

## Annual Report 2021-22 Manav Rachna University



### A. About IIC Institute

- **Vision / Mission of IIC established at the Institute**

Ministry of Education (MoE), Govt. of India established **MoE's Innovation Cell (MIC)** to systematically nurture the Innovation culture among all Higher Education Institutions (HEIs). The prime mandate of MIC is to inspire, stimulate and nurture young students by providing them support to work with novel ideas and convert them into valuable products starting from the initial years. MIC has projected the creation of 'Institution's Innovation Council (IICs)' across the HEIs. A network of these IICs will be established to promote innovation in the Institution through multitudinous modes leading to an innovation and entrepreneurship (I&E) promotion eco-system in the campuses. It's our proud privilege to announce that MANAV RACHNA UNIVERSITY (MRU), FARIDABAD is selected as a member of IIC with a team of three members Dr. Susmita Ray, Ms. Yogita Khanna and Mr. Gianender Kajal way back in November, 2018.

- **Journey of IIC established at the Institute**

Over last four years IIC of MRU has grown in terms of faculty strength and students' strength as IIC moved through its journey of IIC 1.0, IIC 2.0, IIC 3.0 and then to IIC 4.0. IIC MRU started with three faculty members with IIC 1.0 with each faculty member from each Engineering department of MRU, namely Dr. Susmita Ray from Computer Science & Technology (CST) department, Ms. Yogita Khanna from Electronics & Communication Engineering (ECE) department and Mr. Gianender Kajal from Mechanical Engineering (ME) Department. In IIC 2.0 the faculty strength increased to 9 faculty members namely 5 from CST department, 2 from ECE department, and 2 from ME department. In IIC 3.0 the faculty strength was kept at 9 but with more diversified engagement of departments having 4 faculty members from CST, 1 from ME, 1 from ECE and 3 from Management department to promote entrepreneurship and startups (maturing innovative ideas from PoC to Prototype to market ready product

for a startup). Strength of students in IIC of MRU has increased from 12 to 24 from 2019 to 2020. Students are from various disciplines : Engineering, Management, Sciences, Law. In IIC 4.0 faculty strength further increased to 11 adding faculty coordinators for focussed roles e.g. Startup activities, Industry Interaction (MoU contracts management), NIRF, internships management, hackathons/competitions

- **Diversified representation in the IIC established at the institute from industry, Interdisciplinary & Departments/ Units etc.**

From IIC 1.0, there was diversified representation of faculty members from different engineering department to develop ideas to PoC to Prototype which are multidisciplinary. MRU IIC had external members from industry as Mentors who are associated with CoEs. IIC also has external member from Banking sector. To make it more diversified, faculty members from Management department have been engaged to boost entrepreneurship and promote startup culture, facilitate involvement of investors to enable funding for startups. An E-Cell (Entrepreneurship Cell) was established in 2019 under the umbrella of IIC 2.0 with a set of students from engineering and management disciplines.

## **B. Brief mention of key functionaries at the IIC Institute**

- Dr. Susmita Ray, President IIC
- Dr. Yogita Khanna, Convener IIC & IPR Activity Co-ordinator
- Dr. Riya Sapra, Social Media Co-ordinator
- Mr. Ankur Agarwal, Innovation Activity Co-ordinator
- Dr. Subodh Saluja, Internship Activity Co-ordinator
- Dr. Yogita Sharma, E-Cell Activity Co-ordinator & Startup Activity Co-ordinator
- Dr. Bhawna Singla, MoU Co-ordinator
- Dr. J.P, Sharma, Member, IIC
- Dr. Manmeet Bali Nag, Member IIC
- Dr. Meena Kapahi, NIRF Co-ordinator
- Dr. Pragati Chauhan, E-Cell Activity Co-ordinator

## **C. Portfolio/Tabular representation of Resource strength (human capital and Physical capital) of the IIC institution**

Total No. of IIC Faculty Members	11
Total No. of IIC Student Members	17
Total No. of IAs	2-Basic Level, 5-Advanced Level
Total No. of Faculty Mentors	9
Pre-Incubation Unit	Yes. 1. Design Centre for Product Design & Development with industry partner Altair and Design Tech 2. Innovation Center-MRU-IIC
IP Facilitation Unit	Yes . MRU IPR Cell

#### **D. Highlights of Facilities, Infrastructure of Pre-Incubation & Incubation kind and Student bodies/clubs engaged in promotion of Innovation and Entrepreneurship in the campus.**

