

To

The HoDs/DIRECTORS/Deans

MDU Rohtak

**Subject: Inviting proposals for Innovation/Incubation/Start-up/Entrepreneurship**

Respected Madam/Sir

The University has established the Centre for Innovation, Incubation and Entrepreneurship. It is an umbrella body for nurturing and overseeing innovation and entrepreneurship at the University. The purpose of the Centre is to build an ecosystem to foster the spirit of innovation and entrepreneurship and to coordinate and promote innovation-driven activities at the University. It shall also provide a platform for commercialization of the technology developed by the faculty or students of the University.

In tune with initiatives of Government of India i.e. National Innovation and Startup Policy (NISP), 2019 and National Education Policy (NEP), 2020, a policy in this regard has been formulated as “MDU-Innovation and Startup Policy (MISP)” for students, alumni, staff and faculty to address the innovation and entrepreneurial culture in the University. The focus of the policy is to guide the students and faculty members in implementing the action plan of incubation, innovation and startup, a copy of the policy attached for your kind perusal.

Further, the centre invites applications from alumni, students, faculty members for **Innovation/Incubation/Start-up/Entrepreneurship** opportunities as per the guidelines given in policy latest by 31.3.2023.

The proposals may be submitted through the concerned HoD/Director at the Incubation Centre, 2nd floor, Room No 332, UIET Civil and Electrical Block, MDU

Thanking You

Director(CIIE)

MDU Rohtak

MAHARSHI DAYANAND UNIVERSITY ROHTAK

Copy of extract of Reso. No. 12 of Executive Council's meeting held on 17/01/23.

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12. Ratification of the action taken by the Vice-Chancellor in approving the MDU- Innovation and Startup Policy

Considered the action taken by the Vice-Chancellor in approving the MDU Innovation and Startup Policy in anticipation approval of Academic Council/ Executive Council as recommended by the Committee constituted by the Vice-Chancellor in its meeting held on 27.12.2022 (Annexure AJ23 pages 256-274, already circulated).

The Academic Council vide Reso. No. 7 in its meeting held on 16.01.2023 resolved the following:

RESOLVED THAT THE ACTION TAKEN BY THE VICE-CHANCELLOR AS ABOVE BE RATIFIED AND RECOMMENDED TO THE EXECUTIVE COUNCIL.

THE HOUSE ALSO APPRECIATED THE GOOD WORK DONE BY THE COMMITTEE.

*The Executive Council considered the recommendations of the Academic Council; and*

RESOLVED THAT THE RECOMMENDATIONS OF THE ACADEMIC COUNCIL AS ABOVE BE APPROVED.

[ACTION BY OSD (ACAD.)]

(ACADEMIC BRANCH)

Ends. No.AC-I/2023/ 2727-85

Dated 24/01/2023

Copy of the above alongwith annexure is forwarded to the following for information and necessary action.

1. Dean, CIAA, M.D. University, Rohtak
2. All HODs/Directors of University Teaching Departments/Institutes, M.D. University, Rohtak
3. Director, CIIE, M.D. University, Rohtak
4. Incharge, MDU-CPAS, Gurugram
5. Controller of Examinations, M.D. University, Rohtak
6. Director, University Computer Centre for uploading the same on the University Website
7. Finance Officer, M.D. University, Rohtak
8. D.R. Estt. (T) and Estt. (N.T), M.D. University, Rohtak
9. A.R./D.R. (R-I,R-II,R-III & R-IV, Secrecy, Conduct and R&S), M.D. University, Rohtak
10. OSD/PA to Vice-Chancellor/Registrar/Dean Academic Affairs (for kind information of the Vice-Chancellor/Registrar/Dean Academic Affairs), M.D. University, Rohtak.

  
Dy. Superintendent (Academic)

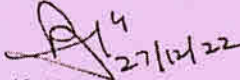
MAHARSHI DAYANAND UNIVERSITY, ROHTAK

Minutes of the meeting of the Committee constituted by the Vice-Chancellor held on 27.12.2022 at 11:30 AM to prepare the Innovation, Incubation, Entrepreneurship and Startup Policy document of the University keeping in view of the National Innovation and Startup Policy of the Ministry of Education, Govt. of India.

