



Kakatiya Institute of Technology & Science-Warangal
(An Autonomous Institute under Kakatiya University, Warangal)
Institution's Innovation Council (IIC – 4.0)
(Institute ID- IC201811135)



Annual Report - 2021-22

A. About IIC Institute

Vision: To create a vibrant local innovation ecosystem for Scouting Ideas and Pre-incubation of Ideas that lead to start-ups and entrepreneurship

Mission:

1. To enable the institute to actively engage students, faculty and staff in innovation and entrepreneurship activities
2. To create space for collaboration, co-creation, business relationships and knowledge exchange
3. To conduct various innovation and entrepreneurship-related activities prescribed by Central MIC in time bound fashion.
4. Identify and reward innovations and share success stories.

- Journey of IIC established at the Institute :

IIC KITSW was established in 2018. Ever since its inception it is actively involved in conducting various events. Some of the prominent events are as following.

1. India First Leadership Talks Series- Calendar.
2. IIC KITSW organized **Ideathon 2K19** on 12.03.2019, in coordination with Mechanical Engineering Students Association (MESA). About 50 students participated and presented their innovative ideas.
3. S. Akilesh had participated in a supra event held at Noida on 15th-20th July 2019 organised by Society for Automobile Engineers (SAE).
4. T. Lavanith presented a paper on his innovative idea- LOOP HEAT PIPES at **NASA Thermal & Fluid Analysis Workshop (TFAWS) 2019** which was conducted at **NASA Langley research centre Virginia, USA** on 26-30th August 2019. He received a travel grant of Rs 1 lakh from AICTE.
5. Students were encouraged to participate in **Asian E-Bike Challenge** organized by M/s Imagine 2 Innovate, on 25th to 29th September 2019.
6. IIC KITSW, organized **Smart India Campus Hackathon (SIH)** on 22.01.2020 and 23.01.2020. About 250 students participated in the event. Eight best innovative ideas were shortlisted for National Smart India Hackathon.
7. IIC KITSW, had been sanctioned with **MSME Business Incubation Centre** by Ministry of MSME, Govt of India (File No: 3(10)/ Inc/7th PMAC/2020-21, dated 15.04.2021).
8. IIC KITSW, organized a Workshop on **"A RoadMap to Startup"** on 31.01.2021. in coordination with the Dept. of Computer Science & Engineering.
9. IIC KITSW, organized one day Workshop on **"Intellectual Property Rights (IPR) and IP Management for Startup"** on 27.02.2021. **Mr. M. Radha Krishna Chavahan, Secretary, Metropolitan Legal Services Authority, Hyderabad** was the Chief Guest and resource person.
10. **Sri D. Naveen Kumar**, Asst. Prof of CSE has undergone **Innovation Ambassador training** conducted by **MoE's Innovation Cell and AICTE** during the period from 30th June to 30th July 2021.

11. On the occasion of “**World Entrepreneurs Day**”, a webinar on “**Journey from Innovation to Entrepreneurship**” was conducted on 21.08.2021. Mr. Srikanth Soni, Founder & Proprietor Srujan Workplace Innovations was the guest speaker.

12. Following activities were organized as part of IIC 4.0

S. No.	Event / Activity	Date(s)	Type of activity	Organized by	No. of participants
1.	Webinar on “Journey from Innovation to Entrepreneurship”	21 st August, 2022	Celebration Activity	IIC in association with Dept. of ME, KITSW	52
2.	Session on accelerators / incubation - opportunities for students & faculties early- stage entrepreneurs	9 th July, 2022	IIC Activity	IIC in association with Dept. of CSE, KITSW	191
3.	Session on Lean start-up & Minimum Viable Product	9 th July, 2022	IIC Activity	IIC in association with Dept. of ECE, KITSW	191
4.	Session on Angel Investment / VC Funding Opportunity for Early-Stage Entrepreneur	28 th June, 2022	IIC Activity	MSME-Business Incubator, KITSW	180
5.	How to plan for start-up and legal ethical steps	28 th June, 2022	IIC Activity	Entrepreneurship Development Cell (EDC), KITSW	180
6.	Out of the box thinking for problem solving	28 th June, 2022	MIC Activity	IIC-4.0, KITSW	20
7.	Celebration of World Environment Day	5 th June, 2022	Celebration Activity	IIC in association with Dept. of PSS, KITSW	103
8.	Exhibition & Poster Presentation of prototype developed & linkage with Innovation Ambassadors for Mentorship support	19 th May, 2022	IIC driven Activity	IIC in association with Dept. of EEE, KITSW	35
9.	Internal Hackathon for Smart India Hackathon (SIH) - 2022.	28 th & 29 th March, 2022.	MIC driven activity	IIC in association with Dept. of CSE, KITSW	216
10.	Entrepreneurship skill, Attitude and behaviour Development.	9 th February, 2022.	IIC activity	Entrepreneurship Development Cell (EDC), KITSW	145
11.	One day workshop on “Building an Electric Vehicle”.	27 th January, 2022.	Self-driven activity	IIC in association with Dept. of ME, KITSW	67
12.	Two-day workshop on “Modelling of electric vehicle battery”.	27 th & 28 th January, 2022.	Self-driven activity	IIC in association with Dept. of EEE, KITSW	79
13.	National Science Day celebrations.	28 th February, 2022.	Celebration day	IIC in association with Dept. of Physical Sciences, KITSW	200