- MRU has Pre-Incubation Unit with coverage area of more than 600 sq ft comprising of the following sub-units:
  1. Design Centre for Product Design & Development with industry partner Altair and Design Tech, established in 2019
  2. Innovation Center-MRU-IIC, established in 2018
- MRU has Centre of Excellence (CoE) with more than 1000 sq. ft. coverage area named “Air Conditioning (DAIK-IN India Pvt. Ltd.)” established in 2017
- MRU has Centre of Excellence (CoE) with Advance Tools & Equipment named “Center for Smart Energy” managed by Electronics and Communication department
- MRU has Industry-Institute Interface with “FGSI and Kidzania Delhi NCR” for promoting innovation/entrepreneurship in all Science disciplines
- MRU has Industry-Institute Interface Unit with National Council for Cement and Building Materials (NCCBM), Faridabad for promoting innovation/entrepreneurship in all Science disciplines
- MRU has Industry-Institute Interface with “Vivek International Ballabgarh” for promoting innovation/entrepreneurship in all Science disciplines
- MRU has Industry-Institute Interface with “Infosys”, “Xebia”, “QuickHeal”, “Sofocle Innovation Labs”, “AIW Works Pvt. Ltd.”, “Coding Ninjas (Sunrise Mentors Pvt. Ltd.)” for promoting innovation/entrepreneurship in Computer Science and Engineering discipline
- MRU has Industry-Institute Interface with “Reinste Nano Ventures Pvt. Ltd.” for promoting innovation/entrepreneurship in all Science and Engineering disciplines

- MRU has Industry-Institute Interface with “Smart Energy Center” for promoting innovation/entrepreneurship in Electronics & Communication Engineering discipline. It is a Center of Excellence with Advance Tools and Equipment
- MRU has an incubation unit with Atal Incubation Center, BIMTECH for promoting innovation/entrepreneurship in all Science and Engineering disciplines
- MRU has “Research and Computing Cluster” as a Research Unit/Park for promoting innovation/entrepreneurship in all Engineering disciplines
- MRU has “Materials for Environmental Sustainability” as a Research Unit/Park promoting innovation/entrepreneurship in all Science disciplines
- MRU has Centre of Excellence with Advance Tools & Equipment with industry partner Altair and Design Tech for promoting innovation/entrepreneurship in all Engineering disciplines
- MRU has signed off MoU with the following two IPR Law Firms namely IPLOEA and Centre for New Product Development Trade and Transfer to promote innovation culture, impart knowledge on IP to faculty, students and research community of MRU and facilitate patent/copyright filing
- MRU has Industry-Institute Interface with International Skill Development Corporation (ISDC) and NSIC to promote skill development and startups
- MRU has signed off MoUs with ICT Academy, BFSI Sector Skill Council of India to promote skill development towards product development
- MRU has Centre of Excellence with Advance Tools & Equipment with industry partner DAIKIN for promoting innovation/entrepreneurship in Mechanical Engineering discipline
- MRU has “Sahai Research Lab” as a Research Unit/Park for promoting innovation/entrepreneurship in Electronics & Communication Engineering discipline
- MRU has Industry-Institute Interface with “True Chip” for promoting innovation/entrepreneurship in Electronics & Communication Engineering discipline
- MRU has Industry-Institute interface with Transneuron Technologies and CYPE
- MRU has Industry-Institute Interface with “Srijan Sanchar” for promoting innovation/entrepreneurship in Electronics & Communication Engineering discipline

## E. Highlights of Achievements ( Tabular representation)

- **Number and Different types of I&E and IPR activities Conducted**

<b>S/no</b>	<b>Event Topic</b>	<b>Event Date</b>	<b>Event Type</b>	<b>Speaker</b>	<b>Role/Designation of Speaker</b>
1	Learn Why, What and How of Patents	08-Sep-2021	IPR	Ms. Latika Khanduja	Founder and Director at IPLOEA
2	IP Awareness Programme	20-Jan-2022	IPR	Dr. D. Usha Rao	Assistant Controller of Patents & Designs, IPO Delhi