**Members present:-**

- |                                |                 |
|--------------------------------|-----------------|
| 1. Prof. A K Rajan             | Chairman        |
| 2. Dr. Harish Dureja           | Member          |
| 3. Dr. Rahul Rishi             | Member          |
| 4. Dr. Sandeep Malik, IHTM     | Special Invitee |
| 5. Dr. Prabhakar Kaushik, UIET | Special Invitee |

The Committee considered the draft Innovation and Start-up Policy as prepared by the Sub-Committee. After detailed deliberation, the Committee recommended the final draft of Innovation and Start-up Policy as per annexure -I pages 1-18.

  
(A K Rajan)

  
(Harish Dureja)

  
(Rahul Rishi)

  
(Sandeep Malik)

  
(Prabhakar Kaushik)

**MAHARSHI DAYANAND UNIVERSITY**

**INNOVATION AND STARTUP POLICY**

Dr. J. K. Jaiswal

Dr. J. K. Jaiswal  
27/12/2022

Dr. J. K. Jaiswal



## VISION, MISSION AND CORE VALUES OF THE UNIVERSITY

### VISION

University aspires to be a leading 'transformative learning community' recognized world-wide for excellence and innovation in education, research and entrepreneurship for holistic development of learners and sustainable growth of the society

### MISSION

University is committed to transform lives and serve the society through flexible and multidisciplinary education, research, innovation, lifelong learning and cultural enrichment

### CORE VALUES

**Academic Excellence:** University strives for the uncompromising quality excellence in scholarship across various disciplines

**Excellence in Research, Innovation and Entrepreneurship:** University commits to continuous engagement in the scholarly activities in the pursuit of creativity and knowledge generation through excellence in research and innovation

**Morality and Ethics:** University upholds the highest ethical values, integrity and professionalism alongwith unwavering commitment to academic freedom, transparency and accountability.

**Equity and Inclusiveness:** University pledges to nurture and preserve an environment of mutual respect, equality and diversity in its all endeavours to ensure fairness and inclusiveness for thriving society

**Environmental Sustainability:** University commits itself to ensure sustainable ecosystem to improve the living standards of current generation and preserve the environment for future generations

**Community Engagement:** University resolves to maintain and strengthen meaningful relationship with local and global communities to learn from and contribute for their sustainable development

There are three main functions of a University namely

- (i) Teaching and Learning
- (ii) Research
- (iii) Community Engagement.

The function of Research is very important for other two functions. Considering its importance, the University has created an ecosystem for research and innovation activities.

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## RESEARCH AND INNOVATION ECOSYSTEM OF THE UNIVERSITY:

With a view to promote Research and Innovation, the University has established following facilities:

1. **Research Directorate:** A well defined "Research Promotion Policy" to promote research culture among the faculty and research scholars is in place. The University has "Code of Ethics for Academic Integrity and Plagiarism" to promote quality research and to check malpractices and Plagiarism.
2. **Aryabhata Central Instrumentation Laboratory:** Through CIL (Central Instrumentation Laboratory), centralised laboratory facilities are available wherein students can access a large number of sophisticated scientific and analytical instruments apart from the laboratory facilities available in the various departments.
3. **Centre for IPR Studies:** Through Centre for IPR Studies, the University facilitates the processes for filing intellectual property rights applications by the students or staff.
4. **Central Animal House:** Central Animal House facilitates the research on small animals (Mice, Rat, Rabbit etc) as per the guidelines of Institutional Animal Ethics Committee (IAEC) in air conditioned and calm environment. The University also has Institutional Human Ethics Committee (IHEC) to meet standards of research where human participations is involved.
5. **Centre for Innovation, Incubation and Entrepreneurship:** Through Centre for Innovation, Incubation and Entrepreneurship, the University promotes out of box business ideas and provides incubation support to convert these ideas into successful Startups.
6. **Professional Consultancy Cell:** This Cell of the University has been established to undertake consultancy projects with industry and other comparable institutions of higher learning in order to create new knowledge and widening the research profile of its faculty and staff members. The aim is to coordinate the consultancy services with the Industry or interested institution with the faculty or researcher(s) of the University.

