

Annual Report 2022-23

Muthoot Institute of Technology & Science, Ernakulam, Kerala



A. About IIC Institute

The Institute's Innovation Council was established in our institute in the academic year 2018 – 2019. Activities planned and conducted to promote I & E within the stakeholders was the prime focus in the initial stages of establishment. Programs to improve the awareness on I & E and its importance in the development of an individual, institute and the nation were conducted regularly since inception. Hackathons, idea pitching competitions, employability conclaves, Internships programs, Idea exhibitions, etc are conducted consistently every academic year in the institute. Due to the passion and initiatives from the MIC, a revamped and motivated team has been constituted in the institute level to ensure active conduct, promotion and execution of I & E related activities. The incubation and pre-incubation units and facilities like CIDRIE (Centre for Industrial Consultancy, Inter disciplinary Research, Innovation & Entrepreneurship) has intensified the I & E activities to a larger extent. Student & Faculty internships offered under CIDRIE is playing a vital role in exposing young innovators to the world of possibilities to build their own startups and to become successful entrepreneurs. Our IEDC has been recognized as "Technology Business Incubator" by Kerala Startup Mission. We were able to pitch ourselves in the performer band of ARIIA (NIRF Innovation) rankings. A consistent and organized effort is the prime focus of the institute to perform better in the coming years.

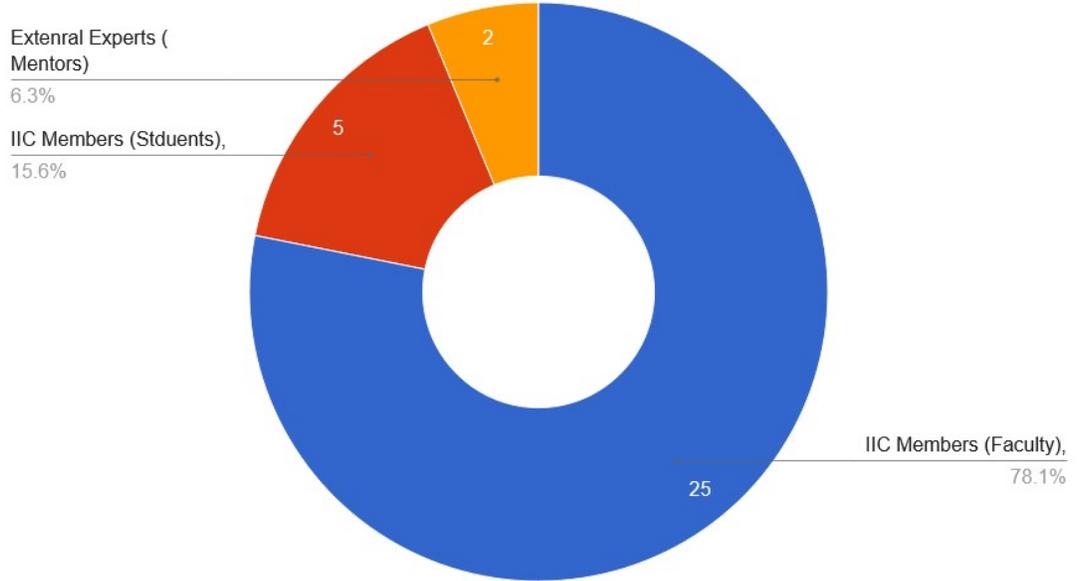
The Institute's Innovation Council of MITS is led and coordinated by a team that has been handpicked to ensure a rich blend of expertise from the different disciplines of engineering, Industry and innovators. The council comprises of members from all the engineering disciplines within the institute along with experienced and innovated faculty from industry. The nominated and trained innovation ambassadors are also from diversified streams of engineering to ensure availability of mentors and verifiers for the ideas & innovations envisaged by the MITS fraternity. Seeking the help of external members rich in industry experience as mentors and verifiers is another key point of execution to ensure diversity in the resource pool for promoting quality I & E activities.

