Kakatiya Institute of Technology & Science-Warangal

(An Autonomous Institute under Kakatiya University, Warangal)

Institution's Innovation Council (IIC – 6.0)

(Institute ID- IC201811135)

Annual Report - 2023-24

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. Organized Impact Lecture Series Phase-I and Phase-II with financial support from MoE's Innovation Cell during the academic years 2021-22 and 2022-23.
13. Following activities were organized as part of IIC 5.0

S. No.	Event / Activity	Date(s)	Type of activity	Student / Faculty		Benefit in terms of Learning
1.	Workshop on Entrepreneurship and Innovation as Career Opportunity	17-Nov-23	IIC Calender Activity	278	20	Students learnt about about various Govt. Schemes like Mudra Loan, PMEGP etc. Students are enlighten and motivated with the opportunities in startup
2.	My Story - Motivational Session by Successful Innovators.	25-Nov-23	IIC Calender Activity	0	218	" Improve their ability to support and mentor students, empowering them to actively pursue startup ventures.
3.	My Story - Motivational Session by Successful Entrepreneur/Start-up founder.	25-Nov-23	IIC Calender Activity	0	218	Enhance their research engagement and cultivate an entrepreneurial mindset.
4.	Session on Problem Solving and Ideation Workshop	25-Nov-23	IIC Calender Activity	60	0	Hands-on experience is provided to the students. Exploration relared to robotics
5.	Demo Day/Exhibition/Poster Presentation of Ideas/PoC & linkage with Innovation Ambassadors/Experts for Mentorship Support.	25-Nov-23	IIC Calender Activity	0	218	Apply grant writing skills, enabling them to seize research funding opportunities effectively.
6.	IIC Regional Meet 2023-24	11-Dec-23	MIC Driven	0	4	Presented impact created by IIC at KITSW, networking with members of peer IIC institutions
7.	Workshop on Design Thinking, Critical thinking and Innovation Design	5-Jan-24 to 7-Jan-24	IIC Calender Activity	20	4	"Realistic and valuable learning experience for all participants, and contributing to a deeper understanding of drone technology. "
8.	Organising Innovation & Entrepreneurship Outreach Program in Schools/Community	2-Feb-24 to 4-Feb-24	IIC Calender Activity	49	4	Students got to know about the 3D view and how to build their own software design.
9.	Expert talk on & Process of Innovation Development & Technology Readiness Level (TRL) & Commercialisation of Lab	10-Feb-24	IIC Calender Activity	0	21	"Understand the types of IPR and patent filing processes in India. Understand the Role of IPR in protecting innovative ideas and technologies

S. No.	Event / Activity	Date(s)	Type of activity	Student / Faculty		Benefit in terms of Learning
	Technologies & Tech-Transfer					
10.	Workshop on Entrepreneurship Skill, Attitude and Behaviour Development	22-Jan-24	IIC Calender Activity	32	0	Students learnt about Entrepreneurship skills, Also Students learnt how to do documentation, pitching in front of investors
11.	Session on Achieving Problem-Solution Fit & Product-Market Fit	22-Dec-23	IIC Calender Activity	120	4	Students got their solutions to their problems through experts
12.	Field/Exposure Visit to Pre-incubation units such as Ideas Lab, Fab lab, Makers Space, Design Centres, City MSME clusters, workshops etc.	17-Feb-24	IIC Calender Activity	0	1	Networking and interaction with the Stakeholders
13.	Organize an Inter/Intra Institutional Innovation Competition/Challenge/ Hackathon and Reward Best Innovations.	2-Feb-24 to 4-Feb-24	IIC Calender Activity	49	4	Students learnt about the 3D printing and software tools and hands on experience
14.	Mentoring Event: Demo Day/Exhibition/Poster Presentation of Innovations/Prototypes & linkage with Innovation Ambassadors/Experts for Mentorship Support	12-Jan-24 to 14-Jan-24	IIC Calender Activity	50	4	Hands on experience by involving in drone workshop and leart the knowledge by experts and guided by them .