3	Patent Co-Creation Clinic	24-Feb-2022	IPR	Mr. Mohit Mahajan	IPR Expert, Ex-Principal IPR Consultant of CSIR, Govt. of India, New Delhi
4	IPR Workshop	21-Apr-2022	IPR	Ms. Latika Khanduja	Founder and Director at IPLOEA
5	IPR Workshop	23-Aug-2022	IPR	Mr. Mohit Mahajan	IPR Expert, Ex-Principal IPR Consultant of CSIR, Govt. of India, New Delhi
<b>No of Activities in IPR Category - 5</b>					
6	Idea Generation for Sustainable Solution (Workshop)	13-Oct-2021	R&D & Innovation	Dr. Pragati Chaihan & Dr. Yogita Sharma	HoD & Associate Professor, Department of Management & Commerce, Manav Rachna University
7	Conference on Robotics - Automation	4 <sup>th</sup> Feb to 5 <sup>th</sup> Feb-2022	R&D & Innovation	NA	NA
8	Workshop on Blockchain	9-Feb-2022	R&D & Innovation	Mr. Jeevan & Mr. Ghan	Blockchain Expert, Sofocle Lab
9	Workshop on Design Thinking – A Futuristic Tool of Creativity & Innovation	23-Feb-2022	R&D & Innovation	Dr. Manmeet Bali Nag	Innovation Ambassador & Associate Professor, Department of Management & Commerce, Manav Rachna University
10	AVISHKAR 2022 – Internal Hackathon for Smart India Hackathon 2022	15-Mar-2022	R&D & Innovation	NA	NA
11	Workshop on Industry 4.0	4-Apr-2022	R&D & Innovation	Mr. Aditya	Technical Expert, SVR Infotech, Pune.
12	Workshop on Line Follower Robot	9-Apr-2022	R&D & Innovation		
<b>No. of Activities in R&amp;D and Innovation Category- 7</b>					

13	Entrepreneurship Week	16-Sep-2021 to 20-Sep-2021	Entrepreneurship	Dr. Pragati Chaihan	HoD & Associate Professor, Department of Management & Commerce, MRU
14	Industrial Visit to National Small Scale Industries Corporation	27-Oct-2021	Entrepreneurship	NA	NA
15	MSME Awareness Program on Entrepreneurship At National Level	24-Nov-2021	Entrepreneurship	Mr. Shakeel Ahmad	Faculty NSIC Entrepreneurship
16	Workshop on Entrepreneurship Skill, Attitude & Behaviour Development	19-Feb-2022	Entrepreneurship	Dr. Subodh Saluja	Innovation Ambassador ,Associate Professor, Department of Management & Commerce, MRU
17	Workshop on Entrepreneurship and Innovation as Career Opportunity	24-Feb-2022	Entrepreneurship	Dr. Subodh Saluja	Innovation Ambassador, Associate Professor, Department of Management & Commerce, MRU
18	Event Sangrachna 3.0	2nd March-6th March 2022	Entrepreneurship	NA	NA
19	TED Talk on Entrepreneurship - "Entrepreneurship-A Step Towards Promising Future Post Pandemic"	15-Mar-22	Entrepreneurship	Dr. Himanshu Talwar	International TEDx Speaker, Celebrated Author
20	Entrepreneurship Zenith : Panel Discussion	26-Apr-2022	Entrepreneurship	Ms. Gurrit Kaur Sethi, Founder Mindmymind and Chief Operating Officer at CARE Hospitals, Ms. Sartaj Lamba, Founder & CEO of 'Be sure' Buddy Pvt, Chairperson of AJ Group of companies and a	Event organized by Dr. Pragati Chauhan, Innovation Ambassador, HoD, Associate Professor, & Dr. Yogita Sharma, IIC Startup Activity Co-ordinator & Associate Professor, Department of Management & Commerce, Manav Rachna University

				Traffic Marshall, Ms. Suvarna Raj, International Para Athlete and Medalist and Founder of Women with Disabilities Network, and MD at Sugamya - Accessibility & Inclusion, Ms. Aarti Bindra MD at ACPL Systems, Klassify Technology, AttackFence and a Cyber Security Specialist and Ms. Prachi Kaushik, Founder & Director of Vyomini Social Foundation (VSF) and a TEDx speaker. Key Note Address by : Mr. Shubham Maheshwari Founder, Being Chef.	
21	Entrepreneurship Zenith : Idea Pitching Competition	26-Apr-2022	Entrepreneurship	NA	Event organized by Dr. Pragati Chauhan, Innovation Ambassador, HoD, Associate Professor, & Dr. Yogita Sharma, IIC Startup Activity Co-ordinator & Associate Professor, Department of Management & Commerce, Manav Rachna University
22	How to Plan for a Startup-Legal & Ethical Steps	28-Apr-2022	Entrepreneurship	Dr. Manoj Mishra	CEO & Co-Founder of Gen-Next Biz Ventures & Consultants
23	Mentor Development Program	17-18 May 2022	Entrepreneurship	Mr J P Malhotra Chairman, BYST Faridabad & Chapter President, DLF Industrial Association, Maj Gen S K Dutt and Mr S K Dua –Key Mentor & Facilitator BYST	Mr J P Malhotra Chairman, BYST Faridabad & Chapter President, DLF Industrial Association, Maj Gen S K Dutt and Mr S K Dua –Key Mentor & Facilitator BYST

