross-departmentallinkages will be strengthened through shared faculty, cross-faculty teaching and research in order to gain maximumutilizationofinternalresourcesandknowledge.

d. Periodicallysomeexternalsubjectmatterexpertssuchasguestlecturersoralumnicanbeengagedfor strategicadviceandbringinginskillswhicharenotavailableinternally.

e. In order to attract and retain right people, MCET developed an academic and non-academic incentives and reward mechanism for all staff and stakeholders that actively contribute and support entrepreneurship agenda and activities.

6. Creating Innovation Pipeline and Pathways for Entrepreneurs at InstituteLevel – Role of IEDC

a. Toensureexposureofmaximumstudentstoinnovationandpreincubationactivitiesattheirearlystage and to support the pathway from ideation to innovation to market, mechanisms, MCET's IEDC plays a major role as discussed below:

   i. Spreadingawarenessamongstudents,facultyandstaffaboutthevalueofentrepreneurshipand its role in career development or employability is a part of the institutional entrepreneurialagenda.

   ii. Students/staffistaughtthatinnovation (technology,processorbusiness innovation)isa mechanismtosolvetheproblemsofthesocietyandconsumers.Entrepreneursshouldinnovate withfocusonthemarketniche.

iii. Studentsareencouragedtodevelop entrepreneurialmindsetthroughexperientiallearning byexposingthemtotrainingin cognitive kills (e.g. designthinking,criticalthinking, out of the box thinkingetc.), byinviting 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, awardsandrecognitionareregularlyorganized.

iv. Topreparethestudentsforcreatingthe startupthroughtheeducation,integrationofeducation activitieswithenterprise-relatedactivitiesare organized.

b. The institute links their start ups and companies with wider entrepreneurial ecosystem and by providing support to students who show potential in pre-startup phase. Connecting student entrepreneurswithreallifeentrepreneurswillhelpthestudentsinunderstandingrealchallengeswhich maybefacedbythemwhile goingthroughtheinnovationfunnelandwillincreasetheprobabilityof success.

c. Theinstitute has alreadyestablishedInstitution'sInnovationCouncils (IICs)aspertheguidelinesofMHRD's Innovation Cell and allocated appropriate budget for its activities. IIC guides the institution in conducting various activities related to innovation, startup and entrepreneurship development.

d. The Head of the Innovation Centre is responsible to clarify and answer the doubts and queries of Innovators and enlisting the facilities available at the Institute. The contact details of the Head of the Innovation Centre will be kept on the homepage of Institute's website.

7. NormsforFacultyStartups

a. For better coordination of the entrepreneurial activities, there are certain norms for faculties to do startups.

i. Role of faculty may vary from being an owner/ direct promoter, mentor, consultant or as on-boardmemberofthestartup.

ii. The faculty should ensure that theregular duties of the faculty will not be affected because of owingtohis/herinvolvementinthestartupactivities.

iii. Faculty startup may consist of faculty members alone or with students orwithalumnusof the institute.

b. In case the faculty/ staff holds the executive or managerial position for more than three months in a startup,theywillgoonsabbatical/leavewithoutpay/utilizeexistingleave.

c. Faculty must clearly separate and distinguish on-going research at the institute from the work conductedatthestartup/company.

d. Facultymustnotacceptgiftsfromthestartup.

e. Humansubjectrelatedresearchinstartupgetsclearancefromethicscommitteeoftheinstitution.