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**CENTRE FOR INNOVATION, INCUBATION AND ENTREPRENEURSHIP (CIIE)**

*"All humans are entrepreneurs not because they should start companies but because the will to create is encoded in human DNA." —Reid Hoffman, LinkedIn co-founder*

**INTRODUCTION:**

The University has established the Centre for Innovation, Incubation and Entrepreneurship. It is an umbrella body for nurturing and overseeing innovation and entrepreneurship at the University. This purpose of the Centre is to build an ecosystem to foster the spirit of innovation and entrepreneurship and serve to coordinate and promote innovation-driven activities at the University. It shall also provide a platform for commercialization of the technology developed by the faculty or students of the University.

**Objectives of Centre for Innovation, Incubation and Entrepreneurship:**

The Centre for Innovation, Incubation and Entrepreneurship (CIIE) has following key objectives:

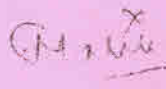
1. To encourage out of box thinking and promote innovative ideas.
2. To cultivate the innovation ecosystem within the university to harness the entrepreneurial potential of the young minds
3. To nurture the ideas of the students and faculty in an effective manner so as to convert them in successful startups and entrepreneurial ventures
4. To shift the focus of the stakeholders from "being employee" to "become employer"
5. To nurture an IPR savvy environment for creation of Intellectual Property and protection of IPRs
6. To facilitate channelization of University innovations into start-ups through incubation to become a wheel of Socio-economic development and of national progress
7. To accelerate technology development and technology transfer to the Industry



Through this Centre, the University aspires to establish processes and mechanisms for easy creation and nurturing of Startups/enterprises by students (UG, PG, PhD), staff (including temporary or project staff), faculty and alumni of the University. For nurturing the innovations and startups in the university, the following activities shall be conducted on regular basis:

1. Developing a strong team with adequate knowledge and experience in guiding start-ups, building business plans, facilitating investments, building networks etc.
2. Building a big pool of sector specific mentors to provide a strong network to incubates where they can receive specific knowledge and real world practical guidance.
3. Making available physical infrastructure and value-added support services.
4. Guiding the incubators in generating sustainable, scalable and profitable business models.
5. Conducting training programmes, inspirational programmes, events and mentorship to entrepreneurs.
6. To develop a linkage of the students/researchers/entrepreneurs/incubates with corporate sector entities and like-minded research oriented / academic institutions by making collaborations.
7. Provide access to prototyping facilities, test beds, markets, and pilot implementation for the product/services.
8. Forge partnerships and networks with academia, industry, funding sources, existing incubators and others for the start-ups to leverage.

As research and innovation system is integral to the mission of the University, therefore the Centre for Innovation, Incubation and Entrepreneurship lays down the Innovation and Startup policy for the University. In tune with initiatives of Government of India i.e. National Innovation and Startup Policy (NISP), 2019 and National Education Policy (NEP), 2020, a policy-in this regard has been formulated as "MDU-Innovation and Startup Policy (MISP)" for students, alumni, staff and faculty to address the innovation and entrepreneurial culture in the University. The focus of the policy is to guide the students and faculty members in implementing the action plan of incubation, innovation and startup.











### MDU- Innovation and Startup Policy

#### OVERALL PROCEDURE FOR STUDENTS, ALUMNI, FACULTY AND STAFF:

- i. The concerned has to find out a problem statement. Problem statement should be realistic one and associated directly with societal issues. The problem statement may be from any of the areas given in Annexure 1.
- ii. The concerned has to find out a potential solution that can solve the identified problem. The solution should be an innovative solution. The ideas must be in TRL 3 level. (Refer annexure 2).
- iii. Each concerned will be assigned to a mentor/faculty member for mentorship. Each concerned has to prepare a prototype or design under the mentorship of the faculty. The prototype must adhere to minimum TRL 5 (Refer annexure 2). University will provide the existing lab facilities to the concerned for preparing prototype.
- iv. The prototype will be evaluated by a review committee and based on potency, market value etc. will be decided whether it is eligible for a startup or not.
- v. Once the idea/prototype is eligible for startup as decided by experts, this should be registered as a student startup under a form of business entity like Partnership Firm, Private Limited Company and One Person Company. Start-ups should be able to provide a copy of the registration certificate/letter to the University.
- vi. In next step, the student startup should be admitted to Incubation Centre for incubating startup.
- vii. MDU- Incubation Centre will help the startup in every manner to let it be the successful startup in market.







