KONGU ENGINEERING COLLEGE

(Autonomous)

PERUNDURAI, ERODE – 638 060

INSTITUTION'S INNOVATION COUNCIL KEC (IIC@KEC)

Annual Report of IIC@KEC for the academic year 2023-2024

A. About IIC@KEC:

1. **Vision / Mission of IIC@KEC**

   a. To provide skill-based trainings and create a conducive environment for the innovators to commence their entrepreneurial journey in liaison with National Innovation and Start-up Policy (NISP)

   b. To nurture ideation centric approaches like design thinking, collaborative innovation, sustainability and Product life cycle management for successful product commercialization

   c. To bring out innovative solutions for industrial and societal problems by exhibiting interpersonal and acquired skills

   d. To facilitate IPR activities and assist early start-up by connecting innovators with TBI and Angel investors/ Venture capitalists

   e. To be a Science and Technology led entrepreneurial hub for students, faculty, industry personals, unemployed youths and self-help groups for societal upliftment

2. **Journey of IIC@KEC**

   a. IIC@KEC was inaugurated in the academic year 2018-2019

   b. IIC@KEC was shortlisted as one in three best performing IICs of SRO during the academic year 2018-2019

   c. Received Top star ratings for all the academic years 2018-19,19-20, 20-21, 21-22 & 22-23

   d. Started to mentee 3 HEI IICs and 3 ATLs during 2022-2023 and 2023-2024.

3. **Diversified representation in the IIC@KEC from industry, Interdisciplinary & Departments/ Units etc.**

   ➢ **Startup representation**:

   a. Mr. Vijay Anand, Co-Founder and Director of Birdscale Technology and Services Pvt. Ltd., Coimbatore.

b. Mr. Aravinth Panch - Founder - araCreate, Berlin.

c. Dr. Ragul Paramasivam Co-Founder & CEO Chimertech Pvt Ltd, Chennai.

d. Mr. T. Senthilnathan Freelancer, Rasipurum.

e. Mr. P. Mohanasundaram Freelancer, Perundurai

f. Mr. V. S. Aathitiyan Founder & CEO, Cookd.

g. Mr. K.Mohan Co-Founder & CEO, IppoPay.

h. Prof. Saji Varghese, Co-Founder/Sunbird Straws, Associate Professor, English, Christ University, Bengaluru.

i. Mr. Pranav Singanapalli, Founder & CEO, Emote Electric.

j. Mr.Amith Kumar Kalimuthu, Cofounder, ServerCake India, Coimbatore.

k. Mr. E. Lokeshwaran, Founder, Tamizh, Chennai.

l. Mr. Rajkumar, Chennai Gate Rice.

m. Mr. Nandkumar Pananiappan, Maya Bazar Restaurant.

n. Mr.Puviyarasan / Founder & CEO, Dynattral Tech, Coimbatore

o. Mrs. Padmini Sampath, Co-Founder & CEO, Green Collar Agritech Pvt. Ltd.

p. Mrs. R. Madhumathi CEO – Lila Learning Space.

q. Ms. Swetha, Founder, SS Organics.

r. Mrs. Subasri Sriram MD, De Flavors Cakes and Pasteries.

s. Ms. Vanithamani Arulvel, Founder, Kathaikalam.

t. Mr. A. S. Prabhu Kumar Chair, Yi Innovation – Erode Chapter

u. Mr. Kumaravel Thangavel, National Co-Chair, Yi Innovation

v. Mr. Velayutham Founder and CEO TamiraBot, Advanced Engg. Pvt Ltd.

w. Mr.Vimal Kumar, Senior Hardware Engineer, Quin (Quintessential Design), Hyderabad & Ex.Co-Founder, VivaLyf.

x. Mr. D. Thiruvignesh Founder & CEO, The Cloud Company, Erode.

y. Mr. N. A. Gokul Founder & CEO GravityX Technologies

z. Mr. Chandran Krishnan MD & CEO - Campus Angels Network, Principal Advisor - SSN Incubation Foundation; Board Director - IIM Calcutta Innovation Park Chennai.

aa. Mr. Amar Prabhu (ECE Alumni) Co-Founder and Chief Technology Officer, Rupeek, Bangalore.

bb. Dr. C. Baskar, Co-Founder & CEO, Vizai Engineering, Chennai.

