



# A. V. C. COLLEGE OF ENGINEERING

(Approved by AICTE, Affiliated to Anna University,  
Accredited by NBA (Mech, ECE, CSE & EEE),  
Mannampandal, Mayiladuthurai District, Tamil Nadu.



## Institution's Innovation Council Annual Report 2022- 2023

### A. About II Institute

#### Vision

To promote the wheel of excellence in Innovation, Incubation, startups and entrepreneurship to uplift the institution towards eminence of excellence in technical education

#### Mission

- Encourage the faculty participation in Ambassador training Programmes at different levels  
Creation of Mentor-Mentee System using technology transfer approach.
- Conduct workshops/seminars to expose and promote innovative thinking at regular intervals
- Create Business model and Network with entrepreneur development cell
- Organize idea contests to showcase the innovations.

#### Journey of IIC established at the institute

The IIC Cell of A.V.C. College of Engineering was established in the 2018 – 2019. A large number of events related to innovation, design thinking, IPR, business models, entrepreneurship and start ups are conducted over the years to promote awareness of innovation, design prototype, entrepreneurship and patent drafting among students and faculty. Institute has established facilities for students and faculty to develop models and prototypes. The institute has constituted professional cells to promote the IIC namely IIC, NISP, Entrepreneurship Development , Industry Institute Interaction and department specific students chapters. Our Institute has active participation in National level Hackathon /competition, NIRF ranking and ARIIA ranking.

- As a hall mark, A.V.C. College of Engineering, IIC had undertaken various activities prescribed by Innovation Cell, Ministry of Education, Govt. of India, institution has secured four star rating in the year 2019-2020, two star rating in the year 2020 -2021 and three star rating in the year 2021 – 2022.
- IIC Impact Lecture Series – AICTE - IIC, has sanctioned the financial grant and organized the impact online lecture series in the year 2019-2020 and 2021-2022.
- Smart India Hackathon – From the Inception of SIH 2017, every year Internal Hackathon were conducted and Solutions for the various Ministry Problems were addressed. Our team has participated in the grand finale every year. As an highlight of our participation in SIH grand finale, one team got first prize with 1 lakh cash prize in the year 2020-2021. In SIH Edition 2022-2023, one team won the first prize with 50 K cash prize.
- Organized various workshops, Impact Lecture Series, Design and Prototype Competitions and short-term trainings for faculty members and students.
- Members of IIC have attended Ambassador Training Programmes and advanced level training programmes and received the certificates.
- Ambassador trainings for members of IIC, various workshops and short-term trainings were offered to the faculty members and students.

## Functions of IIC

- Conduct of various innovation and entrepreneurship-related activities prescribed in IIC calendar events.
- Participate in the MIC Driven Events, Online sessions by the experts and success stories.
- Organize periodic workshops/ seminars/ interactions with entrepreneurs, alumni, professionals and create a mentors for student innovations and competitions.
- Organize Hackathons, idea competition, proto-type models, patent process, Technical Competitions, ED Bazaar etc., with the involvement of industry.

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

AVCCE IIC has representation from all the departments and promotes various IIC related activities in the department throughout the Calendar year. The institution has MoU's with industries and students are continuously engaged with innovation, internships and entrepreneurship activities. Industry Mentors have given their guidance students during SIH competitions.

## B. Brief mention of key functionaries at the IIC Institute

S.No.	Name of the Member	Member Type	Key Role / Position assigned in IIC
1	Dr.G.Pradeep	Faculty	IIC President
2	Dr.S.Padmapriya	Faculty	Vice - President
3	Dr.N.Dhanasekar	Faculty	NIRF Coordinator
4	Dr. B. S. Sathishkumar	Faculty	ARIIA Coordinator
5	Dr.M.Latha	Faculty	Start-up Activity Coordinator
6	Dr.K.Keerthi	Faculty	Entrepreneurship Activity Coordinator & ARIIA Coordinator
7	Dr.A.Balaji	Faculty	NISP Coordinator
8	Mrs.R.Renukadevi	Faculty	NISP Activity Coordinator
9	Dr. R. Kanimozhi	Faculty	Innovation Activity Coordinator
10	Mr.R.Saravanan	Faculty	Internship Activity Coordinator
11	Mr.S.Rameshwaran	Faculty	IPR Activity Coordinator
12	Mrs.R.Sudha	Faculty	Social Media Coordinator
13	Dr.T.Venkatesan	Faculty	Member
14	Mrs. R. Ramya	Faculty	Member
15	Mr.S.Surya Prakash	Faculty	Member