PRE-INCUBATION AND INCUBATION SUPPORT:

**Pre incubation facility**

It is very important to primarily identify which ideas can successfully go through the incubation process. This phase of pre-incubation can prepare student entrepreneurs for the incubation phase by providing them prerequisite skills and knowledge that will help them validate and assess their ideas as well as define their business models in detail. In the pre-incubation planning phase, the following activities are to be performed:

**Idea generation:** Depending upon the problems, the innovator will be required to come out with a potential solution for a specific problem. That idea should be novel, innovative and should be able to solve a real life problem effectively.

**Collection of Ideas:** Students have to submit the ideas in proper format to the University. The ideas may be considered to take part in smart India Hackathon and National Innovation Contest conducted by MoE.

**Screening of Ideas:** The ideas submitted by the applicants will be screened by a committee. Selected ideas may be invited to give presentation before the evaluation committee and based on their potency of idea they will be shortlisted.

**Supporting, mentoring and strengthening of ideas:** The shortlisted ideas will be nurtured through technical and financial support as decided by the committee and each idea will be developed under mentorship of a mentor from the university. Under his/her supervision ideas may go to the incubation stage.

**Prototype development:** The innovators will have to prepare a prototype for their ideas. The prototype may be prepared under direct supervision of mentor assigned.

**Business plan preparation:** Workshops will be conducted on 'business plan development' for awareness of students by inviting renowned expert from industry or academia. Selected ideas will be required to present their business plan with market analysis.

**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 and One

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Person Company. Start-ups should be able to provide a copy of the registration certificate/letter to the university.

**Incubation facility**

After the process of pre-incubation, students have to be admitted in MDU-IC for availing incubation facility. The objective of the incubation facility is to promote the received students ideas into successful startups. For this noble cause a number of facilities and services will be provided by MDU-IC to incubatees so that the innovative ideas can be converted to successful startups. The university will offer access to pre-incubation and Incubation facility to start ups by students, staff and faculty for mutually acceptable time-frame.

**Licensing of IPR from institute to start up**

The innovators intending to initiate a start up 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 terms, either in terms of equity in the venture and/ or license fees and/ or royalty to obviate the early stage financial burden.

The facilities of the University can be utilized by the inventors for the development of product/prototype of the product/any part thereof. In such cases, the IPR is to be owned by the University and will be governed by the IPR policy of the University.

The product will be licensed in the name of the University and the innovators team will be enlisted as inventor(s)

In return of the services and facilities, University 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 (a limit of 9.5% is suggested so that institute has no legal liability arising out of startup.). Other factors for consideration should be space, infrastructure, mentorship support, seed funds, support for accounts, legal, patents etc. The duration of university share shall be reviewed by a constituted committee and will be decided on case to case basis.

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**NORMS FOR THE STUDENTS, ALUMNI AND FACULTY**

- a) The university will allow its students /staff to work on their innovative projects and setting up start ups (including Social Start ups) or work as intern / part-time in startups (incubated in any recognized HEIs/Incubators) while studying / working. Student inventors may also be allowed to opt for start up in place of their mini project/ major project, seminars, summer trainings. The area in which student wants to initiate a start up may be interdisciplinary or multidisciplinary. The salient features of incubation process are given in the following.
- b) 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 will be allowed to use their address in the university to register their company with due permission from the university in advance.
- d) Students entrepreneurs may be allowed to sit for the examination, even if their attendance is less than the minimum permissible percentage, with due permission from the institute. A maximum of 20 % relaxation shall be allowed in addition to the existing provisions of the university in this regard. Other type of relaxations for the students shall be decided case to case basis.
- e) The university would 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.
- f) The norms for students will equally applicable for Alumni of the university.
- g) Faculty and staffs will be allowed to take off for a semester / year (or even more depending upon the decision of review committee constituted by the University) as unpaid leave/ casual leave/ earned leave for working on startups and come back.