➢ **Industry representation**:

a. Mr. B. Monikandan, General Manager, DIC, Erode.

b. Dr. Christoph Neusiedl, EU Knowledge & Program officer - Limitless Institute, Toronto.

c. Mr.Naveen Manickam, NM Academia, Coimbator.

d. Mr. Dipan Sahu Assistant Innovation Director / MIC.

e. Dr. S.K. Krishna, Dept. of Chemistry, CNC Erode.

f. Mr. S. Manikandan MD, Spero Mobilty Pvt Ltd.

g. Mr.Kanagaraj Thangavel, MD, Photoboys.

h. Mr Ananth Sripadarao Senior IP Counsel – IP&S, APAC, UAE, Middle East & Africa Reg , Philips India Ltd.

i. Mr Jayaram Sekaran Senior Lead IPR Legal TVS Motor Company.

j. Mr. Aaqub Jameel, Manager IKP EDEN, Bangalore.

k. Mr. M. Saravanan, Chair, Yi Erode.

l. Dr. P. Thanikaivelan, Chief Scientist & Head, CSIR-Central Leather Research Institute, Adyar, Chennai.

m. Mr.R.Kodeeswaran / Director, Kaar Infotech Pvt Ltd.

n. Jai Ganesh Kamalakannan Director - Product Management, Flipkart.

o. Mathiyazhahan Maheswaran Technical Lead, CTS, Coimbatore.

p. Mrs. B. Savitha, Advocate, PCP Law Associates.

q. Mr. Albert Dylan Correya, Innovations Manager - Partnerships & Alliances, Nasscom Foundation

r. Dr. A. Balaji Ganesh, Director & Founder, IP EVER LLP, Director & Co-Founder Emsensing Technologies PVT LTD, Chennai.

s. Mr. A J Balasubramanian Director - Indian Operations - Aigilx Health Chennai.

t. Mr. C. Mohan Manager – Agilon Health, Bengaluru.

u. Mr. Karuppana Samy Lead Consultant in E- commerce sector, CDW Technology, Chennai.

v. Mr. R. Thilak Chakravarthi Software Developer – Associate, KGiSL GSS, Coimbatore.

w. Mr. K. M. Surendher UI Developer, Techno Tackle Software Solutions, Coimbatore.

x. Dr. K. Sampath kumar / Professor & Head, Agricultural Engineering, KIT, Coimbatore.

y. Dr. S. V. Srinivasan, Sr. Principal Scientist, CSIR-Central Leather Research Institute Adyar, Chennai.

z. Dr. K. Senthilkumar CEO – Atal Incubation Centre – NIFTTEA, Tiruppu.

aa. Dr. K. M. Abul Hasan, Chairman, City Hospitals, Erode / Past chairman CII Erode.

B. **Key functionaries at the IIC@KEC:**

a. President – Dr. R. Parameshwaran / Professor MTS

b. Vice President – Mr. P. S. Kannan/ Manager TBI@KEC

c. Convener- Dr. S. Praveen Kumar / Asst. Prof. (Sr. G) MTS

d. Innovation activity coordinator – Dr. B. Venkatesan / Asst. Prof. EIE

e. Start-up activity coordinator – Mr. R. P. Karthik/ Asst. Prof. ECE

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f. Internship coordinator – Dr. S. Anitha/ Asst. Prof. IT