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

List of council members:

S. No.	Name of Member	Member Type (Teaching / Nonteaching / External Expert)	Key Role / Position assigned in IIC
1.	Dr. P. Vijay Kumar	Teaching, Assoc. Prof. CSED	President, IIC 6.0
2.	Sri. K. Ajith	Teaching, Asst. Prof. EEED	Convenor, IIC 6.0
3.	Prof. K. Raja Narender Reddy	Teaching, Professor, MED	Member, IIC 6.0 & Head, Centre for i²RE, KITSW
4.	Dr. A. Devaraju	Teaching, Assoc. Prof., MED	Member, IIC 6.0 & Coordinator, MSME-BI, KITSW
5.	Sri. K. Kishore Kumar	Teaching, Asst. Prof., MED	Member, IIC 6.0 & Coordinator, EDC, KITSW
6.	Dr. D. Kumar	Teaching, Asst. Prof., CSE(N)D	Member, IIC 6.0 & Convenor, MSME-BI
7.	Dr. V. Raju Reddy	Teaching, Assistant Professor of ECE	Member IIC 6.0, Co-coordinator, AICTE-Idea Lab, KITSW

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8.	Miss. Sahityaraj,	External member Co-Founder, Sreeal Technologies Pvt. Ltd.,	Member, IIC 6.0 Alumni Entrepreneur
9.	Sri. Srikanth Soni	External member Founder & Proprietor Srujan Workplace, Innovations	Member, IIC 6.0 Industry
10.	Sri. M. Srinivas	Teaching, Assistant Professor of EEED	Member IIC 6.0, Innovation Ambassador
11.	Sri. K. Jaipal	Teaching, Assistant Professor of MBA	Member IIC 6.0, Innovation Ambassador
12.	Sri. N. Srikanth	Teaching, Assistant Professor of CED	Member IIC 6.0, Innovation Ambassador
13.	Dr. S. Vishwa Prasad Rao	Teaching, Assistant Professor of M&H	Member IIC 6.0, Innovation Ambassador
14.	Sri. T. Mahesh	Teaching, Assistant Professor of IT	Member IIC 6.0, Innovation Ambassador
15.	Sri. P. Anil Kumar	Teaching, Assistant Professor of MED	Member IIC 6.0, Innovation Ambassador
16.	Dr. B. Jagadeesh Kumar,	Teaching, Assoc. Prof., EEED	Member, IIC 6.0, Innovation Ambassador
17.	Dr. Md. Sameer	Teaching, Assistant Professor of MED	Member IIC 6.0, Techguru, AICTE-Idea Lab, KITSW
18.	Dr. S. Chandramouli	Teaching, Assistant Professor of MED	Member IIC 6.0, Techguru, AICTE-Idea Lab, KITSW
19.	Dr. P. Sathya Srinivasa Murthy	Teaching, Assistant Professor of MED	Member IIC 6.0, Techguru, AICTE-Idea Lab, KITSW
20.	Dr. T. Sunil Kumar	Teaching, Assistant Professor of ECED	Member IIC 6.0, Techguru, AICTE-Idea Lab, KITSW
21.	Dr. E. Kalyan Rao	Teaching, Assistant Professor of PSS	Member IIC 6.0
22.	Sri. Krishna Sandeep	Teaching, Assistant Professor of ECI	Member IIC 6.0
23.	Dr. S. Kiran	Teaching, Assistant Professor of CSE-N	Member IIC 6.0
24.	Dr. W. Grace Shanthi	Teaching, Assistant Professor of M&H	Member IIC 6.0
25.	Smt. K. Shakuntala	Cofounder, Founders Lab	Member, IIC 6.0 Industry
26.	Sri. Satya Prasad Peddapelli	Cofounder, Founders Lab	Member, IIC 6.0 Industry
27.	Sri. Dhruti Sundar Das	External member Incubation Manager,	Member, IIC 6.0 Industry

S. No.	Name of Member	Member Type (Teaching / Nonteaching / External Expert)	Key Role / Position assigned in IIC
		Founders Lab	
28.	Sri. Divyank Raj Pathak	External member Incubation Associate, Founders Lab	Member, IIC 6.0 Industry
29.	Sri. Teja Karra	External member Technical Business Incubator Founders Lab	Member, IIC 6.0 Industry
30.	Sri. C. Shiva Reddy	Founder CEO, CSR Electronologies	Member, IIC 6.0 Startup founder
31.	Sri. B. Raghu	Incubatee, MSME-BI, KITSW	Member, IIC 6.0 Alumni Incubnatee

B. Brief mention of key functionaries at the IIC Institute

- Principal: Dr. K. Ashoka Reddy
- Head, C-I2RE: Dr. K. Raja Narender Reddy, Prof. of ME
- President: Dr. P. Vijay Kumar, Assoc. Prof. of CSE.
- 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: 6 Student members: 22
Total No. of Innovation Ambassadors	14
Total Number of Faculty mentors from Portal	20
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.