8. Pedagogy and Learning Interventions for Entrepreneurship Development

a. Diversified approach has been adopted to produce desirable learning outcomes, which should include cross disciplinary learning using mentors, labs, case studies, games, etc. in place of traditional lecture-baseddelivery.
   i. Student clubs/ bodies/ departments are created for organizing competitions, bootcamps, workshops, awards, etc.
   ii. Institute has considered starting annual 'INNOVATION & ENTREPRENEURSHIP AWARD' to recognize outstanding ideas, successful enterprises and contributors for promoting innovation andenterprisesecosystemwithintheinstitute.
   iii. Failure theories along with success theories are being taught in order to encourage the mindset of students/faculties on accepting failures.

b. Entrepreneurship education is imparted to students at curricular/ co-curricular/ extra-curricularlevelthroughelective/shorttermorlong-termcoursesoninnovation,entrepreneurshipand venture development. Validatedlearningoutcomesare also madeavailabletothestudents.
   i. Industry linkages are leveraged for conducting research and survey on trends in technology, research,innovation, andmarketintelligence.
   ii. Sensitizations of students are donefortheirunderstandingonexpectedlearningoutcomes.
   iii. Studentinnovators,startups, expertsmustbeengaged in the dialogueprocesswhiledeveloping thestrategies.
   iv. Customizedteachingandtrainingmaterialsaredevelopedforstartups.

c. Pedagogical changes are done to ensure that maximum number of student projects and innovations are based around real life challenges.

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

a. Stakeholder engagement is given prime importance in the entrepreneurial agenda of the institute. Institute will find potential partners, resource organizations, micro, small and medium-sizedenterprises(MSMEs),socialenterprises,schools,alumni,professionalbodiesandentrepreneurs tosupportentrepreneurshipandco-designtheprograms.
   i. To encourage co-creation, bi-directional flow/ exchange of knowledge and people should be ensuredbetweeninstitutessuchasincubators,scienceparks, etc.
   ii. Institutewillorganizenetworkingeventsforbetterengagementofcollaboratorsandshould open up

the opportunities for staff, faculty and students to allow constant flow of ideas and knowledgethroughmeetings, workshops,spaceforcollaboration, lectures, etc.

iii. Mechanismsdevelopedbytheinstitutetocapitalizeontheknowledgegainedthrough thesecollaborations.

iv. Care will be taken to ensure that events DON'T BECOME an end goal. First focus of the incubatorshouldbetocreatesuccessfulventures.

b. The institute has to develop policy and guidelines for forming and managing the relationships with externalstakeholdersincludingprivateindustries.

10. Entrepreneurial ImpactAssessment

a. Impact assessments of institute's entrepreneurial initiatives such as pre-incubation, incubation, entrepreneurship education areperformedregularlyusingwelldefinedevaluationparameters.

i. Monitoring and evaluation of knowledge exchange initiatives, engagement of all departments andfacultyintheentrepreneurialteachingandlearningareassessed.

ii. Numberofstartupscreated,supportsystemprovidedattheinstitutionallevelandsatisfactionof participants, newbusinessrelationshipscreatedbytheinstitutesarerecordedandusedfor impactassessment.

iii. Impact is measured for the support system provided by the institute to thestudent entrepreneurs, faculty and staff for pre-incubation, incubation, IPR protection, industry linkages, exposuretoentrepreneurialecosystem,etc.

b. Impact assessment for measuring the success is 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.

Policy Gaps

- Institute could not extend its startup facility to outsiders.
- The Institution is not facilitated with large infrastructure for incubation facility but is limited to a few square feet which can accommodate up to 8 incubation cubicles .

Bibliography

- National Innovation and Startup Policy 2019 for Students and Faculty, A Guiding Framework for Higher Education Institutions.
- KSUM Startup Policy

https://startupmission.kerala.gov.in/frontend-pdfs/Startup%20Policy.pdf/ksum_frontend_pdfs

- KTU Student Startup Policy

https://ktu.edu.in/data/KTU%20Startup%20policy%2002062015.pdf

- Patent Information Centre - Kerala (PIC-K)

http://patentcentre.kerala.gov.in/

- DIC

http://industry.kerala.gov.in/index.php

For Details & Clarification Contact,

Prof.R.Pradeep Raj

Head- Innovation Centre

Mob: 7593947486

E-mail :nisp.iedcmcet@gmail.com