## Events Conducted:

### Quarter 1

- IIC Driven Event – 04
- MIC Driven Event – 01
- Celebration Event – 02
- Self Driven Event – 01

### Quarter 2

- IIC Driven Event – 05
- MIC Driven Event – 02
- Celebration Event – 05
- Self Driven Event – 04

Quarter 3

- IIC Driven Event – 04
- MIC Driven Event – 02
- Celebration Event – 03

Quarter 4

- IIC Driven Event – 03
- MIC Driven Event – 00
- Celebration Event – 02
- Self Driven Event – 05

S.No.	Name of the IIC Activity	Activity Type	Organized Quarter
1.	My Story - Motivational Session by Successful Innovators.	IIC Calendar Activity	Quarter 1
2.	National Education Day	Celebrations	Quarter 1
3.	Healthy mind and healthy life	Self Driven Activity	Quarter 1
4.	Session on Problem Solving and Ideation Workshop	IIC Calendar Activity	Quarter 1
5.	Exposure and field visit for problem identification	IIC Calendar Activity	Quarter 1
6.	Innovation Day	Celebrations	Quarter 1
7.	Launch of 5G services	MIC driven Activity	Quarter 1
8.	Workshop on "Entrepreneurship and Innovation as Career Opportunity"	IIC Calendar Activity	Quarter 1
9.	Expert talk on "Process of Innovation Development & Technology Readiness Level (TRL)" & "Commercialisation of Lab Technologies & Tech-Transfer"	IIC Calendar Activity	Quarter 2
10.	National Pollution Control Day	Celebrations	Quarter 2
11.	Orientation Session on IIC 5.0 & Features	MIC Driven Activity	
12.	Workshop on Design Thinking, Critical thinking and Innovation Design	IIC Calendar Activity	Quarter 2
13.	National Energy Conservation Day(India)	Celebrations	Quarter 2
14.	IPR The Key to Future Leader	Self Driven Activity	Quarter 2
15.	Mentoring Event: Demo Day/Exhibition/Poster Presentation of Innovations/Prototypes & linkage with Innovation Ambassadors/Experts for Mentorship Support - Manage through YUKTI-NIR	IIC Calendar Activity	Quarter 2
16.	Trends and Innovations in Industry 4.0	Self Driven Activity	Quarter 2
17.	Inter/Intra Institutional Innovation Competition/Challenge/Hackathon and Reward Best Innovations - Manage through YUKTI-NIR	IIC Calendar Activity	Quarter 2
18.	Leadership Talk with Prof. T. G. Sitharam, Hon'ble Chairman, All India Council for Technical Education (AICTE)	MIC driven Activity	Quarter 2
19.	Trends and Innovations in Industry 4.0	Self-driven Activity	Quarter 2
20.	National Science Day	Celebrations	Quarter 2
21.	National Youth Day	Celebrations	Quarter 2
22.	Field/Exposure Visit to Pre-incubation units such as Ideas Lab, Fab lab, Makers Space, Design Centres, City MSME clusters, workshops etc.	IIC Calendar Activity	Quarter 2
23.	ICSSR Sponsored Social Engineering Attack Techniques and Prevention	Self-driven Activity	Quarter 2
24.	National Startup Day	Celebrations	Quarter 2
25.	World Intellectual Property Day	Celebrations	Quarter 3
26.	National Technology Week Inaugural	MIC Driven	Quarter 3