B. Brief mention of key functionaries at the IIC Institute

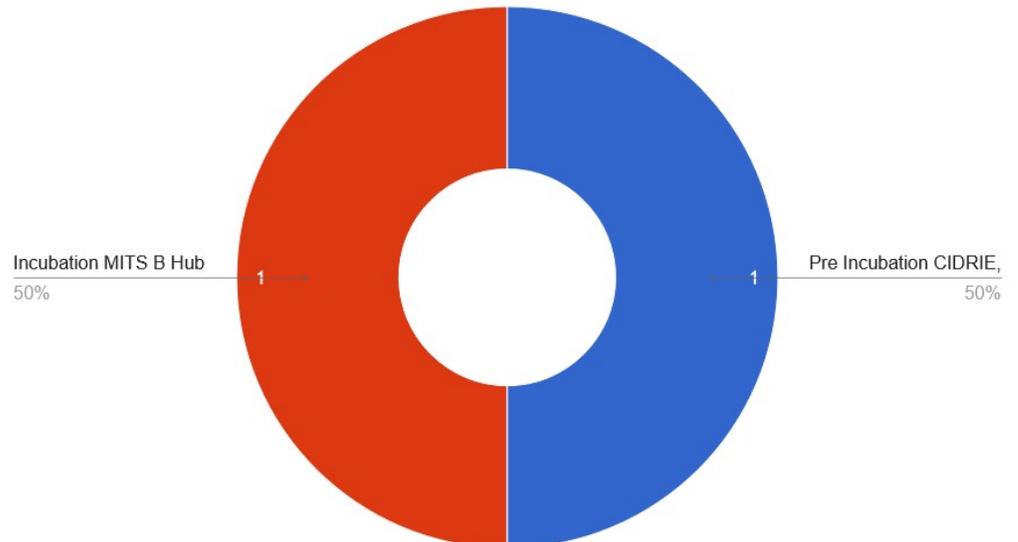
Sr. No.	Name of Member	Member Type (Teaching /Non-Teaching/Student/External Expert)	Key Role / Position assigned in IIC
1.	Dr. Neelakantan P. C.	Teaching	President
2.	Mr. Daniel A. V.	Teaching	Convener
3.	Dr. Anjali Varghese C	Teaching	ARIIA Coordinator
4.	Mr. Vipin Vijayan	Teaching	Internship Activity Coordinator
5.	Dr. P. Suresh	Non-Teaching	Start-up Activity Coordinator
6.	Dr. Pramod Kumar M.	Teaching	NIRF Coordinator
7.	Mr. Rishikesh P. H.	Teaching	IPR Activity Coordinator
8.	Dr. Arunkant A Jose	Teaching	Innovation Activity
9.	Cerene Mariam Abraham	Teaching	Social Media
10.	Dr. Krishnapriya S	Teaching	Member
11.	Mr. Venugopal Kurupath	Teaching	Member
12.	Ms. Geethu Chacko	Teaching	Member
13.	Ms. Ancy P Regi	Teaching	Member
14.	Ms. Jereena Jawahar	Teaching	Member (IA)
15.	Ms. Binu Manohar	Teaching	Member (IA)
16.	Ms. Breeza Paulose	Teaching	Member (IA)
17.	Mr. Rajesh Kumar	Non-Teaching	Member (IA)
18.	Eldhose P Sim	Teaching	Member (IA)
19.	Mr. Mahalingam P R	External	Member
20.	Dr. Unnikrishnan K C	External	Member

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

Resource Strength - Human Capital



Resource Strength - Physical Capital



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

The most active club ensuring the promotion of I&E activities within the institute is the Innovation & Entrepreneurship Development Cell (IEDC). Each department association along with student professional bodies play a vital role in developing and moulding the entire institute fraternity with the right attitude towards I & E related activities.

The following facilities within the institute campus ensures proper propagation and training of I & E activities.

- CIDRIE(Centre for Industrial Consultancy, Inter disciplinary Research, Innovation & Entrepreneurship)
- MITS Business Hub (MITS B Hub)
- Industry Institute Interaction Cell
- Research & Consultancy Cell
- Academic Partnerships/Internships
- Innovation & Entrepreneurship Development Cell (IEDC)
- Department Level Research Parks & well equipped Lab facilities.

E. Highlight Achievements (Narrative/Graphical/tabular representation)

The Centre for Industrial Consultancy, Inter-disciplinary Research, Innovation & Entrepreneurship (CIDRIE) at MITS in association with IIC is constantly putting effort in the direction of promoting innovation and innovators. Student internship and faculty/staff internship programs offered at the centre is helping them to get exposure through interactions and hands on training sessions. Few of the innovations and products developed in association with the centre are listed below.