S. No.	Event / Activity	Date(s)	Type of activity	Organized by	No. of participants
14.	Field visit to centre for Innovation & Incubation (CII), NIT Warangal.	28 th February, 2022.	IIC Activity	IIC, KITSW.	40
15.	Intellectual Property Rights (IPR) Awareness Program.	3 rd February, 2022.	Self-driven activity	MSME-Business Incubator, KITSW	237
16.	Orientation session on IIC 4.0.	11 th January, 2022.	MIC driven activity	MoE's Innovation Cell (MIC).	120
17.	National Energy Conservation Day.	14 th December, 2021.	Celebration day	IIC in association with Dept. of EEE, KITSW	71
18.	One day Ideathon.	20 th November, 2021.	IIC Activity	IIC in association with Technical Club, KITSW.	104
19.	National Education Day celebration.	11 th November, 2021.	Celebration day	IIC in association with Dept. of ECE, KITSW.	257
20.	Field visit to Gangadevipalli Village (Ideal Village)	23 rd October, 2021.	IIC Activity	IIC in association with Dept. of EEE, KITSW.	17
21.	ILS-II Lecture-2: Entrepreneurship and Innovation as Career opportunity.	22 nd October, 2021.	IIC Activity	IIC, KITSW.	249
22.	ILS-II Lecture-1: My story - Motivational session by Successful Entrepreneur / start-up founder.	22 nd October, 2021.	IIC Activity	IIC, KITSW.	249
23.	ILS-I Lecture-2: Entrepreneurship and Innovation as Career opportunity.	25 th September, 2022.	IIC Activity	IIC, KITSW.	214
24.	ILS-I Lecture-1: My story - Motivational session by start-up founder.	25 th September, 2022.	IIC Activity	IIC, KITSW.	214

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

S. No.	Name & Details	Designation & Department	Position	Member Type
1	Dr. Srikanth Pabba psk.mech.kits@gmail.com	Professor of Mechanical Engineering	Head, Centre for I ² RE & Coordinator, NISP	Teaching
2	Dr. S. Sunil Pratap Reddy spr.ce@kitsw.ac.in	Associate Professor of Civil Engineering	President, IIC-4.0	Teaching
3	Sri. K. Ajith akreddy.eee@kitsw.ac.in	Assistant Professor of EEE	Convenor, IIC-4.0	Teaching

S. No.	Name & Details	Designation & Department	Position	Member Type
4	Dr. B. Jagadish Kumar bjk.eee@kitsw.ac.in	Associate Professor of EEE	Coordinator, EDC & Start-up Activity Coordinator, IIC-4.0	Teaching
5	Sri. K. Kishore Kumar, kishor.kits@gmail.com	Assistant Professor of Mechanical Engineering	Convenor, EDC & Member, IIC-4.0	Teaching
6	Dr. B. Sumanth Kumar, skb.ce@kitsw.ac.in	Associate Professor of Civil Engineering	Coordinator, MSME-Business Incubator & Innovation Activity Coordinator, IIC-4.0	Teaching
7	Dr. D. Kumar drkumar.csn@kitsw.ac.in	Assistant Professor of CSN	Convenor, MSME- Business Incubator & Member, IIC-4.0	Teaching
8	Sri. D. Naveen Kumar dnaveen.cse@kitsw.ac.in	Assistant Professor of CSE	Convenor, NISP & Member, IIC-4.0	Teaching
9	Dr. S. Vishwa Prasad Rao svpr.mh@gmail.com	Assistant Professor of M&H	Social Media Coordinator, IIC-4.0	Teaching
10	Dr. B. Raghuram brr.cse@kitsw.ac.in	Assistant Professor of CSE	NIRF Coordinator, IIC-4.0	Teaching
11	Dr. V. Raju Reddy vr.ece@kitsw.ac.in	Assistant Professor of ECE	IPR Activity Coordinator, IIC-4.0	Teaching
12	Dr. K. Praveen Kumar kpk.it@kitsw.ac.in	Assistant Professor of IT	ARIIA Coordinator, IIC-4.0	Teaching
13	Sri. M. Srinivas msk.eee@kitsw.ac.in	Assistant Professor of EEE	Internship Activity Coordinator, IIC-4.0	Teaching
14	Sri. T. Mahesh Kumar tmk.it@kitsw.ac.in	Assistant Professor of IT	Member IIC-4.0	Teaching
15	Sri. N. Srikanth ns.ce@kitsw.ac.in	Assistant Professor of Civil Engineering	Member, IIC-4.0	Teaching
16	Sri. K. Jaipal jaipal.katukam@kitsw.ac.in	Assistant Professor of MBA	Member, IIC-4.0	Teaching
17	Sri. P. Anil Kumar pak.me@kitsw.ac.in	Assistant Professor of Mechanical Engineering	Member, IIC-4.0	Teaching
18	Dr. S. Kiran sk.csn@kitsw.ac.in	Assistant Professor of CSN	Member, IIC-4.0	Teaching
19	Dr. E. Kalyan Rao ekr.pss@kitsw.ac.in	Assistant Professor of PSS	Member, IIC-4.0	Teaching
20	Sri. B. Krishna Sandeep bks.eie@kitsw.ac.in	Assistant Professor of E&IE	Member, IIC-4.0	Teaching
21	Sri. Srinivas Thumma thumma@sumith.in	Sumith Electronics Pvt. Ltd.	Expert from nearby Industry	External
22	Sri. A. Dayanand Reddy reddy@vasantha.com	Vasantha Tool Crafts Pvt. Ltd.	Start-up / Alumni Entrepreneur	External
23	Sri. Narayana Rao ibo.warangal@sbi.co.in	Lead Bank	Bank/Investor	External
24	Sri. J. N. Mishra jnmishra97@gmail.com	MSME-DI	Patent Expert	External