g. Internship coordinator – Mr. M. Suresh/ Asst. Prof. EEE

h. IPR activity coordinator- Dr. G. S. Rampradeep/ Asst. Prof CIVIL

i. Social Media Coordinator- Dr. T. M. Saravanan/ Asst. Prof MCA

j. Social Media Coordinator- Dr. L. Rahunathan/ Asso. Prof MCA

k. SIH Coordinator - Dr. T. Abirami/ Asso. Prof IT

l. YUKTI Coordinator- Ms. S. Mohanapriya/ Asst. Prof CSE

m. YUKTI Coordinator- Ms. K. Karthika/ Asso. Prof CTPG

n. ARIIA & NIRF Coordinator – Dr. P. Senthilvel Murugan / Prof/ Mechanical

o. IP / Patent Expert – Mr. Arjun Bala

p. Startup / Alumni entrepreneur – Mr. S. P. Raja Kumaran

q. Startup / Alumni entrepreneur – Mr. C. Karthikeyan

r. Expert from nearby Industry- Mr. Hariprakash Govindarajulu

s. Expert from Nearby Incubation Center – Dr. K. Suresh Kumar, PSG STEP

t. Resource strength (human capital and Physical capital) in IIC@KEC:

  ➢ Total No. of IIC Members:

    a. Faculty Members: 50

    b. Student Members: 85

    c. Non-Teaching staff members: 4

  ➢ Total No. of IAs:

    a. Advanced level training: 24

    b. Up Skilling: 03

  ➢ Total No. of faculty Mentors: 12

  ➢ Pre-Incubation Unit: Department level (10 Numbers)

  ➢ Incubation Unit: Kongu Technology Business Incubator (TBI@KEC)

  ➢ IP Facilitation Unit: IPR Cell @KEC

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

a. **Ideation & Product design**

  ➢ CAD centre (AutoCAD, CATIA, SOLIDWORKS, CREO, ANSYS, MATLAB)

  ➢ Analog System Design lab (in collaboration with Texas Instruments)

  ➢ Modelling and Simulation Laboratory

  ➢ Bell Communication System Design Lab

  ➢ NI LabVIEW Academy School (Virtual instrumentation)

- Embedded system laboratory (Free scale Semiconductors Inc., USA)
- High Performance Computing Lab (collaboration with C-DAC, Bengaluru)
- IOT lab (Cyber Physical system design)
- Cloud Computing and mobile application Laboratory
- e-Yantra laboratory (in association with IIT-Bombay)
- Process Dynamics and Control Laboratory
- Food Analysis and Quality Control Laboratory
- Self- Development Cell
- Foundation Lab (Mechanical, Manufacturing, Robotics, Elecrical, Electronics, IoT)

b. Incubation Unit
- Technology Business Incubator (TBI@KEC)

c. Prototype development
- Nidhi Prayas Shala at Kongu TBI
- Project cubicles and pre-incubation centers of each department
- Workshop Complex
- CAD/CAM center
- Occupational Training Centre (OTC) sponsored by BOSCH

d. Business canvas model and business plan development
- Business Application lab
- Centre for conducting Certificate course in Accounting by ICWAI
- Mentorship through Entrepreneurs: CII, CODISSIA, EEDISSIA, Yi

e. Student bodies/ cells
- Entrepreneurship and Management Development Centre (EMDC)
- Self-Development Cell (SDC)
- Women Development Cell (WDC)
- Citizen Consumer / Legal Literacy Club
- Business Cell

D. <u>Achievements by IIC@KEC:</u>
- No. of different types of I&E and IPR activities Conducted
    - a. I&E Activities: 55
    - b. IPR Activities: 4
- No. of student's & faculty ideas generated: 458
- No. of student's & faculty Innovation/prototypes developed: 152
- No. of IPs generated, published and granted so far:

a. IPs generated: 13
   a. IPs published: 8
   b. IPs granted : 5
b. No. of Student/Faculty Start-ups/Ventures established: 20
- Amount spent on I&E activities in the campus: Rs. 6,75,200 /-
- Fund supported to student & Faculty lead Innovations, start-ups and IPR

S. No.	Activity Type	2022-2023 (Rs.)	2023-2024 (Rs.)
1.	Innovations	10,06,000/-	10,00,874/-
2.	Start-ups	77,05,000/-	1,02,60,000/-
3.	IPR	1,97,920/-	1,20,500/-