The bottom of the page contains several handwritten signatures and initials in black ink. From left to right, there is a signature that appears to be 'S. S. S.', followed by a signature that looks like 'A. S.', then a signature that looks like 'M.', and finally a signature that looks like 'S. S.'. There are also some other scribbles and marks.

- h) The university will allow the 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.
- i) The university 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 entrepreneurs.
- j) The university 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.
- k) For staff and faculty, University can take no-more than 20% of shares that staff / faculty takes while drawing full salary from the University; however, this share will be within the 9.5% cap of company shares, listed above.
- l) 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.
- m) The university would 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.
- n) Participation in startup related activities shall be a legitimate activity of faculty in addition to teaching, R&D projects, industrial consultancy and management duties and shall be considered while evaluating the annual performance of the faculty. Every faculty shall be encouraged to mentor at least one startup.
- o) Product development and commercialization as well as participating and nurturing of startups may be added to a bucket of faculty-duties in future 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 as per rules.
- p) Wherever necessary, the university shall update/change/revise performance evaluation policies for faculty and staff from time to time.





PROCESS FLOW : This section contains policy and procedures for operational aspects.

It covers the following processes:

1. Eligibility
2. Admission process
3. Intellectual Property process
4. Seed Support
5. Infrastructure support
6. Mandatory Mentorship
7. Periodic assessment
8. Tenure
9. Exit
10. Disclaimer

1. Eligibility

1.1 Admission is open to any of the following from MDU Rohtak:

- Faculty members and Staff
- Students (UG, PG and PhD)
- Alumni

2. Admission Process

Based on the merits of the case, the evaluation of the idea/business plan for incubation purposes, following steps shall be adopted.

2.1. Review process:

From a duly constituted committee consisting of the following:

Director, Centre for Innovation, Incubation and Entrepreneurship

Dy Director, Centre for Innovation, Incubation and Entrepreneurship

Director, IPR

Dean of the concerned Faculty (In the relevant area of the idea)

HoD of the concerned Department (In the relevant area of the idea)

Director, IMSAR

Finance Officer

External Expert, if expertise is not available in the University (To be nominated by the Vice Chancellor)



A pitch template will be shared with the applicant for presenting to the committee. This may take a few iterations till desired clarity of the idea/business is achieved.

The business plan/deck shall be evaluated on the basis of technical and business feasibility of the idea.

Some representative criteria to be applied for evaluation (not limited to these)

1. Strength of the product idea in terms of its technology content, innovation, timeliness and market potential
2. Profile of the core team/ promoters
3. Intellectual Property generated and the potential of the idea for IP creation
4. Financial/ Commercial Viability
5. Funds requirement and viability of raising finance
6. Time to market
7. Break-even period
8. Commercial potential, demand and requirement in India
9. Scalability

CIIE will have a sole discretion whether to admit or reject a proposal for incubation and the decision of CIIE in this regard shall be final.

3. Intellectual Property: The concerned shall fill an IP declaration worksheet at the time of admission and declare the Intellectual Property developed and owned by the incubate company.

3.1. In case the incubate company is desirous of using the Intellectual Property of MDU Rohtak like patent, software code, copyright, design registration, developed product, etc. then the company shall make such request in writing to Director(CIIE). The terms and conditions for such IP licensing shall be decided by the University as per the provisions of IPR of the University.

3.2. The company shall inform if any students have worked on the technology and if their work will be incorporated in the product(s).

3.3. The company shall inform if any IP has been generated as a result of collaborative work with faculty members (who are not promoters) is being incorporated into the product(s).

3.4. The company shall inform if any MDU Rohtak infrastructure (hardware, testing setup, instrumentation, computing resources, processes) has been used in developing the IP or technology that will go into the product(s).

4. Seed Support: CIIE may provide seed support subject to the availability of funds/ grants/ schemes meant for this purpose. Seed support will be sanctioned only to the

registered companies and shall be based on merits of each company. Further, admission to CIIE shall not automatically entitle the companies to seed support. Sanction of seed support will be decided based on the eligibility criteria as decided by CIIE.