	Address of Hon'ble Prime Minister of India at 10.00 AM, 11th May 2023		
27.	Workshop on Intellectual Property Rights (IPRs) and IP management for start up	IIC calendar Activity	Quarter 3
28.	Field/Exposure Visit to Incubation Unit/Patent Facilitation Centre/ Technology Transfer Centre such as Atal Incubation Centre etc	IIC calendar Activity	Quarter 3
29.	International Women's Day	Celebrations	Quarter 3
30.	World Creativity and Innovation Day	Celebrations	Quarter 3
31.	Demo Day/Exhibition/Poster Presentation of Business Plans & linkage with Innovation Ambassadors/Experts for Mentorship Support – Manage through YUKTI-NIR	IIC calendar Activity	Quarter 3
32.	Organise an Inter/Intra Institutional Business Plan Competition and Reward Best Innovations - Manage through YUKTI-NIR	IIC calendar Activity	Quarter 3
33.	Celebrating India's presidency of the G20	MIC Driven	Quarter 3
34.	Organising Innovation & Entrepreneurship Outreach Program in Schools/Community	IIC calendar Activity	Quarter 4
35.	Independence Day- Celebrating Aazadi Ka Amritkal	Celebrations	Quarter 4
36.	Demo Day/Exhibition/Poster Presentation of Start-Ups & Linkage with Innovation Ambassadors/Experts for Mentorship Support - Manage through YUKTI-NIR	IIC calendar Activity	Quarter 4
37.	Session on Accelerators/Incubation - Opportunities for Students & Faculties - Early Stage Entrepreneurs	IIC calendar Activity	Quarter 4
38.	e-sevai training programme for computer centre CSC and e-sevai shops	Self Driven	Quarter 4
39.	e-Sevai Training Programme for Computer Centre Business People	Self Driven	Quarter 4
40.	e-sevai Training for startup business people	Self Driven	Quarter 4
41.	e-sevai programme for start-up business people	Self Driven	Quarter 4
42.	Start-up Training for e-sevai business people	Self Driven	Quarter 4
43.	World Entrepreneurs Day	Celebrations	Quarter 4

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

- Total No. of IIC Members - 15
- Total No. of IAs - 05
- Total No. of faculty Mentors from Portal - 01
- Pre-Incubation Units, If any - Nil
- Incubation Units, If any - 01
- IP Facilitation Unit, If any - 01

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

- Established an Incubation unit with M/s. Unipro Software Pte Ltd
- Constituted an IPR Cell and various patent related functions and KAPILA activities are carried through IPR. So far 11 patents were published through IPR Cell.
- Established the Entrepreneurship Development Cell and Organize various Entrepreneur competition, Business Meet and e-Bazaar, etc.,
- Under Innovation Cell, YUKTI Innovation Challenge 2023 (YIC 2023), Idea and prototypes are submitted.

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

- Number and Different types of I&E and IPR activities Conducted - 14
- No. of student's & faculty ideas generated – 10 ideas under Yukti Innovation Repository
- No. of student's & faculty Innovation/prototypes developed : 69
- No. of IPs generated, published and granted: 11 Patent Published

