

ANNUAL REPORT 2021-22
KMEA ENGINEERING COLLEGE
KMEA Institution's Innovation Council (K-IIC)



A. About K-IIC

The Institution's Innovation Council at KMEA Engineering College is focused on building a full ecosystem to encourage an innovation culture across the KMEA, from idea creation to pre-incubation, incubation, and graduation from the incubator as successful start-ups. KMEA IIC or K-IIC will also focus on evaluation methods to identify and nurture students who will transition from dependent to startup status. IIC was established to inspire our students' creativity to work on new ideas and innovation and to promote them in the creation of start-ups and entrepreneurial enterprises. K-IIC has taken steps to inculcate the incubation and start-up mantra among students and faculties by aligning with various state and central government programs over the years.

Vision

To cater for the needs of students as well as faculty entrepreneurs with innovative ideas of social relevance and thereby disseminating a culture of entrepreneurship in the campus which will boost our education system and thereby growing the national economic and social development. Also, to inculcate the incubation start-up practices among students, through their academic calendar, making them nurture their ideas, bring them to conceptual stage, promote funding through various schemes and programs, while encouraging them to transform to a start-up through incubation.

Mission

To develop a system with the required infrastructure that can enable students and faculty to innovate and prototype their ideas with industrial standards and support from Government, industry and reputed academic institutions around the world and help them to realize their potentials

Journey of IIC at KMEA

KMEA IIC or K-IIC was established in the year 2018, under MoE- GOVT of India to establish an innovative and startup ecosystem on the campus. IIC follows the activity calendar provided by MoE. KMEA IIC became one of the IICs in Kerala with THREE Star performance in the year 2018-2019, FIVE star rating for the

academic year, 2019-2020, FOUR star rating for the academic year, 2020-2021. The college is actively participating in MIC driven activities, IIC driven activities and self-driven activities on innovation, IPR and entrepreneurship.

Objectives of K-IIC

- To streamline the activities under the KIC for value addition towards IIC and ARIIA ranking
- To understand, evaluate and disseminate objectives framed under each KIC entity so that the objectives may be equally shared and supplemented, while not contradicting each other.
- To work in alignment with National objectives under the NISP program, while excel in contribution towards IIC and ARIIA each academic year.
- To disseminate information at each level in the college, working towards common goal, while passing information to students and faculty so that innovation and start-up culture may be inculcated through concentrated efforts.
- To evaluate the performance of each entity in KIC, to do a mapping between efforts and outcomes on a regular basis.
- To equip students to test, fail and then correct their ideas so that they are made industry ready to leave the campus.
- To be a guiding light in the society, where the institution exist, addressing socioeconomic, women empowerment, environmental and gender neutrality issues.
- Be the framework for students and faculties to develop their ideas, while identifying the support programs and initiatives by the Government at state and central levels.

Functions of K-IICs

- To conduct various innovation and entrepreneurship-related activities prescribed by IIC in a time-bound fashion.
- Identify and reward innovations and share success stories.
- Organize periodic workshops/ seminars/ interactions with entrepreneurs, investors, professionals and create a mentor pool for student innovators.
- Network with peers and national entrepreneurship development organizations.
- Create an Institution's Innovation portal to highlight innovative projects carried out by the institution's faculty and students.
- Organize Hackathons, idea competitions, mini-challenges etc. with the involvement of industries.

External Representation from Industry:

K-IIC has four external representatives as council members. Mr Mathew Lijo Luckose - Banking Expert, Mr. Joby Mattathil Johnson – Expert from nearby Industry, Mr. Prasanth Rajeev – Patent Expert, Mr. Sanjay Menon – Alumni Entrepreneur.

B. Key Functionaries at K-IIC

Sl. No.	Name of Member	Member Type	Position assigned in IIC
1	Dr. Amar Nishad T.M	Head of the Institution	Member
2	Dr. Rekha Lakshmanan	Vice Principal	Member
3	Dr. Sangeetha C P	Teaching	President
4	Mr. Muhammed Ajmal	Teaching	Convener
5	Mr. Vasudev S Mallan	Teaching	Vice President
6	Mr. Ajmal E B	Teaching	Startup activity and social media coordinator
7	Dr. Faseela C K	Teaching	IEDC coordinator
8	Mr. Mohammed Ismail H	Teaching	Innovation activity coordinator
9	Ms. Abeera V P	Teaching	EDC coordinator
10	Ms. Neenu B	Teaching	NIRF coordinator
11	Ms. Binish M C	Teaching	IPR activity coordinator
12	Ms. Divya P V	Teaching	ARIIA coordinator
13	Ms. Fazna Nazim	Teaching	Internship activity and NISP coordinator
14	Ms. Lakshmi E G	Teaching	Member
15	Ms. Shahina M S	Teaching	UHV Cell coordinator