E. Best IIC Faculty/Student members and their achievements:

- **Faculty Members:**
  a. Mr. R. P. Karthik – Received a grant of Rs. 4,00,000/- for 5G Hackathon
     https://sites.google.com/a/kongu.edu/rpkarthik/
  b. Mr. Vibin Mammen Vinod - Received a grant of Rs. 5,00,000/- for CISCO thingQbator Cohort 6
     https://sites.google.com/a/kongu.edu/vibin-mammen-vinod-ece/
  c. Mr. K. Nithyanandham- Received a grant of Rs. 7,00,000/- for KPIT Sparkle 2023
     https://sites.google.com/a/kongu.edu/nithyanandhan-k_auto/
  d. Dr. G. S. Rampradheep - Received a grant of Rs. 5,00,000/- for NIC – YUKTI
  e. Mr. K.V. Satheesh Kumar - Winner Bharath Cycle Design Challenge
     https://sites.google.com/a/kongu.edu/satheesh-kumar-k-v/
  f. Dr. B. Venkatesan – Winner SIH 2024 HARDWARE EDITION
     https://sites.google.com/a/kongu.edu/venkatesan-balakrishnan/

- **Student Members:**
  a. Mr. K. Vignesh – Winner in SIH 2023
  b. Ms. S. Bhoovitha - Winner CISCO THINGQBATOR COHORT 6
  c. Mr. L. S. Adhitya – Winner KPIT Sparkle
  d. Mr. S. Karthik – Winner VIT – STARTUP CONCLAVE

F. Breakthrough Innovations:

1. Onsite HHO gas generation system

Inventor	Co-Inventor(s)	Mentor	Dept.
Mr. B. Rubak	Mr. T. Venkatesh	Mr. K. Nithyanandhan AP.	AUTO
	Mr. C. Manoj		
	Ms. S. R. Dharshana		
	Mr. G. Hariharsudhan		

Abstract

To maximize electricity production, the vertical axis wind turbines are designed and placed along the highways. These turbines are designed for efficiency, harnessing wind energy from vehicles traveling at a minimum of 50 km/hr to 100 km/hr with a wind velocity of 20 m/s and an Induction generator also developed for energy production.

2. Non - Invasive Glucometer Based on Acetone Concentration

Inventor	Co-Inventor	Mentor	Department
Ms. S. Bhoovitha	Ms. S. A. Amirthavarshini	Mr. Vibin Mammen Vinod	ECE
	Ms. P. R. Darshana	Asst. Prof.	

Abstract

Create a portable and affordable device designed to measure glucose levels non-invasively by analyzing acetone in breath samples. This innovative approach offers a pain-free alternative to traditional blood glucose monitoring, making it more accessible for individuals managing diabetes.
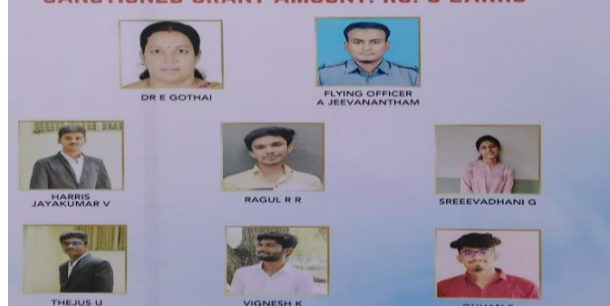
G. *Winning Moments:*

H. *Participation of IIC@KEC in various programs of Central and Stage Govt.*

National Events	International Events	Grant	Cash Prize	Total
14	02	Rs. 16,80,000	Rs. 18,50,000	Rs. 35,30,000/-

S. No.	Name of Mentors	Category	Innovation Contest/ Hackathon Details	Finalist / Winner	Prize Details
1	Dr. S. Praveen Kumar / MTS	International Level		Winner	Honourable Mention
2	Dr R Meenakumari - EEE	International Level	**IEEE YESIST** Arab Academy for Science, Technology and Maritime Transport(AASTMT) Alexandria, Egypt 02.09.2023 and 03.09.2023	Finalist	Certificate
3	Dr. A. Sheela / EEE	International Level		Finalist	Certificate
4	Dr. S. Praveen Kumar and Dr.N.Nithiyavathy / MTS	International Level		Finalist	Certificate