B. Brief mention of key functionaries at the IIC Institute

- Principal: Dr. K. Ashoka Reddy
- Head, C-I2RE: Dr. P. Srikanth, Prof. of ME
- President: Dr. S. Sunil Pratap Reddy, Assoc. Prof. of CE
- Convenor: Sri. K. Ajith, Asst. Prof. of EEE

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

Total No. of IIC Members	Teaching Faculty: 20 External members: 4 Student members: 22
Total No. of Innovation Ambassadors	11
Total Number of Faculty mentors from Portal	24
Pre-Incubation Units, if any	1. Entrepreneurship Development Cell (KITSW-EDC) 2. Innovation Cell (KITSW-IC) 3. KITSW Pre Incubation Centre
Incubation Units, if any	1. AICTE Idea Lab
IP Facilitation Unit, if any	1. IPR Cell - KITSW

IPR policy is adopted and implemented in the institute. The institute has well established Research and Development (R&D) Cell headed by Dean and Associate Dean. Institute encourages the faculty and students to apply for the patents with suitable financial assistance and guidance. The institute has zero tolerance to plagiarism. All the mini projects and major projects are checked against plagiarism on **Turnitin Software**.

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

The institute has established **Centre for Innovation Incubation Research and Entrepreneurship (C-I2RE)** headed by Dr. Srikanth Pabba, Head, C-I2RE. It aims to encourage research, innovation and entrepreneurship to help the students to develop professional entrepreneurial ability and mindset to set up their own enterprises. The Centre encompasses 4 important avenues for the students to show case their innovative and creative abilities viz., **Institution's Innovation Council (IIC), MSME- Business incubator, Entrepreneurship Development Cell (EDC) and National Innovation Startup Policy (NISP)**. The Centre shall develop the guiding framework to envision an educational system oriented towards start-ups and entrepreneurship opportunities for students, faculty and staff.

Institute has provided all the infrastructure in the form of Idea pitching rooms (4) Innovation Incubation seminar halls (2), Centre of excellences (6) to encourage the students and faculty to carry out their innovative projects. **Student Activity Centre (SAC) of the institute is active and has about 9 clubs** for the students to participate in extra-curricular and co-curricular activities. The "**Technical Club**" of SAC supports the C-I2RE in promotion and implementation of Innovation and Entrepreneurship in the campus.