CIIE will have sole discretion to sanction or reject an application for seed support and the decision of CIIE in this regard shall be final. CIIE is not bound to give any reason in case an application for seed support is rejected. Though seed support may be sanctioned at the time of approval of the proposal for admission, disbursement shall be subject to satisfaction of CIIE that suitable progress has been made.

Seed Support shall also be provided to the students for purchase of equipment required in Startup. However, such equipment shall be procured by the Concerned Department and it shall be the property of the University.

#### 5. Infrastructure Support:

Upon admission to CIIE, the following facilities will be offered to the incubate companies on an individual basis:

- Office space
- Computer
- Internet connection
- Standard Furniture as decided by CIIE.
- Access to Central Library
- Meeting/Conference room with projection equipment
- Tele or Video conferencing facilities

The space required may be provided at a suitable location in the University.

6. Mandatory Mentorship: One of the objectives of Incubation is to utilize the technical expertise and lab infrastructure of MDU Rohtak, thus every company that is offered incubation at CIIE has to select one faculty from MDU Rohtak who shall act as mentor of the incubate and guide the company on product develop. The incubate has to offer minimum 1% of share equity to the mentor as a consideration of mentorship.

7. Periodic assessment: The incubate company has to submit an yearly audited statement of profit and loss account and unaudited quarterly statement about the activities. However, incubate may be asked to provide more frequent updates to CIIE.

8. Tenure of Incubation: Companies will be permitted to stay in the incubator for a period of two years. Maximum two extensions may be granted for 6 months each at a time at the sole discretion of the CIIE.

MDU Rohtak  
[Signatures]



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9. Exit: An Incubate company will leave the incubator under the following circumstances:

- Completion of two years' stay (if no extension granted)
- Underperformance or non-viability of business proposition as decided by CIIE on case to case basis
- Violation of any MDU Rohtak's policy
- Change in promoters'/ founders' team without concurrence of CIIE.
- Any other reason for which CIIE may find it necessary for an incubate company to leave.

Notwithstanding anything written elsewhere, CIIE's decision in connection with the exit of an incubate company shall be final and shall not be disputed by any incubate company.

#### 10. DISCLAIMER

MDU does not guarantee success and/or feasibility of the technology transferred from the Institute. MDU or any person representing them shall not be liable for any acts or omissions of the incubated company.

The above policy is subject to periodical review and amendment at any time.

Any/all disputed between the parties shall be referred for arbitration to the Vice Chancellor, MDU or person so nominated by him/her, whose decision will be final and binding upon the parties. The place of arbitration shall be Rohtak.





## Annexure 1

**PRIORITY AREAS OF INNOVATIONS AND STARTUPS (Tentative suggested)**

The innovative ideas could be in the form of product development, process development and anything which could enhance the performance of existing practices. It is highly desirable that the concept should be innovative and should address to solve one of the social, economic and process problems. The following are the priority areas of the university (but not limited to)

- a) AI, AR, VR, Blockchain, IoT, Big Data, Robotics and Biomedical devices.
- b) Technology based on Agriculture, Rural Development, Social entrepreneurship.
- c) Smart Vehicles/ Electric vehicle/ Electric vehicle motor and battery technology.
- d) Food Processing and innovative hospitality management
- e) Robotics and Drones.
- f) Waste management, Clean and Potable water.
- g) Renewable and affordable Energy.
- h) IoT based technologies (e.g. Security & Surveillance systems etc.)
- i) ICT, cyber-physical systems, Blockchain, Cognitive computing, Cloud computing, AI & ML.
- j) Innovative educational tools and processes.
- k) Based on Sustainable Development Goals of UN



ANNEXURE 2

TECHNOLOGY READINESS LEVEL (TRL)

RESEARCH DEVELOPMENT DEPLOYMENT	9	ACTUAL SYSTEM PROVEN IN OPERATIONAL ENVIRONMENT
	8	SYSTEM COMPLETE AND QUALIFIED
	7	SYSTEM PROTOTYPE DEMONSTRATION IN OPERATIONAL ENVIRONMENT
	6	TECHNOLOGY DEMONSTRATED IN RELEVANT ENVIRONMENT
	5	TECHNOLOGY VALIDATED IN RELEVANT ENVIRONMENT
	4	TECHNOLOGY VALIDATED IN LAB
	3	EXPERIMENTAL PROOF OF CONCEPT
	2	TECHNOLOGY CONCEPT FORMULATED
	1	BASIC PRINCIPLES OBSERVED