5	Mr. K. V. SATHEESH KUMAR / Mech	National Level	**AICTE Bharath Bicycle Design Challenge** Organizing Institute: Chanakya University, Bangalore Date:04.11.2023	Winner	1,00,000/-
6	Dr. P. Selvakumar - MECH	National Level		Finalist	40,000
7	Dr. R. Rajkumar - EIE Dr.R.Subasri -E&I	International Level	**NASA Space App Challenge 2023**, AAA college of Engineering and Technology, Virudhunagar, 08.10.2023	Winner	10,000
8	Dr. R. Rajkumar - EIE	International Level		Finalist	Certificate
9	1. Dr. Murugan P C - AUTO 2. Mr. Nithyanandhan K - AUTO	National Level	**STARTUP CONCLAVE** Organizing Institute: Vellore Institute of Technology Place: Chennai Date: 31/08/2023	Winner	15,000
10	Dr. S.Malliga - CSE	National Level	**Smart India Hackathon 2023 Software Edition;** AICTE & MoE Place: Rasoni Group of Institutions, Nagpur, Maharastra Date: 19.12.2023 & 20.12.2023	Winner	1,00,000
11	1. Dr. P. Selvakumar - MECH 2. Dr. B. Venkatesan - EIE	National Level	**Smart India Hackathon 2023 hardware Edition** AICTE & MoE Nalla Malla Reddy College of Engineering, Hyderabad 19/12/2023 to 23/12/2023	Winner	50,000
12	1.Dr.E.Gothai - CTPG 2.Flying Officer A Jeevanathan - IT 3.Haries Palaniappan - Associate Developer/Squadl Technologies Private Ltd, Coimbatore	National Level	**Smart India Hackathon 2023 software Edition** AICTE & MoE Place: GIET University, Gunupur, Odisha Date: 19.12.2023 & 20.12.2023	Winner	1,00,000/-
13	Mrs. Revathi P	National Level	**The Inventors Challenge 2023, AICTE**,ARM education and ST Microelectronics, Noida Institute of Engineering and Technology Greater Noida- 201306 Date : 20th November 2023	Winner	50,000 + Kit for prototype development
14	Dr. P. Sivaranjani - ECE	National Level		Finalist	Certificate + Kit for prototype development
15	Indhumathi N -ECE	National Level		Finalist	Certificate + Kit for prototype development
16	1. Dr.J.Vijayalakshmi / ECE 2. Mr. Vibin Mammen Vinod / ECE	National Level		Finalist	Certificate + Kit for prototype development

17	Dr. E. Gothai / CT-PG	National Level	**KAVACH 2023** Organizing Institute: AICTE along with Bureau of Police Research and Development (BPR&D)(MHA) and Indian Cybercrime Coordination Centre (I4C)(MHA) Place: IES College of Technology, Bhopal Date: 08.08.2023 & 09.08.2023	Finalist	Certificates
18	Dr. S. Praveen Kumar / MTS	National Level	**GDC I-NDUCT COHORT BOOTCAMP** IIT Madras,Chennai NOV 3 - DEC 11	Finalist	Certificate
19	1. Dr.K.Senthil Kumar / ECE 2. Ms. N.Indhumathi / ECE 3. Mr. A.Chandrasekaran / ECE	National Level	**GDC I-NCUBATE COHORT 27,** IIT Madras, Chennai (Aluminium Polymer Battery)	Finalist	Certificate
20	Nithyanandhan.K / AUTO	National Level		Winner	Gold Award Category + Rs.10,000 / - cash prize
21	Dr. S. Praveen Kumar / MTS	National Level		Winner	Silver Award Category + Rs.5,000 / - cash prize
22	1. Dr. C. Maheswari / MTS 2.. Mr.S. Selvaraj / CSD	National Level	**TAMILNADU STARTUP THIRUVIZHA - THEERKATHAN** Organizing Institute: FORGE INNOVATION AND VENTURES Place: COIMBATORE Date: 20/08/2023	Winner	Silver Award Category + Rs.5,000 / - cash prize
23	1. Dr. Murugan P C - AUTO 2. Mr. Nithyanandhan K - AUTO	National Level		Winner	Silver Award Category + Rs.5,000 / - cash prize
24	Dr. S. Pranav	National Level		Winner	Silver Award Category + Rs.5,000 / - cash prize
25	Dr. K. Kanan	National Level		Winner	Silver Award Category + Rs.5,000 / - cash prize

