

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 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 & Telecommunication 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. 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/graphical/Tabular representation of Resource strength (human capital and Physical capital) of the IIC institution

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|----------------------------------|--|
| 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 |
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D. Highlight 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 Electric 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 all 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. Highlight Achievements (Narrative/Graphical/tabular representation)

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

| Sno | 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 | | | | | |

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|---|---|--------------|-------------------------------|--|---|
| 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 |

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|--|---|-----------|------------------|--|--|
| 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
- No. of student's & faculty Innovation/prototypes developed

- 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 |

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|----|---|---|---|--|-------------------|-----------|
| 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 | Horizontzl 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 & Student | CST |
| 12 | Smart Education Framework:Smart AI-IOT based educator monioring 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 & Student | CST |

- List of Registered Start-ups/Ventures Established
- Highlight 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 |

- Amount spent on promotion and awareness generation on Innovation Entrepreneurship in the campus
- Amount grant or fund supported to student & Faculty lead Innovations, start-ups and IPR
- No. of Technology Transfer and Commercialisation happened

F. Highlight few best IIC Faculty/Student members and their achievements/ Rewarded for the innovations at different forum
 [Profile of few faculties with 2-3 line of their achievements]

G. Highlight selected best Innovations & images with mention of inventor/innovation name

H. List if any break through Innovations / Technology Developed at the institute (2-3 technology with 2-3 lines about technology and innovation

- I. 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, 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 Toyathon 2021
- J. 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

K. Testimonials from IIC members and external about IIC institute and IIC of MoE's Innovation Cell

L. Images

M. Contact

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