(Image source :

<https://www.twi-global.com/technical-knowledge/faqs/technology-readiness-levels> )

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Technology Readiness Level Examples

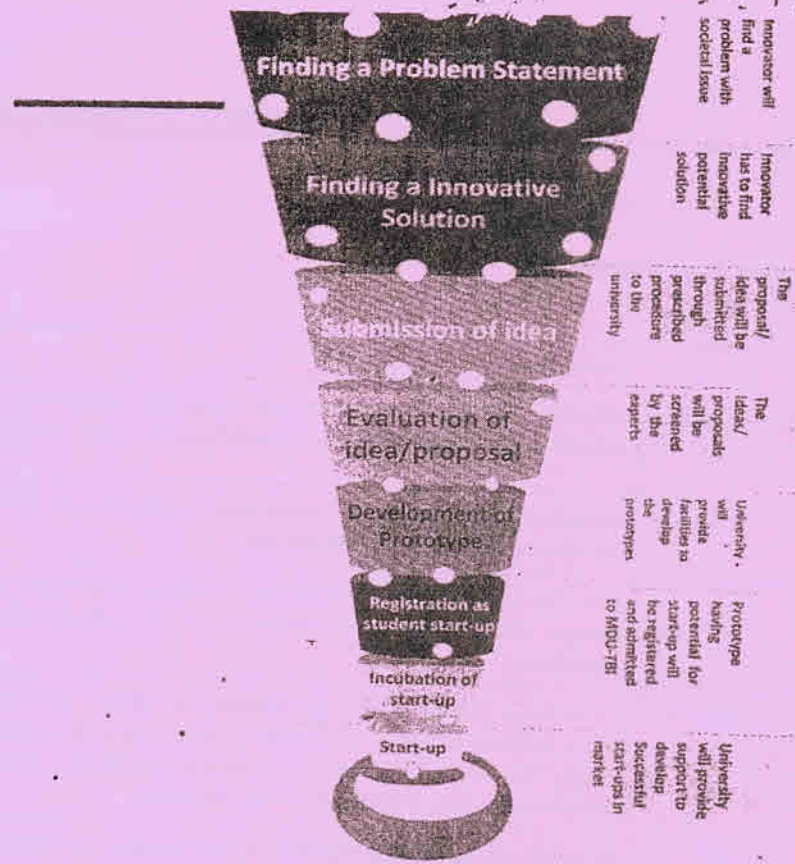
TRL	Description	Example
1	Basic principles observed	Scientific observations made and reported. Examples could include paper-based studies of a technology's basic properties.
2	Technology concept formulated	Envisioned applications are speculative at this stage. Examples are often limited to analytical studies.
3	Experimental proof of concept	Effective research and development initiated. Examples include studies and laboratory measurements to validate analytical predictions.
4	Technology validated in lab	Technology validated through designed investigation. Examples might include analysis of the technology parameter operating range. The results provide evidence that envisioned application performance requirements might be attainable.
5	Technology validated in relevant environment	Reliability of technology significantly increases. Examples could involve validation of a semi-integrated system/model of technological and supporting elements in a simulated environment.
6	Technology demonstrated in relevant environment	Prototype system verified. Examples might include a prototype system/model being produced and demonstrated in a simulated environment.
7	System model or prototype demonstration in operational environment	A major step increase in technological maturity. Examples could include a prototype model/system being verified in an operational environment.
8	System complete and qualified	System/model produced and qualified. An example might include the knowledge generated from TRL 7 being used to manufacture an actual system/model, which is subsequently qualified in an operational environment. In most cases, this TRL represents the end of development.
9	Actual system proven in operational environment	System/model proven and ready for full commercial deployment. An example includes the actual system/model being successfully deployed for multiple missions by end users.

(Table Source : <https://www.twi-global.com/technical-knowledge/faqs/technology-readiness-levels> )

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novation and Startup Policy



Flow Chart of the process of innovation and startup at the university.