C. Portfolio

Sl No	Resource Title	Strength
1	IIC Members	37
2	Innovation Ambassadors	11
3	Faculty Mentors	10
4	Incubation Unit	2000 sq. ft

- K-IIC consists of 15 teaching faculties and 22 student members from different departments united for the same goal of working for the vision and mission of IIC at the institution during the academic year 2021-2022.
- During the academic year 2021-2022, 20 faculties were trained as Innovation ambassadors. Out of 20, 10 IAs undergone advanced level training.
- At KMEA we have a DIC sponsored incubation unit with all the lab and infrastructure facilities, in which currently one company has been given pre-incubation space to develop their idea and product.
- At K-IIC, under the leadership of the senior innovation ambassadors, we host an IPR Cell to facilitate all the IP related activities.

D. Infrastructure and Facilities

The institution has a sprawling campus spread over 25 acres and 70.529 cents with modern buildings, technology-enabled classrooms, internet with Wi-Fi, library with a reading room, digital library, well-equipped laboratories, central computing facility, spacious hostels for the students, seminar halls and an auditorium. We have 33 spacious classrooms with proper ventilation and lighting, of which 12 classrooms are equipped with ICT facilities. We have four seminar halls with ICT facilities. The college has well-equipped labs for all branches that incorporate modern technology and facilitate interactions between faculty members and students. Sports facilities for students such as basketball court, football and cricket ground, volleyball court, indoor badminton court etc. are provided. All sports activities are coordinated by the Department of Physical Education. There are sufficient numbers of conference halls and an auditorium for organizing cultural and literary events. A fully equipped auditorium with a seating capacity of 1000 is available for organizing intercollegiate as well as Intra college cultural events every year.

IEDC

IEDC stands for **Innovation and Entrepreneurship Development Centre**, is conducting different innovative and start-up activities to enable students to start startups. These activities are funded by the start-up mission of Kerala state. Students and teachers are participating in various startup activities in college and outside. Faculty Coordinators of the club are Dr Faseela CK and Asst. Prof. Rajeesh R Pillai and the student coordinator is Mr Abdul Hafis from the EEE department.

EDC

The Entrepreneurship Development Club (EDC) at KMEA is promoted by the Govt. of Kerala Directorate of Industries & Commerce to foster techno-entrepreneurship for the generation of wealth and employment. The mission of the EDC is to develop institutional mechanisms to create an entrepreneurial culture among the stakeholders and to foster growth entrepreneurship amongst the students, faculty and the society at large. The faculty coordinator of the EDC at KMEA is Asst. Prof Abeera V P with student coordinator Ms Ameena A K.

Electronic Incubator (Electronic Startup Incubator)

This is a facility having 2000 sq. ft., established by DIC to perform student's ideation and prototype development needs. Students and teachers are using this facility for their entrepreneurship development. A team of KMEA alumni has been given pre-incubation space to develop their idea and product. They are proceeding with the registration of the company and also have acquired their incubation space with all the facilities provided by the college in the incubation period.

SDPK (Skill Delivery Platform Kerala)

This is established by Govt. of Kerala for improving the skill levels of students in colleges. KMEA is establishing a skill delivery platform worth 20 lakhs that is open to all the students and staff of the college. It helps to link over 150 colleges under Kerala Technological University. They will conduct various short term skill courses to improve the skill set of an individual.

K-DISC (Kerala Development and Innovation Strategic Council)

This provides opportunities for the institution and students to collaborate with centres of excellence, research institutes, government & corporates in solving some of the everyday problems faced by the societies & the nation. This club is headed by Asst. Prof. Fazna Nazim and the student coordinator is Ms Vismaya Ashok of the Civil Department. The main objectives of K-DISC are given as follows.

a) Promotion of innovation in KMEA to meet pressing challenges in development through judicious application of Science and Technology, for increased productivity competitiveness and employment, and to foster equitable and inclusive development.

b) Establishment of a supportive ecosystem for innovation at KMEA that facilitates experimentation, risk-taking and creativity.

c) Strengthening of skills, behaviours and attitudes of knowledge economy talent pool, particularly of the students, to strengthen innovation and eliminate barriers to physical, human and knowledge capital.

d) Enhancing innovation spirit and talent, specifically young talent, by supporting greater innovation at the institutional level including teaching institutions, Medium Small and Micro Industries, Research and Development institutions, Government Departments, Public and Private sector bodies, Local Government and Corporates.

e) Knowledge creation and management as well as addressing information asymmetries related to innovation.

f) Developing strategies for strengthening capabilities in proactively developing Industrial Revolution 4.0 Technologies at KMEA jointly with different Universities, Research Centres and Academic Institutions and promoting the development of start-ups jointly with Kerala Startup Mission and innovation collectives at KMEA.

g) Developing systems for translational Engineering at KMEA jointly with Universities for translating research in Research and Development Centers into startups and Innovation Collectives.

h) Systematic promotion of grass root level and rural innovations and linking them to the Innovation Ecosystem.