S.No	Title of the Invention	Patent filed ID	Inventors
1.	A Compact structure and Modern approach for long term use in solar powered Electric vehicle	202241042988 (Published)	Dr.A.Ravi
2.	Design of IoT based automated Dam safety Alert system A Method and Thereof	202241021080 (Published)	Dr.M.Latha, Dr.N.Dhanasekar, Dr.S.Vadivazhagi, Dr.Ka.Suryaprabha, Dr.SA.Chithradevi
3.	Solar based Auto lifting and Ejection system for Hydroponic Fodder Production	202341031706 (Published)	Dr.A.Ravi, Dr.M.Latha S.Balamurugan, R.Sooriya, D.Rohith
4.	Structural development of wind solar operated electric vehicle with equalization topology for Battery Management system.	202341031719 (Published)	Dr.S.Vadivazhagi, Dr.Ka.Suryaprabha Mr.R.Gopikrishnan, R.Dheepackumar B.Sivasuriya, R.Rajkumar, K.Vishwa
5.	An Emotion Recognition and Controlling system at work place.	202341031708 (Published)	Dr.S.Padmapriya, Dr.K.Krishnakumari Dr.J.Sudha, Dr.R.Sudha, Mr.R.Manishankar
6.	Smart Cleaner	202341031723 (Published)	Dr.V.Padmavathi, Mrs.K.Aruna, Dr.R.Kanimozhi, B.Aishwarya, R.Juwaira Farhana, S.Kamali, R.lakshmi Narayanan R.S.Sivaranjini
7.	High-tech blind foldable cane	202341031711 (Published)	Mrs. D.Mahalakshmi, Mrs.V.Ezhilarasi Mrs.R.Valampuranayaki, P.Kishore R.Sai Muthukumar, B.Nandha Gopal R.Umaira Parveen, M.Sahid Rizwan H.Sivapriya, P.Nivetha
8.	AI based autonomous Indoor package delivery robot	202341031718 (Published)	Dr.R.Kanimozhi, Dr.V.Padmavathi Mrs.K.Aruna, M.Yuvasri, M.J.Aliya Munavar J.Suhaa, M.Mohamed Rasith, B.Bharanidharan S.Yeshvanth, V.Ajay, B. Ajay Sharma
9.	Smart automatic turning zone indicator in two wheelers.	202341031712 (Published)	Dr.G.Sridevi, Mrs.R.Renukadevi S.Santhosh Kumar, R.Bharath, B.Sivaranjani P.Sakthi Thillai Sivagama Sundhari Geetanjali Rajendran
10.	Development of well groomed Garbage Container for disposal of wastages in Urban area	202341044687 (Filed)	Dr.B.S.Sathishkumar Dr. Chitralavalavan Dr.C.Jayasri Dr.K.R.Viothini
11.	Smart Pill box for visually impaired people	202341040737 (Filed)	Dr.S.Selvamuthukumaran Mr.N.Srinivasan, A.Abinaya, S.Gohul Raj K.Gokul, S.Kiruthika, K.Suria M.Vimaladevi, A.Vijayawarna

- No. of Student & Faculty Start-ups/Ventures established. - Nil
- Amount spent on promotion and awareness generation on Innovation, Entrepreneurship in the campus : Nil
- Amount grant or fund supported to student & Faculty lead Innovations, start-ups and IPR: Nil
- No. of Technology Transfer and Commercialization happened  
Technology Transfer – 21 – YUKTI Submission - 10, Prototype Development & Patent Publication:11 Commercialization happened - 00

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

- Dr. G. Pradeep, IIC President has given an orientation session on IIC 5.0 activities to the students in the Quarter 2.
- Dr. M. Latha, IIC Start-up has given Design Thinking session to the students in the Quarter 2 and Quarter 3 respectively.
- Dr. A. Balaji, NISP Coordinator has organized a session Get Startup in the IIC Quarter 3.
- Dr. A. Ravi, HoD – EEE has delivered six sessions on IPR and Patent Process to faculty members and students in IIC Quarter 2, Quarter 3 and Quarter 4 respectively.
- Dr. S. Padmapriya, IIC Vice President and SPOC – SIH has organized the Internal Hackathon event.
- Mr. R. Saravanan, IIC Internship Coordinator has given a session on Design Thinking to students in the Quarter 2 and Quarter 3.
- Dr. R. Kanimozhi, Innovation Activity Coordinator has given a session on Innovation Practices to students in Quarter 3.

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

10 Ideas Submitted Under YUKTI Innovation Challenge 2023 (YIC 2023)

Innovation ID	Innovation Title	Team Lead
IR2022-794607	Software for vocational training for the person with visual impairment TRL Title - TRL 7	Ajith P
IR2022-793871	IOT BASED SMART ENERGY METER TRL Title - TRL 4	Guru R
IR2022-793255	HYBRID POWERED ELECTRIC BICYCLE TRL Title - TRL 4	Madhumitha K
IR2022-793134	FREE ENERGY GENERATION AND STORAGE SYSTEM WITH IMPROVED BOOST CONVERTER TRL Title - TRL 4	Dharani M.C
IR2022-792984	OXYGEN CYLINDER MONITORING AND ALERT SYSTEM TRL Title - TRL 4	Jayashri R
IR2022-792880	ANN BASED ENERGY MANAGEMENT OF MICROGRID IN ISLANDED MODE: A HYBRID APPROACH TRL Title - TRL 4	Madhavan R
IR2022-784164	E-Buddy for rescued child labour. TRL Title - TRL 6	Abinaya Manoharan
IR2022-784059	Social Media Integrated Search Engine TRL Title - TRL 4	Baraniraj B
IR2022-783853	Keyword based retrieval of judgements- E-Court TRL Title - TRL 4	Mohamed Jasim J
IR2022-782903	Gaming Apps etc., for the Elderly TRL Title - TRL 4	Akshaya V

