

Annual Report 2020-21 Manav Rachna University



A. About IIC Institute

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

Ministry of Human Resource Development (MHRD), Govt. of India established **MHRD'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 three 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 and IIC 3.0. 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 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.

- **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. An E-Cell (Entrepreneurship Cell) was established in 2019 in 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

- President - Prof. Dr. Susmita Ray
- Vice President – Prof. Dr. Susmita Ray
- Convenor – Ms. Yogita Khanna
- Faculty Coordinator for Innovation- Ms. Riya Sapra
- Faculty Coordinator for Entrepreneurship – Dr. Manmeet Bali Nag
- Faculty Coordinator for E-Cell – Dr. Pragati Chauhan and Mr. J.P. Sharma
- Faculty Coordinator for IPR Cell- Dr. Parneeta Djaliwal
- Faculty Co-ordinator for Startup –Dr. Subodh Saluja

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

Total No. of IIC Faculty Members	9
Total No. of IIC Student Members	24
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” and “Xebia” 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 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 “Srijan Sanchar” for promoting innovation/entrepreneurship in Electronics & Communication Engineering discipline
- MRU has two pre-incubation centers namely “Travel Gram” and “Smart Water Sprinkler”, established in 2019 which are funded by Newgen IEDC, Manav Rachna

E. Highlights of Achievements (Tabular representation)

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

S/no	Event Topic	Event Date	Event Type	Speaker	Role/Designation of Speaker
1	Kapila Workshop driven by MIC	19-23-Oct 2020	IPR	Dr. Abhay Jere	Chief Innovation Officer, MIC
				Dr. Mohit Gambhir	Innovation Director, MIC
				Mr. Varun Chamadiya	Founder, Proactive I
				Shri Prabuddha Ganguli	CEO of Vision IPR
				Mr. Sameer Kumar Swaroop	Deputy Controller of Patents & Designs.
				Dr. Unnat Pandit	Program Director, Atal Innovation Mission
				Dr. Sheetal Chopra	India Lead-IPR Advocacy, Ericsson India Ltd.
2	IPR Workshop	2-Feb-21	IPR	Mr. Nitesh Karnwal	IPR Manager of IPR Cell, Manav Rachna Research Innovation and Incubation Centre
No of Activities in IPR Category - 2					

3	NISP Workshop	Aug-Oct 2020	Innovation & Entrepreneurship	Dr. Pradeep Varshney	Dean Research, Manav Rachna University
4	Prototype Validation and Converting Prototype to Startup	26-Jun-21	Innovation & Entrepreneurship	Dr. Pradeep Varshney	Dean Research, Manav Rachna University
No. of Activities in Innovation & Entrepreneurship Category- 2					
5	Qfiesta (Entrepreneurship Quiz Competition)	19-Jan-21	Entrepreneurship	NA	NA
6	Idea-o-Logy (Business Idea Pitching Competition)	20-Jan-21	Entrepreneurship	NA	NA
7	Graffic Traffic (Infographic making competition on Growth in online learning)	21-Jan-21	Entrepreneurship	NA	NA
8	Women in Indian Entrepreneurship (Panel Discussion)	20-Feb-21	Entrepreneurship	Dr. Divya Rajput, Dr. Saundarya Rajesh, Ms. Manu Goel, Dr. Aneeta Madhok	Dr. Divya Rajput, India Lead at Texas Global at University of Texas, Austin, Dr. Saundarya Rajesh Founder - Director at Avtar The Power of Diversity, Ms. Manu Goel, Director at The Novarch, Dr. Aneeta Madhok, Managing Director at Open Space Consulting
9	Interaction with Industry Experts	25-Feb-21	Entrepreneurship	Mr. Vijay Kumar Pradhan, Mr. Shoury Gupta, Mr. Sushil Tripathi	Mr. Vijay Kumar Pradhan, General Manager (Projects), National Thermal Power Corporation of India, Mr. Shoury Gupta, Head of Marketing at ValueFirst, Mr. Sushil Tripathi Head HR- Oswal Industries Limited
10	Business Idea Generation Session	4-Mar-21	Entrepreneurship	Event Co-ordinatzed and facilitated by Dr. Manmeet Bali Nag	Associate Professor, Department of Management & Commerce, Manav Rachna University

11	Panel Discussion on Entrepreneurship and VC/Angel Investor Funding for Startups	12-Jun-21	Entrepreneurship	Mr. Amalore Jude, Dr. Manoj Mishra, Mr. Hormazd Charna	Mr. Amalore Jude, Founder and CEO of Modo Edulabs Pvt Ltd., Dr. Manoj Mishra, CEO & Co-Founder of Gen-Next Biz Ventures & Consultants and Mr. Hormazd Charna, Founder and CEO of MergerDomo Services Pvt. Ltd.
12	Journey Towards Startups: Success & Failures	17-Jul-21	Entrepreneurship	Mr. Kartik Rampal	Director, Tackyon Motorsports Pvt. Ltd, Research Associate & Program Coordinator NewGen IEDC, Manav Rachna
13	Business Model Canvas	29-Jul-21	Entrepreneurship	Dr. Subodh Saluja	Associate Professor, Department of Management & Commerce, Manav Rachna University

No of Activities in Entrepreneurship Category - 9

14	Future of Software Development - From Coding to Model Based Design	15-Apr-21	Innovation	Mr. Chandru Kumar, Mr. Mohit	Mr. Chandru Kumar, Senior Application Specialist, Altair, Mr. Mohit, Design Engineer, True Chip Solution
15	Introduction to Robotics & Automation	22-Apr-21	Innovation	Mr. J.P. Sharma and Mr. Vijay Gill	Mr. J.P. Sharma, Asst. Professor, Department of Mechanical Engineering, Manav Rachna University, Mr. Vijay Gill, Asst. Professor, Department of Electronics & Communication Engineering, Manav Rachna University
16	Guest Lecture on Additive Manufacturing	14-Jun-21	Innovation	Mr. Pushpendera	Faculty from Dayalbagh Educational Institute, Deemed University, Agra,
17	Guest Lecture on CFD and its Application	16-Jun-21	Innovation	Mr. Vignesh Lakshmanan	Mr. Vignesh Lakshmanan, CFD application engineer of DesignTech systems Pvt. Ltd.