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

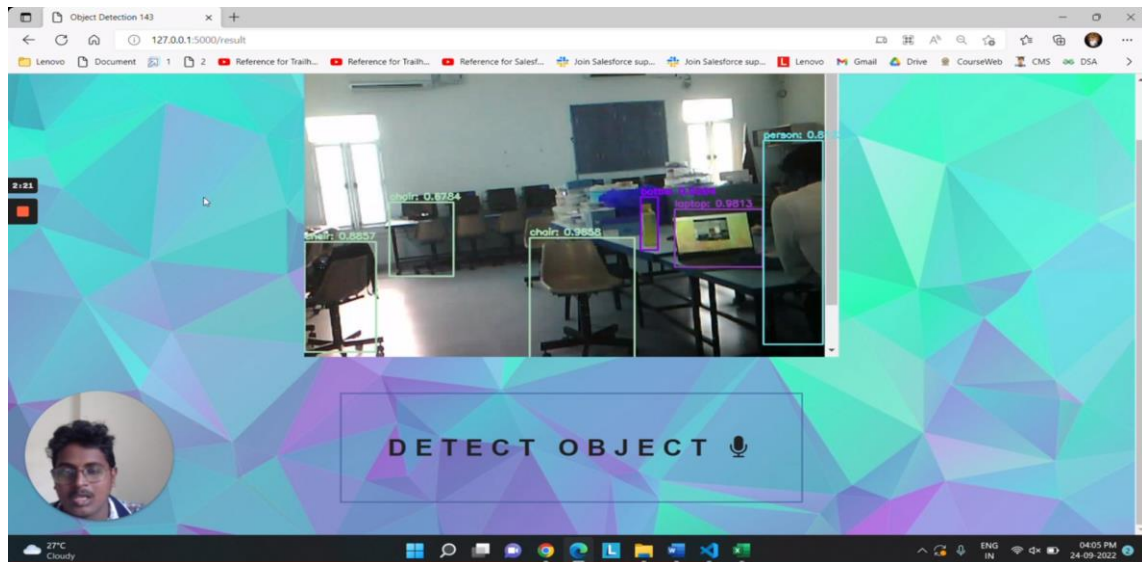
- Number and Different types of I&E and IPR activities Conducted - 09
- No. of student's & faculty ideas generated - 36
- No. of student's & faculty Innovation/prototypes developed - 13
- No. of IPs generated, published and granted - 09
- No. of Student & Faculty Start-ups/Ventures established. - 00

- Amount spent on promotion and awareness generation on Innovation Entrepreneurship in the campus - **1,00,000/-**
- Amount grant or fund supported to student & Faculty lead Innovations, start-ups and IPR - **1.04 Crore**
- No. of Technology Transfer and Commercialisation happened - **00**

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

- 1) **Dr. V. Raju Reddy**, Asst. Prof of ECE, received a fund of **Rs 16.4 lakhs** for his innovative project- **Real Time Parking space identification using Computer Vision in Smart Cities**, from **MSME-Business Incubator**.
- 2) **Mr. B. Raghu**, Final year Mechanical student and his team, received a fund of **Rs 15 lakhs** for his innovative project- **Design and fabrication of reaper and binder machine for Leafy vegetables**, from **MSME-Business Incubator**.
- 3) **Mr. B. Nagarjuna** and his team was among the top 3 contestants of National Level Hackathon organized by MIC, **Smart India Hackathon - 2022** & exhibited their solution for the problem statement in the final round.

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



Object Detection and Distance Approximation Using ESP32 and Python



Design And Fabrication of Attachable Wheel Chair Automator

H. Highlight selected start-ups established by students/faculties with mention of founder/cofounder name -Nil

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

- 1) IOT based technology was used in the innovative project - “**REAL TIME AUTOMATION OF ELECTRICAL APPLIANCES**” to operate various electrical appliances remotely.
- 2) The php, html, Bootstrap, Ajax, and Css. technologies were used in developing the **PLAGIARISM SOFTWARE USING STRING MATCHING ALGORITHM**. The objective of this project is to ensure zero plagiarism of the projects and mini-projects submitted by the students of the institute. It works as equivalent to any commercial software.
- 3) **EMERGENCY RESPONSIVE SYSTEM** project was developed using latest technologies like php, html, Bootstrap and Css. The objective of this project is to provide the information of nearby Hospitals and automatically the hospital will be notified about the emergency to make necessary arrangements by the time the patient is brought to their hospital.

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

- Participated in ARIIA 2021 [Band Promising]
- NISP Adoption status - Faculty was trained and institute has started implementing from Academic Year 2021-22.
- Conducted Internal Hackathon for Smart India Hackathon 2022 on 28.03.2022 & 29.09.2020

K. Detail of social media & Connections of IIC institute

Social media	User Id
twitter	IicKitsw
Instagram	i2re_iic_kitsw

L. Testimonials from IIC members and external about IIC institute and IIC of MoE’s Innovation Cell

Faculty Mentor, SIH-2022: Dr. V. Raju Reddy, Assistant Professor, ECED.

The journey of SIH 2022 has helped our students to gain knowledge which they can utilize in day-to-day life. The students worked on the problem statement and came up with an idea and developed a prototype for exhibition. We thank organizers of Smart India Hackathon-2022 for conducting such a great event which is helping every participant in some or the other way.