26	Mr. Vibin Mammen Vinod / ECE	National Level	**V-Guard Big Idea Tech Design** V -GUARD INDUSTRIES LTD., 42/962, Vennala High School Road, Vennala, Kochi	Winner	Rs.25,000 /- Cash Award + Certificate
27	Dr. S. Praveen Kumar / MTS	National Level	**24 Hours Hour Project Envision and Tech Innovate Hackathon** SESHADRI RAO GUDLAVALLERU ENGINEERING COLLEGE, ANDRA PRADESH, 31 . 10. 2023	Winner	12,000
28	Dr.E.B.Priyanka / MTS	National Level	**24-hour National level Technical Hackathon," Innov8"** Jaipur Engineering College and Research Centre (JECRC) University, September 27th & 28th, 2023.	Winner	Rs. 40,000 Cash Award + Rs.30,000 /- worth gift vochure
29	Mr.K.V.Satheesh Kumar/MECH	National Level	**AICTE Bharath Bicycle Design Challenge**	Winner	40,000
30	Mr. K. Nithyanandhan/AUTO	National Level	**KPIT SPARKLE**	Winner	7,00,000
31	Mr. Vibin Mammen Vinod / ECE	National Level	**CISCO THINGQBATOR COHORT 6**	Winner	5,00,000
32	Mr. K. Nithyanandhan/AUTO	National Level	**The Inventors Challenge 2023, AICTE**	Winner	30,000
33	Mr. Vibin Mammen Vinod / ECE	National Level	**The Inventors Challenge 2023, AICTE**	Winner	20,000
34	Dr. S. Varadhaganapathy	National Level	**The Inventors Challenge 2023, AICTE**	Winner	10,000
35	Dr. G. S. Rampradheep / Civil	National Level	**NATIONAL INNOVATION CONTEST YUKTI**	Winner	5,00,000
36	1. Dr. E. Gothai - CTPG 2. Flying Officer - Mr.A. Jeevanantham / IT	National Level	**NATIONAL INNOVATION CONTEST YUKTI**	Winner	3,00,000
37	Mr. K. Nithyanandhan/AUTO	National Level	**IDS 4.0 Yi INNOVATION**	3rd Prize	1,25,000
38	Ms. S. Mohana Saranya/CSE	National Level	**TOMATO GRAND CHALLENGE**	Grant	1,50,000
39	Dr. S. Praveen Kumar / MTS	National Level	**THINK WILD IDEATHON**	Winner	8,000
40	Dr. S. Praveen Kumar / MTS	National Level	**VISAI NATIONAL LEVEL IDEATHON**	Winner	8,000
41	Dr. S. Praveen Kumar / MTS	National Level	**I' Create SPARK UP FUND**	Grant	50,000
42	Dr. S. Praveen Kumar / MTS	National Level	**TITAN DESIGN IMPACT CHALLENGE GRANT**	Winner	15,000

I. Detail of Social-Media & Connections of IIC @KEC

Instagram: https://www.instagram.com/iic_kec/
Facebook: https://www.facebook.com/iickec ;
Twitter: https://twitter.com/IicKongu

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

Mr. K Sudarsan. *Chairman, IIC@KEC*

As the chairman of IIC@KEC, I got to work with a great team of faculties and students. We organized about 56 events in this academic year, boosting students' innovation and entrepreneurial skills.

Ms. S. Harishri, *Secretary, EMDC@KEC*

I am student of 5 years integrated MSc program. Our department is around 10 years old. This year, we are the first batch to win in SIH'2023. This happened only due to constant reviewing and mentoring by our faculty coordinators of IIC.

Contact:

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