24	Lean Startup & Minimum Viable Product	29-August-2022	Entrepreneurship	Dr. Bindu Agarwal	Faculty, Sri Sri University, Bhubneswar. With vast experience in creating culture for startup in various universities. Also, Dr. Bindu is mentoring and providing training support to startups. Under her guidance more than 10 startups incubated which got seed funding also.
<b>No of Activities in Entrepreneurship Category - 12</b>					
25	National Science Day Celebration	28-Feb-22	Innovation	NA	NA
26	National Technology Day Celebration	11-May-22	Innovation	NA	NA
<b>No of Activities in Celebration Category - 2</b>					

- MRU IIC participated in all MIC Driven Activities
- Four faculty members of MRU IIC participated in IIC Regional Meet at Chandigarh University to attend 4 tracks of presentations including IIC President and Convener. MRU IIC participated in IIC Poster competition
- MRU IIC has participated in SIH 2022

- **No. of student's & faculty ideas generated & Prototypes developed: 0**
- **No. of IPs generated, published and granted**

Sr. No.	Title/Name of IP (Patents Only)	IP Registration Number of Patent	Date of Patent IP Filed (Month, Year)
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**Patents Filed**

1	The composition for increasing flame longevity and reducing camphor volatility	202111061475	December, 2021
2	Lead-Acid battery cell reconfigurable arrangement for enhanced battery life	202111061504	December, 2021
3	TEATEST	202111061579	December, 2021
4	Refrigeration Automation System	202111061566	December, 2021

**Patents Published**

5	System and Method for Monitoring Water Quality of Biofloc Fish Culture	202111059116	December, 2021
6	A System for Monitoring Social Distance and generating System Using IoT	202111046254	October, 2021
7	A system for Mathematical Representation of Various Physical Systems Using Interactive Graphic User Interface and Method thereof	202111057737 A	December, 2021
8	Design System of PEIS for Handle Large-RFID Network	20214104604	October, 2021
9	Microwave Sensing Device for Dielectric Characterization of Materials	201911031072 (TEMP/E- 1/32827/2019-	August, 2021

		DEL)	
10	System and Method for Communal Violence detection using social networks based community detection	202011030354	October, 2020
11	Multipurpose Medicated and Biodegradable absorbent Material/Pad	201811049912	October, 2020

- **List of Registered Start-ups/Ventures Established**
- **Highlights of selected start-ups established by students/faculties with mention of founder/cofounder name**

S.No.	Name of the start up	Nature of start up	Type of Innovation	Year of commencement	Startup Registered with CIN and DIN	Contact information of promoters	Mentors Name	Funding Provided to Start-ups
1	Innominate	The team is developing a web based user assistive platform to help promote hobbies.	Product Innovation	2021		Mr. Vikas Baisoya (ECE 8th Sem.) Mr. Sarthak Negi (ECE 8th Sem.)	Dr. Yogita Sharma	200000
2	Vee12Auto	The team is focused on making smart furniture for the working	Product Innovation	2021		Mr. Aditya Pandit (Mech 8th Sem.)		200000

		professionals.						
3	F.A.C.T.S-IRIS Scan	The Team is developing smart IoT camera detection devices for covid to stop/Control the spread of the pandemic in crowded places. With the upcoming Third wave the team has hired interns to help speed up the process	Product Innovation	2021	-	Mr. Kashish	Dr. Yogita Gupta	200000
4	Auto Shine Care-Car Washing Machine	Auto Car washing is a startup where a team of engineers with a computer science background have joined hands to develop a smart touchless automatic car cleaning system which will focus	Product Innovation	2021	-	Mr. Ankit Dagar	Dr. Yogita Gupta	200000

		on Eco-Wash. The idea is to utilize as little water as possible with a comfort contact less cleaning						
5	Travel Gram	Mobile application based community built for travelers and explorers to connect, share and explore co-travelers	Service Innovation	2019		Mr. Jayant Kumar-9643744218	Dr. Rashmi Aggarwal	200000
6	Smart Water Sprinkler	Automatic water sprinkler to make watering and maintaining plants/ gardens easier for domestic and commercial places	Product Innovation	2019		Jahnvi Aggarwal-9818111359	Dr. Kamlesh Sharma	200000