Team leader, SIH-2022: Bantu Nagarjuna

Smart India Hackathon-2022 gave us new experience which we would cherish every moment of our life. In the process of presenting the solution, our team became the best version of ourselves to learn the various methods. I think this is one of its kind experience every student must go through. We sincerely thank all the stakeholders of the Smart India hackathon for providing us the best experience, one could get

Testimonial – (Togaru Lavanith)



IIC played a very important role in fruition of the project presented at NASA's Thermal and Fluid Analysis Workshop 2019, Virginia, USA. The project at its core is about innovating loop heat pipe technology and ushering it into the modern age and IIC, KITSW is the hub for innovation. The faculty members were very supportive throughout the project and helped me iron out potential problems with the functionality. IIC has ensured I am provided with the necessary software and hardware for the completion of the project. The student community of IIC is very open – minded and they have helped me in setting a clear project timeline. I would like take this opportunity to thank Dr. P. Srikanth, Head, C-I2RE, for all his efforts, right from coordinating with engineering departments and research cell to the approval of my funding to the conference in the United States. I would also like to thank Sri Kishor Kumar, Faculty In- charge IIC, for guiding me in system design of the project. I am confident that IIC will be the hub for many more projects in the years to come.

Testimonial – (Naganathan Karthik)



The loop heat pipe wick design involved designing a product compatible with modern technologies of additive manufacturing and IIC has contributed a lot at every step. IIC has played a pivotal role in setting project goals and project milestones. My co – author and I had several discussions with the faculty and students of IIC and it gave us valuable insight in terms of innovative capability and scalability of the project as well as potential applications of the technology. IIC has coordinated with Mechanical Department and R&D cell and provided us with a very capable computer with design and simulation software without which our project would not have been completed. I would like to wholeheartedly thank Dr. P. Srikanth, Head, C-I2RE, for his unwavering support and leadership that helped us cross the finish line. I would also like to thank Sri. K. Kishor Kumar, for his insights in the structural design of the wick. I am very thankful to have such a kind and supportive community. I am certain that IIC, KITSW is going to be the center piece for the innovation in our college and mould students to be future innovators.