Intellectual Property Rights (IPR) Cell

IPR Cell adopts a sound IP strategy, to secure IPR for a large base of knowledgeable faculties and highly talented students at the college to promote their regular project and research activities having innovation potential. The IPR Cell is an exclusive unit dedicated to strategizing the process of setting up structured processes to identify, facilitate and develop innovation at the campus. IPR cell is here to provide relevant, timely and targeted support to inventors in protecting their IPR and to boost confidence in generating IPR to make the innovator or entrepreneur self-reliant in finance and preserve their ideas/innovations. The faculty coordinator for the IPR Cell in KMEA is Asst. Prof Binish M. C and the student coordinator is Mr Sharan K S.

E. Achievements

KMEA IIC or K-IIC is a very active member of all the activities conducted by IIC from 2018. Initially, a group of 3 faculties has attended Innovation Ambassador training at Bangalore in the 2019 summer and has conducted enormous activities in the 2019-2020 academic year. From these 3 faculties 2 of them namely Asst. Prof Binish M. C and Asst. Prof Sandeep Kumar has completed advanced level training in 2021. The new president, Dr Sangeetha C. P. for K-IIC has been nominated by the college during 2021 and under her 10 faculties had completed the basic level of Innovation Ambassador training and 10 faculties completed advanced level training.

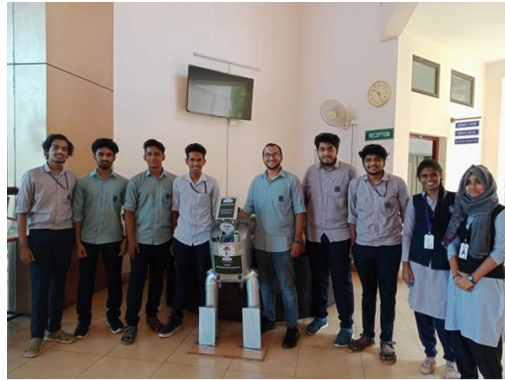
Sl.No	Achievements	Number
1	I&E, IPR activities	55
2	Ideas generated	75
3	Innovation prototype developed	14
4	No. of IP filed	1
5	Amount spent for promotion of innovation-related activities	₹65000
6	Amount fund supported to students	₹41000

F. BEST INNOVATIONS

- KMEA PoC team got selected in various regional, national and international level events through IIC during 2021-2022.
- The innovation team Nirmal Dorothy and members, guided by Dr. Rekha Lakshmanan has developed the business model for Automated Quality Assessment with Digital Image Processing. It has been selected for mentoring support and placed as finalist in the IIC National Innovation Contest 2020 organised by Ministry of Education's Innovation Cell, New Delhi.
- Innovation cell developed 'Fuego Robo' as part of covid project which could detect the human presence and could measure the body temperature, blood oxygen level and pulse rate during August 2021.

As part of the KMEA Innovation Council, students at KMEA Engineering College designed and developed a robot prototype related to covid called the 'Fuego Robo'. The robot, through its visual system, can detect a person's presence and position;

begin to introduce itself, measure human body temperature, oxygen levels in the blood, and clean hands. Completed at a very low cost, this robot was developed entirely from scrap available in the laboratories. With the support of e-Yantra robotics lab, students Vinay Krishna Vinod, Abdul Hafis, Amal Vijay, Umarul Farooq, Naeema Nazar, Aswathy Ramachandran, Sharan K S, Mubaris C M, George Immanuel, Divya Lakshmi from Civil Engineering, Mechanical Engineering, Electrical and Electronics Engineering and Electronics and Communication Engineering departments of KMEA are behind this work



- KMEA students participated in various National/State level idea/project competitions like:
 - CHUNAUTI-2.0 – Next Gen Startup Challenge Contest, STPI, Govt of India
 - Manthan 2021, AICTE & National Intelligence Bureau, Govt of India
 - Innovation Grant, Kerala Startup Mission
 - Samrambhak Mitra, NGO, Kerala
 - Starc Expo – Startup, Technology and Research Conclave, IEEE Kerala Section
 - KSCSTE Techfest
 - India International Science Festival, Goa, MoE, Govt of India
 - TMA-Maker Village startup awards
- Mr. Abdul Hafis, S7 EEE won first prize in the project competition conducted by IEEE Kerala Section, STARC Expo during December 2021.