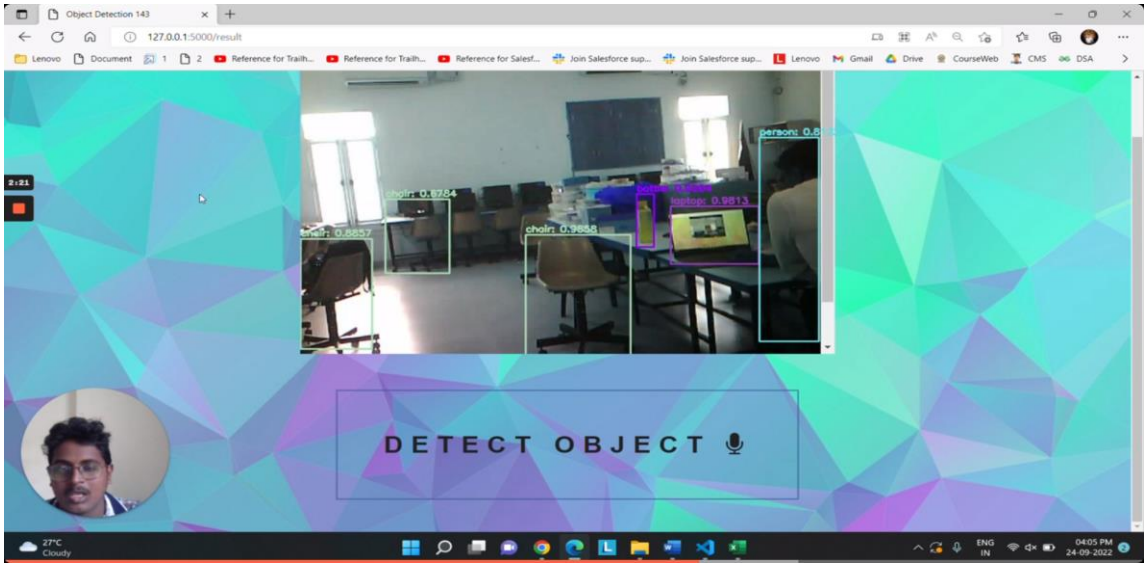
E. Highlight Achievements (Narrative/Graphical/tabular representation)

- Number and Different types of I&E and IPR activities Conducted **- 27**
- No. of student's & faculty ideas generated **- 50**
- No. of student's & faculty Innovation/prototypes developed **- 33**
- 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" t**o 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 2023 [Band Promising]
- NISP Adoption status - Faculty was trained and institute has started implementing from Academic Year 2021-22.

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

KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE
Awareness Session on
FOSTERING INNOVATION"
KITSW
GPS Map Camera
Hanumakonda,TG,India
Hasanparthy, Hanumakonda, 506015, TG, India
Lat 18.052519, Long 79.537028
11/17/2023 10:56 AM GMT+05:30
Note : Captured by GPS Map Camera

KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE
Awareness Session on
FOSTERING INNOVATION"
KITSW

INSTITUTION'S
INNOVATION
COUNCIL
Institution's Innovation Council
REGIONAL MEET 2023
HYDERABAD - TELANGANA
11 December 2023
IARE
INSTITUTE OF
AERONAUTICAL ENGINEERING

KAKATIYA INSTITUTE OF TECHNOLOGY
SREENIDHI INSTITUTE OF SCIENCE AND TECHNOLOGY
Institution's Innovation Council (IIC)
PRE-INCUBATION / INCUBATION UNIT

KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE - WARANGAL
IIC - Impact Created From Activities
AICTE IdeaLab Impact
MSME Idea Hackathons 1, 2 & 3
IIC Activities & Star rating
SREENIDHI
GNIT GURU NANAK INSTITUTE OF TECHNOLOGY

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