M. Images



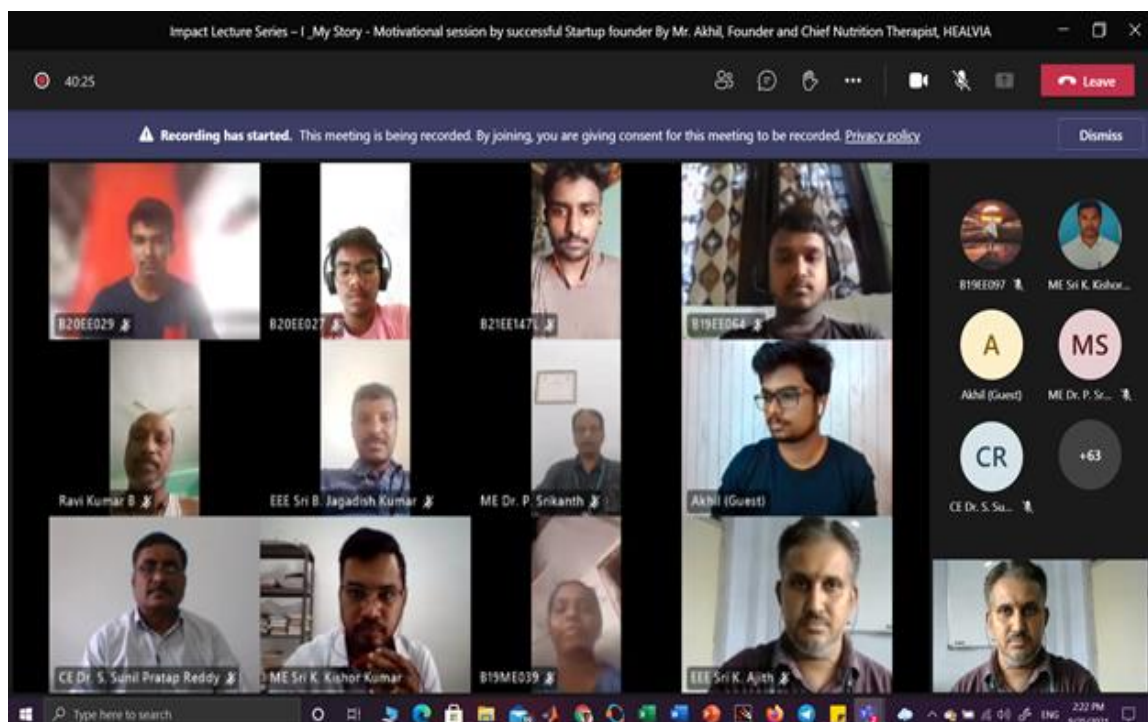
CII - NIT Warangal visit



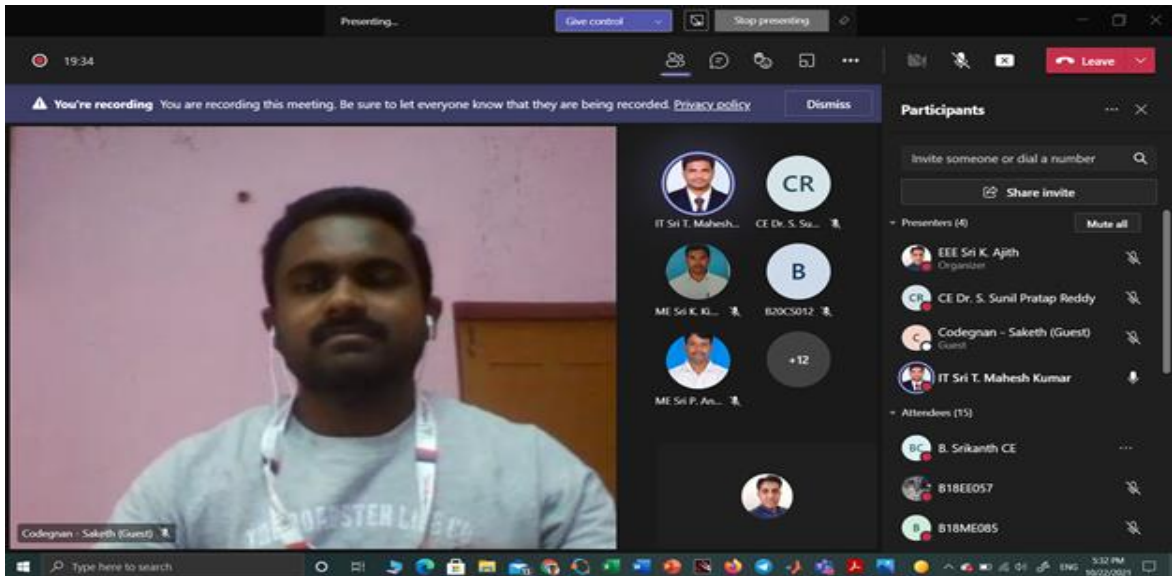
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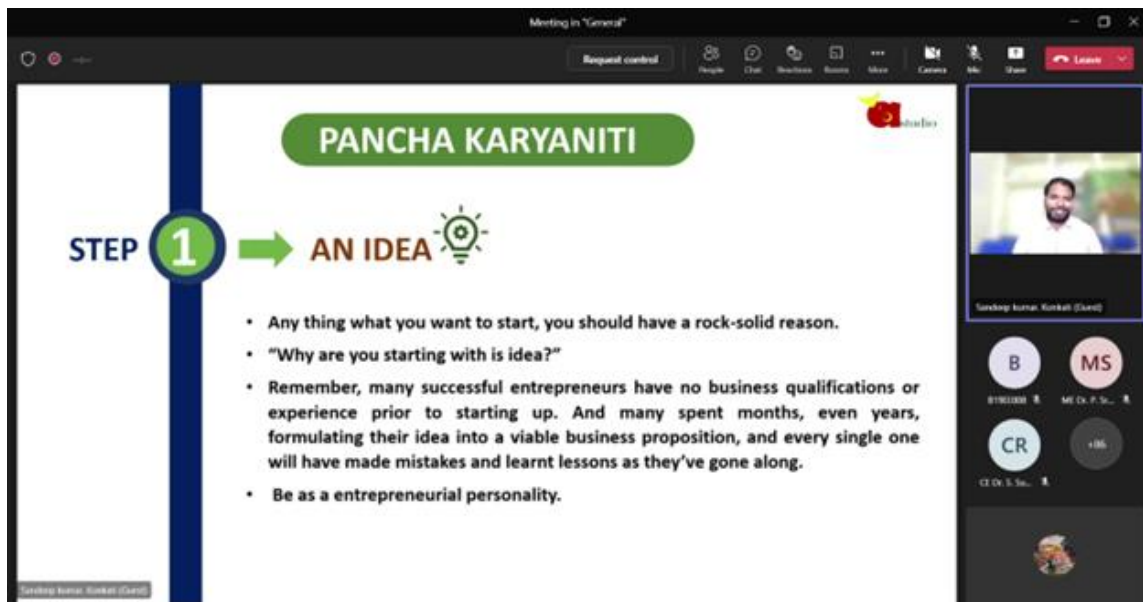
Mr. N. Akhil Kumar during My Story - Motivational session by successful Start-up founder