Sl. No.	EVENT	College/State/National level Event	No of Participants
1	My Story - Motivational Session by Successful Innovators.	College Level	53
2	World of startup-challenges & opportunities	College Level	26
3	Ideathon	College Level	97
4	Workshop on IoT	College Level	70
5	Jump Start 3.0 Outreach for school students	College Level / External participants from School	57
6	Wind Tunnel Analysis of Tall Structures - An Innovative Approach	College Level	157
7	Workshop on Prototype/Process Design and Development	College Level	34
8	Session/ Workshop on Business Model Canvas (BMC)	College Level	34
9	“Civil Engineering the foundation of economic growth”	College Level	65
10	Geoenvironmental an interdisciplinary research and innovation possibilities	College Level	65
11	Colloquium on "Scope, Challenges and Impacts of Electric Vehicles"	College Level	170
12	“Industrial AI”	College Level	170
13	Development in Design and Automation for Industry 4.0”	College Level	103
14	ELECTRIC VEHICLE CHARGING	College Level	164
15	ENERYIA	College Level	44
16	#AspireToInspire	College Level	45

F. Highlight few best IIC Faculty/Student members and their achievements/
Rewarded for the innovations at different forum

Dr. P. Suresh
Professor and Head, CIDRIE

A veteran in the domain of automation and digital transformation, he obtained his PhD from Department of Mechanical Engineering, IIT Madras. Prior to joining CIDRIE, he had been working at Tata Motors as part of their digital transformation initiative. His experience also includes major industries like Tata Hitachi Construction Machinery Limited, and Cummins India Limited. He does research in digital transformation, module robotics and control systems, power electronics and drives, and automation. He also has numerous publications and IPRs to his credit.

Mr. Rajesh Kumar
Design Engineer, CIDRIE

An active entrepreneur with a number of completed projects, he is well known for the NESDAY brand coconut scraper which is expanding its presence in India & abroad. He specialises in circuit design, operations and cost optimisation, standardisation, and quality control. He brings vast experience from different industries and projects in India, UK, and Australia.

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

list of Innovations @ IIC MITS			
Sl: No	Product	Innovators/Me ntors	Descriptions
1	Regenerative Incinerator	Rajesh Kumar, Suresh P, Babu Kurian, Manoj M, Able Mathews	Solid waste to energy solution 
2	Grain Transport System	Rajesh Kumar, Suresh P, Atul K Sajeevan, Albin T Biju, Manoj M, Able Mathews	Pneumatic conveyor for Harvests from farm to bag 
3	Tamperproof packet	Rajesh Kumar, Suresh P, Atul K Sajeevan, Albin T Biju, R Krishna Priya	

			Storage solution for valuables	
4	CMS Units	Suresh P, Hari krishnan, Sujith K K	Security monitoring for office and home	
5	Electric Tea Harvesting Machine	Rajesh Kumar, Suresh P, Manoj M, Able Mathews, Hari krishnan, Sujith K K	Tea harvesting machine for steep plantations	
6	Electric Super charger	Rajesh Kumar, Suresh P	Engine efficiency improving solution	
7	Electric Mobility solution	Rajesh Kumar, Suresh P, Manoj M, Able Mathews, Hari krishnan, Sujith K K	Electric trike for elderly	
8	Solar Concentrator	Derin Denson (Innovator), Rajesh Kumar, Suresh P (Mentors)	A device to collect and store solar energy	
9	Sand from glass scraps/ Glass bottles	Rajesh Kumar, Suresh P, Babu Kurian,	Small aggregates from glass for Concrete and plastering	

- H. Highlight selected start-ups established by students/faculties with mention of founder/cofounder name
- I. List if any break through Innovations / Technology Developed at the institute (2-3 technology with 2-3 lines about technology and innovation)
- J. Participation of IIC-institute in various programs of Central and Stage Govt. Highlighting specially for the schemes or programs