- KMEA students, Mr. Anandhu Balachandran, S3 ME and Mr. Leo Paulose, S7 CSE got selected to present their education related Augmented Reality App in India International Science Festival, Goa, December 2021. Their project got shortlisted from 12000 projects that submitted nationally.
- Mr.Mansoor Majeed, S3 CSE got selected to present their idea in virtual techfest conducted by KSCSTE, November 2021.
- An automatic wheel chair was designed and developed by KMEA students headed by Mr. Abhijith A, S7 ECE for the rehabilitation of elderly people through the funding granted by Sahrudaya group Thiruvananthapuram.



- Mr. Sharan K S, Mubaris C M and George Immanuel's patent on 'Electrostatic Purifier' got published during September 2021.
- KIC celebrated world entrepreneurship day by conducting poster and essay writing competitions on the theme 'Entrepreneurship' on 24th August, 2021.
- KIC conducted debate on 12th November 2021 titled 'National Education Policy 2020'.
- KMEA-IIC got the top rated four star rating for the academic year 20-21. KMEA-IIC is one among the four colleges received four star rating in Kerala.
- KMEA is included in the 'PROMISING BAND' of ARIIA ranking for the academic year 2019-2020.
- KMEA e-Yantra Lab supported by IIT Bombay worth 2 Lakhs was inaugurated on 3 June 2021 to spread the robotics and embedded system education in the campus.
- Kerala Startup Mission Innovation and Entrepreneurship Development Cell (IEDC) is functioning in full swing by conducting ideathons, webinars, workshops etc.
- DIC's Entrepreneurship Development Cell (EDC) started functioning in campus during July 2021 to foster the culture of entrepreneurship among staff and students of KMEA.
- Abdul Hafis, S7 EEE got second position in TMA Maker Village startup Awards 2021 for the 'project Auto-Pill'. Autopill is an automated pill dispenser designed for elderly people and hospitals where the correct amount of the medicine is needed by the patients at the right time. The prototype is developed with the support of KMEA e-Yantra lab.
- Abdul Hafis won first prize of Rs. 15000/- and funding from Kerala Financial Corporation in Idea challenge 2021 for innovative projects- season II, an event jointly organized by Kerala startup mission and its community partner Samrambhak Mitra held at Mar Ivanios College, Thiruvananthapuram.

G.PARTICIPATION IN VARIOUS PROGRAMS

- **ARIIA (Atal Ranking of Institutions on Innovation Achievements)**

ARIIA is established by MoE- GOVT of India for ranking educational institutions based on innovative and startup activities organized in the institution. KMEA participated in the 2019-2020 ARIIA ranking process and obtained 64th position in the national level ranking. KMEA is included in the 'PROMISING BAND' of ARIIA ranking for the academic year 2019-2020.

- **NISP ADOPTION STATUS**

The NISP cell has been formed with the faculty coordinator as Dr. sanju John Thomas. The NISP institute cell is framing startup policy for KMEA.

- **SMART INDIA HACKATHON 2022**

KMEA Engineering college and its students are active members of the Smart India Hackathon. Five teams from KMEA participated in SIH 2022.

- **YUKTI SCHEME**

KMEA participated in e-repository YUKTI scheme where staff and students contributed 57 ideas and 4 prototypes through IIC portal.

- **IIC REGIONAL MEET KOCHI 2022**

For the southern region, KMEA Engineering College was selected to host the Regional meet at Kochi, who is a high performing IIC institution in the region with top rated 4 star rating for the academic year 2020-21 (KMEA-IIC was established during the AY 2018-19. Obtained 3 star in 2018-19, 5 star in 2019-20, 4 star in 2020-21). As approved by the competent authority, Rs. 2,80,000/- was sanctioned as the Grant-in-aid for the smooth conduct of the event. The event was scheduled by MoE on 6th August 2022. It was a one day event with 500+ participants from various higher educational institutions all over Kerala and nearby states.



H. SOCIAL MEDIA DETAILS



I. TESTIMONIALS

Dr Sangeetha CP, IIC President

“KMEA-IIC has started functioning from the year 2018 onwards. The growth of innovative culture among staff and students has been visible from the various activities and competitions conducted within and outside KMEA. IIC-MoE is the motivation behind the innovation, start-ups and IPRs in KMEA”

J. CONTACT

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