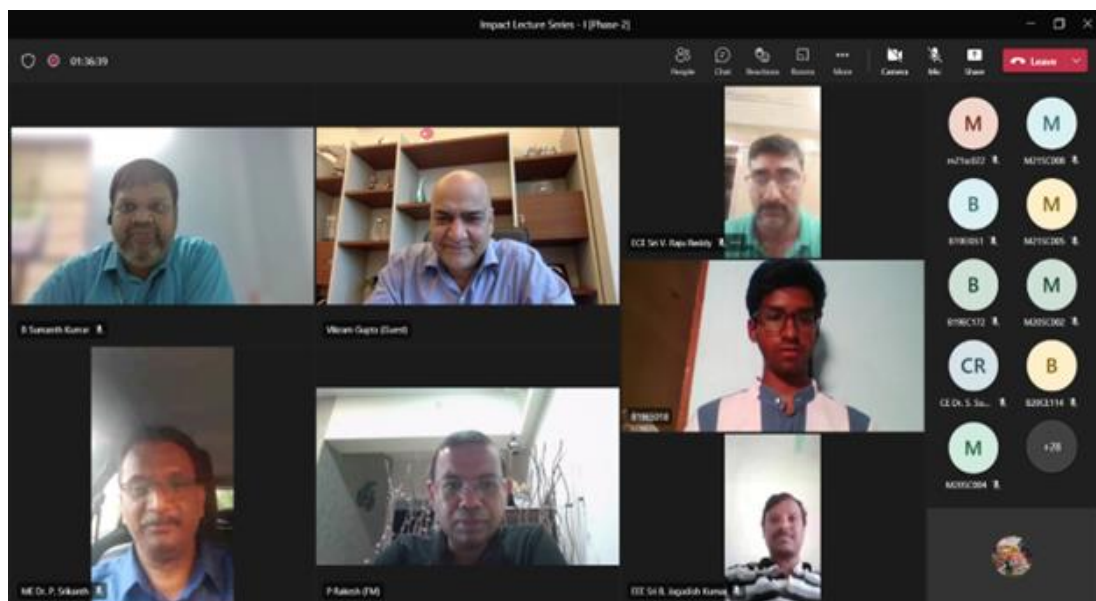
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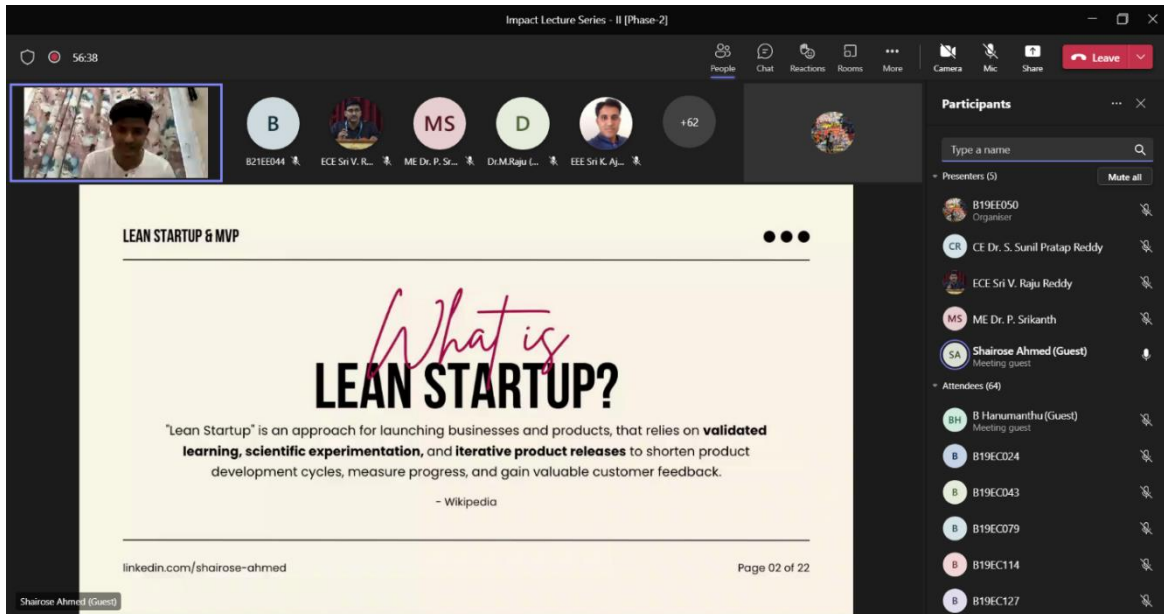
Mr. Saketh Reddy during My Story - Motivational session by successful Entrepreneur / Start-up founder