7	Metromasti (The Ultimetro Pvt Ltd.)	The android and Ios App provides a single platform for Delhi metro users with advanced features of nearby parking, Chat room, fair calculation, route information, card recharge and bill payments	Service Innovation	2019		Suraj Kumar- 7542952461	Dr. Parneeta Dhaliwal	63100
8	ThapKrida	Working in developed games.	Service Innovation	2018	Limited liability CIN : AAP8539 DIN : 8504868	Mr. Sahil- 8130833056 Mr. Mukul- 9711166567	Mr. Sunil Kumar	200000
9	Vagabond Brains	Working in digital marketing.	Service Innovation	2018		Mr. Saurabh- 9911051189	Ms Shailja Naqvi	200000
10	Greenity	Creating a 'Smart Chair' is an innovative step towards generation of electricity from non-polluting sources rather than from	Product Innovation	2018		Mr. Shivam- 9899586606 Mr. Shradha Bhatia- 9643732462	Ms. Hanu Bhardwaj	200000

		conventional sources of energy						
11	Coating Vala Solutions	Developed an extremely affordable surface protector machine for coating of floors and important equipment to protect them from dust and paints.	Product Innovation	2018		Mr. Aman Nishchal-8802808777	Dr. Pragati Chauhan	200000
12	Ferrox Technologies	Innovative ideology that aims at revolutionizing commercial and agricultural EV marketplace with development in EAUV [electric agricultural utility vehicle] and battery pack development for high voltage drivetrains	Product Innovation	2018		Mr. Karan Segal-8800463890	Mr. Jai Prakash Sharma	200000

13	TechnoPlanet Lab Pvt. Ltd	Working in education space to develop new age tools, technologies and programs to create engaging K-12 learning experiences with an ultimate objective to revolutionizing education.	Service Innovation	2015	Private limited firm CIN U72300DL2015PTC285132 DIN 06753568	Mr. Mohit Bahl 8802889909 Mr. Manasvi Sihag Mr. Nikhil-9992630025	NA	196904
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**Startups Mentored/ Mentoring by Faculty Members of MRU**

<b>S.No.</b>	<b>Name of the Startup</b>	<b>Nature of the Startup</b>	<b>Year</b>	<b>Name of Students</b>	<b>Name of Mentors</b>	<b>Grant Issued, if any</b>	<b>Granted by</b>	<b>Status</b>
2	JanNeer	To develop Nano-material based portable water treatment	2020	Dr. Sudeep Shukla, Environment Pollution Analysis Lab Paragi Ahuja M.Sc.  Kajal (Selected for Ph.D. Programme )	Dr. Pradeep K. Varshney	Nil	NewGen IEDC, MRIIC	Ongoing

3	Tyron		2022	Bavleen Kaur, Gurmaan Singh Sandhu, Divya Sijwali and Parth Puri (all high School students) from Tagore International School	Ms Manpreet Kaur from Tagore International Dr. Pragati Chauhan-YTBC Mentor	-	-	Still ongoing with the final presentation for getting funding.
4	Innobage	Application Based	2022	Manjot, Stephanie, Skye, Rico, Lan	Dr. Praneeta Dhaliwal-YTBC Mentor	-	-	Still ongoing with the final presentation for getting funding.

## **F. Participation of IIC-institute in various programs of Central and Stage Govt. Highlighting specially for the schemes or programs**

- ARIIA – Participation in ARIIA 2018-2019, 2019-2020, 2020-2021, 2021-2022
- NISP Adoption status - Trained Faculty members and students of all departments through a series of training sessions over Q3-Q4 of last year, Policy Formulation done for MRU, Policy Implementation in progress
- Smart India Hackathon (SIH) etc.- Participation and winning prize in SIH 2019 , SIH 2020 and SIH 2022.
- PoC Competition & National Innovation Contest : 3 Teams participated in PoC Competition in August 2019 and 5 teams participated in National Innovation Contest 2020 and reached up to Business Plan Preparation level. 4 Teams Participated in Toycathon 2021
- Through Idea Competitions/Internal Hackathons around 22 ideas were generated. Students are in the process of entering ideas in Yukti Portal.



## G. Detail of Social Media & Connections of IIC institute

MRU Facebook: <https://www.facebook.com/MRUFaridabad/>

MRU Twitter: [https://twitter.com/manav\\_rachna](https://twitter.com/manav_rachna)

MRU Instagram: [https://www.instagram.com/manav\\_rachna](https://www.instagram.com/manav_rachna)

## H. Images of MRU-IIC & CoE







## I. Contact

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