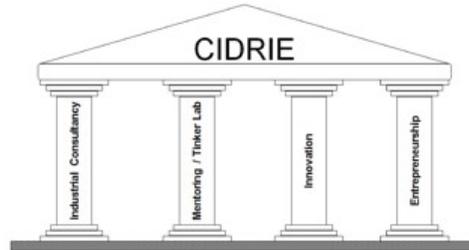
- ARIIA (NIRF Innovation) – participation and Rank
Our institute was Recognized in the band “Performer” under the category “Colleges/Institutes (Private / self-Financed) (Technical)”
 - NISP Adoption status - Trained Faculty, Policy Formulation, Policy Implementation
Trained Faculty- Dr. Arunkant A Jose, Asst. Professor, ECE MITS, completed Policy Implementation Training Program Offered by Ministry of Education's Innovation Cell.
Policy Formulation- Experts Committee was Formed at MITS to Formulate the Policy. Conducted Committee Meetings to prepare an implementable Innovation and Entrepreneurship Policy Document with KPIs (Key Performance Indicators) / Milestones. Approval of the Innovation and Entrepreneurship Policy of the institute by concern Competent Authority was done. A dedicated section in the MITS webpage for one page stop for I&E policy and other policy documents of state and central government for reference and all I&E and IPR-related programs and opportunities was created.
Policy Implementation- Attended Policy Implementation Training organized by MoE’s Innovation Cell. Submission of the approved I&E policy to the IIC of the institute for discussion and implementation completed. Completed Benchmarking the current status of the I&E ecosystem of the institute (as per ARIIA indicators) by developing KPIs and setting annual targets to achieve. Developed quarter/semester vice plan for I&E activity aligned with the plan of IIC institute for implementation.
 - Smart India Hackathon etc.
 - ATL-IIC Mentorship Linkage Program
- K. Detail of media, Social Media & Connections of IIC institute
- a. Facebook - <https://www.facebook.com/mgmits.official>
 - b. Twitter - <https://twitter.com/mitskochi>
 - c. Instagram - <https://www.instagram.com/infomits/?hl=en>
- L. Testimonials from IIC members (faculty, students and external) about IIC institute and IIC of MoE’s Innovation Cell

“IIC is an initiative by MIC that is well structured and determined to change the way in which the technology enthusiasts think, identify, innovate and create solutions. The guided path in mentoring the youth through pre planned training activities helps HEI to organize and conduct programs that proved to be highly effective.” IIC Convener- MITS

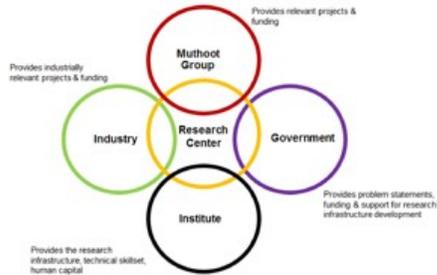


Center for Industrial Consultancy, Interdisciplinary Research, Innovation and Entrepreneurship (CIDRIE)

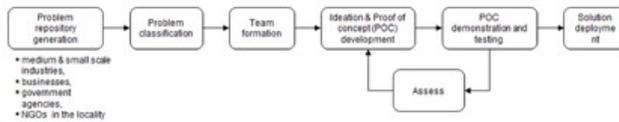
STRUCTURE



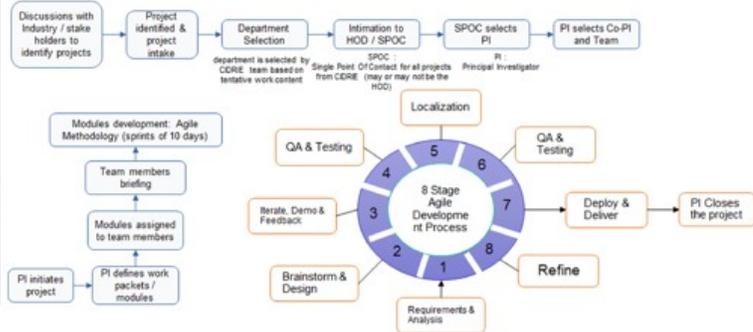
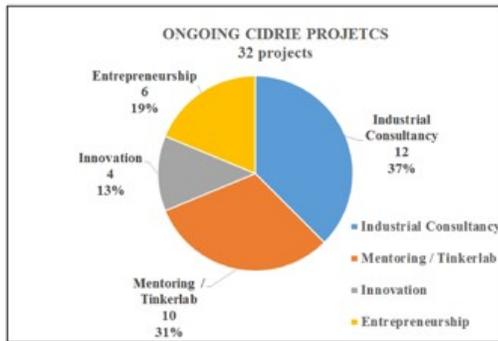
STAKEHOLDERS



Project Intake and Execution Process



ONGOING CIDRIE PROJECTS



M.

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