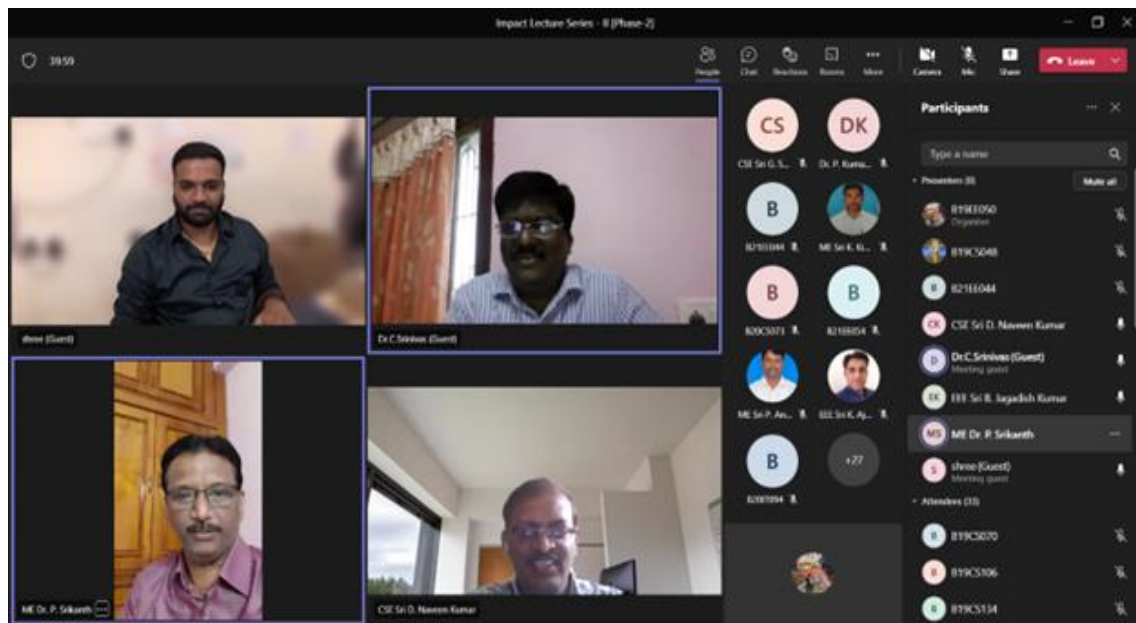
Mr. K. Sandeep Kumar during How to plan for start – ups and legal and ethical steps



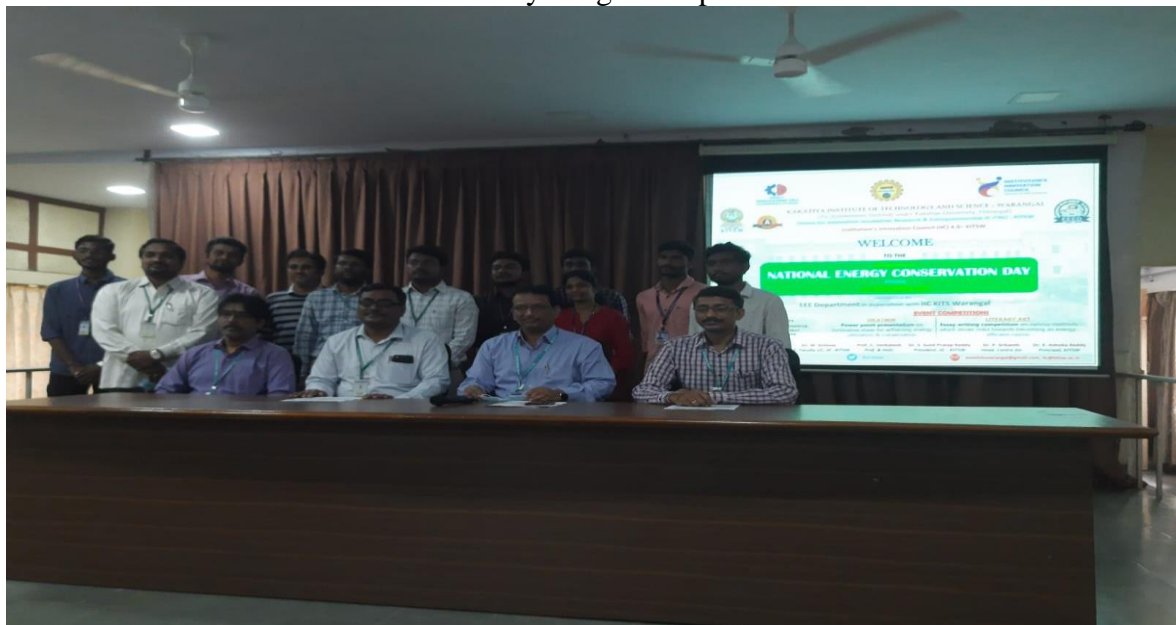
Mr. Vikram Gupta during Session on Angel Investment / VC funding Opportunity for Early Stage Entrepreneur



Mohammad Shairose Ahmed during Session on Lean start-up & Minimum Viable Product



Kalakonda Srikanth Reddy during Session on accelerators / incubation – opportunities for students & faculties early- stage entrepreneurs



National Energy Conservation Day celebrations



National Education Day celebrations



National Science Day celebrations



Sri. Kiran Lakkapragada during Journey from Innovation to Entrepreneurship on the occasion of World Entrepreneurs Day



World Environment Day celebrations



Internal Hackathon for Smart India Hackathon 2022



Internal Hackathon for Smart India Hackathon 2022



Internal Hackathon for Smart India Hackathon 2022

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