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

Wood Carving Design Works

Founder: Mr. Thirupathi Raja, II MBA



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

S.No	Title of Invention	Description
1.	A Compact structure and Modern approach for long term use in solar powered Electric vehicle	<i>The present invention is generally related to vehicles, and more specifically to green vehicles including electric and solar powered vehicles. Multiple modes of operation has been adopted. if any fault occurs in the any one of the motor, we can change the mode then run the car without any interruption and inconveniences.</i>
2.	Design of IoT based automated Dam safety Alert system A Method and Thereof	<i>The present invention relates to the dam safety operation and safety measures. It discloses the possibilities of IoT applications in dam safety as well as early warning</i>
3.	Solar based Auto lifting and Ejection system for Hydroponic Fodder Production	<i>The present invention provides an auto lifting and auto ejection system for hydroponic fodder production. Due to the tall system structure, handling the trays are very difficult for aged people. It has been identified and solution has been given for this particular problem by means of our present inventions</i>
4.	Structural development of wind solar operated electric vehicle with equalization topology for Battery Management system.	<i>The present invention relates to the wind solar operated Electric vehicle incorporating a battery management system in which equalization topology is implemented</i>
5.	An Emotion Recognition and Controlling system at work place.	<i>The present invention is an emotion recognition and controlling system which is used by the employer in the work place to check whether the they feel happy and active during the working hours</i>
6.	Smart Cleaner	<i>It is a compact robotic system that facilitates the user to keep their place clean and hygienic.</i>
7.	High-tech blind foldable cane	<i>The Present invention relates to Blind Stick which provides us safety guidance for the visually impaired people for their independent navigation in an efficient manner ensuring the person's safety.</i>
8.	AI based autonomous Indoor package delivery robot	<i>The present invention is an AI based robot which has developed by Arduino Microcontroller and Sensors for Contactless delivery to minimize the risk of infection, especially due to pandemic period.</i>
9.	Smart automatic turning zone indicator in two wheelers.	<i>The present invention provides a two wheeler safety system that setting the pass light and horn will turn on automatically in the turning zone to avoid the collision of the vehicles.</i>
10.	Development of well groomed Garbage Container for disposal of wastages in Urban area	<i>The present invention relates to Garbage container incorporates an IOT enabled transceiver integrated to authorized mobile devices to respond the level and harmness of wastage inside the garbage container.</i>
11.	Smart Pill box for visually impaired people	<i>The present invention relates to the pill box which provides us to take a pill for the visually impaired people. It helps to facilitate user to take the right medicine on time.</i>

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

- ARIIA – participation and Rank - **Yes and ARIIA details uploaded in the ARIIA Portal**
- NISP Adoption status - Trained Faculty, Policy Formulation, Policy Implementation – **Yes and NISP details are uploaded in the NISP Portal.**

- Smart India Hackathon etc.

**Internal hackathon for the Software and Hardware Editions**

This year 33 teams participated in Software edition and 25 teams participated in hardware edition. Totally 58 teams with 333 students (173 Boys and 160 Girls) presented their ideas. Out of 45 problem statements, 29 problem statements were presented under software edition and 16 Problem statements were presented under hardware edition by the students. Finally, 30 teams were selected in the Internal Hackathon. Among the 30 teams, 12 teams under Hardware edition and 18 teams under Software edition.

- K. Detail of Social Media & Connections of IIC institute

<https://www.facebook.com/people/AVC-College-of-Engineering/100063789344181/>

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



M. Images



N. Contact:

S.No	Name of the Contact Person	Role	Contact No.
1.	Dr. C. Sundar Raj	Principal	9443651442
2.	Dr. G. Pradeep	IIC President	9865371172

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 23/09/23  
**PRINCIPAL**  
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