No of Activities in Innovation Category - 4

- **No. of student's & faculty ideas generated & Prototypes developed: 8**
- **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)	Applicant Name/	Applicant Type	Department/Centre Name
1	Filter cum stirrer mechanism for stir casting of composite	201911023212	June, 2019	Prateek, Sorabh, Shailesh	Faculty	Chemistry
2	Isolation and charecterization of broad spectrum	201911023213	June, 2019	Dr. Sabiha Imran	Faculty	Bio-Tech
3	External Handbrake with Mechanical park assist	201911023214	June, 2019	Gurpreet Singh Matharou, Ritesh Kumar Nagar	Faculty	Mechanical Engg
4	Automoted IOT based rapid medicine delivery system	201911040293	April,2019	Dhruv Rohatgi, Aayushi Aggarwal, Siddharth Srivastava, Palak Gupta, Suresh Kumar	Student & Faculty	CST
5	Handheld Self Examine Brest Cancer	201911033647	August, 2019	Shaveta Bhatia, SHIV SHANKAR RAI	Faculty	Faculty of Computer Applications
6	Streeksha D'Scent	201911018360	August, 2019	Mr.Shivansh Sharma (Student)	Student	ECE
7	Microwave Sensing Device for Dielectric Characterization of Materials	201911031072 (TEMP/E-1/32827/2019-DEL)	August, 2019	Yogita Khanna, Dr. Y K Awasthi, Anshuman Gupta	Faculty	ECE
8	Production of Clean Water From Clay Mud Pot Filters	Indian Patent no: 201911029396	July, 2019	Dr. Prem Kishore Patnala	Faculty	Chemistry

9	COMPACT PLANAR SUPERWIDEBAND EQUAL POWER DIVIDER / COMBINER FOR RF & MICROWAVE APPLICATIONS	201911031519	August, 2019	Y.K Awasthi, Gaurav Saxena	Faculty	ECE
10	Horizontal Aerobic & Biodegradable Composting	317375-001	May, 2019	Meena Kapahi, B.M. Bahl	Faculty	Chemistry
11	SYSTEM AND METHOD FOR COMMUNAL VIOLENCE DETECTION USING SOCIAL NETWORKS BASED COMMUNITY DETECTION	202011030354	July, 2020 Date Published: 9th October, 2020	Priyanka Gupta, Hardeo Kumar Thakur, Binu Dennis Rajakumar B. R.	Faculty	CST
12	Smart Education Framework: Smart AI-IOT based educator monitoring and content availability alert system	2020102616 (IP Australia)	October 2020 Date Published: 30th Oct 2020; Date Granted: 25th Nov, 2020, Granted Patent No. : 2020102616	Arpit Jian, Aman Kumar, Anand Prakash, Rakesh Kumar, Sanjay Singh Ankur Bhardwaj, Rohit Agrawal	Faculty	CST

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

Name of the Venture/Startup/ SME Unit Established with the Support of HEI	Startup Unit Registered as	Year of Registration	Corporate Identification Number (CIN) of Startup	Startup Unit Established/ Founded by	Detail of Founder			
					Name of the Founder	DIN No. (Director's Identification No)	Email of Founder	Contact of Founder
ThapKrida	Limited liability	2019	AAP-8539	student	Sahil Tanwar	8504868	sahil.tanwar@thapkrida.com	8130833056
TechnoPlanet Lab Pvt. Ltd	Private limited firm	2015	U72300DL2015PTC285132	Alumni	Mohit Bahl	06753568	mohit.bahl@technoplanetlab.com	8802889909

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
- 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 and SIH 2020.
- 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

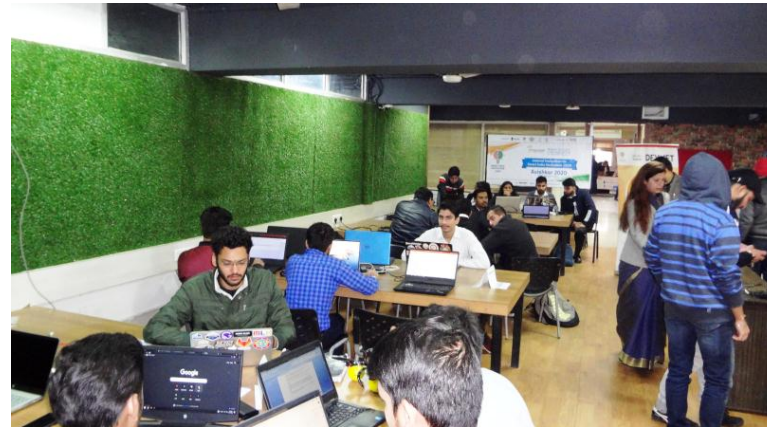
G. Detail of Social Media & Connections of IIC institute

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

MRU Twitter: https://twitter.com/manav_rachna

MRU Instagram: https://www.instagram.com/manav_rachna

H. Images of MRU-IIC & CoE



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