



A Unit of A. Shama Rao Foundation  
**Srinivas Institute of Technology, Merlapadavu, Mangaluru - 574 143**



## **Institution's Innovation Council**

Approved by AICTE New Delhi, Govt. of Karnataka, Bengaluru

Affiliated to Visvesvaraya Technological University, Belagavi

Phone No.: (0824)-2425966, 2421566, 2444891 Fax: (0824)-2442766, 2423302 Website: [www.srinivasgroup.com](http://www.srinivasgroup.com)

IIC ID: IC202116073

### **ANNUAL REPORT (2022-2023)**

#### **1. About IIC Institute**

##### **i. Vision / Mission of IIC established at the Institute**

- a. **Vision:** To be a centre of excellence and build a conducive atmosphere in innovation, Research, and Entrepreneurship responsive to the needs of industry and society
- b. **Mission:**
  1. To create an environment of nurturing and supporting innovative thought-provoking ideas
  2. To create entrepreneurship opportunities for all stakeholders
  3. To foster the startups by providing them with the necessary support
  4. To support commercialising innovative sustainable ideas in the form of IPR.

##### **ii. Journey of IIC established at the Institute**

- a. The Institution's Innovation Council (IIC) was established at the Srinivas Institute of Technology in June 2021
- b. In its inception year, the IIC included 12 members across various departments nurturing various themes related to IPR, Incubation and Startups, Entrepreneurship and Innovations.
- c. In the subsequent months, Faculty and student members across different departments were added to cater to the college's innovative inquisitiveness as a whole. Today, the IIC of SIT has 28 faculty and 06 student members.
- d. Under the aegis of IIC, the college has organised numerous workshops, seminars and events to inculcate the requirement of innovation amongst the stakeholders. Under the Impact Lecture Series, resource people were invited as guest speakers, wherein lectures related to IPR, startups and Entrepreneurship were given.

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

###### **a. College Representation:**

- |                           |  |
|---------------------------|--|
| 1. Dr. Shrinivasa Mayya D | President & Principal                        |
| 2. Dr. R K Hegde          | Convenor, Innovation Activity                |
| 3. Dr. Shankar K S        | Internship activity coordinator              |
| 4. Dr. Sooryakrishna      | ARIIA and startup activity coordinator       |
| 5. Dr. Prasad P           | NIRF coordinator                             |
| 6. Dr. Hariprakash        | Social Media Coordinator                     |
| 7. Prof. Jayaram Thumbe   | IPR activity coordinator                     |
| 8. Prof. Rakesh Mallya    | NSS Coordinator                              |
| 9. Prof. Sahana G Kunder  | Member, Dept. of Electronics & Communication |
| 10. Prof. Sathyaprakash A | Member, Dept. of Mechanical Engg.            |

11. Dr. Anoop B K	Member, Dept. of Artificial Intelligence
12. Prof. Nithin Joshuva	Member, Dept. of Marine Engg.
13. Prof. Lokesh K S	Member, Dept. of Aeronautical Engg.
14. Dr. Jose Alex	Member, Dept. of Electrical Engg.
15. Prof Steevan Robert Tellis	Member, Dept. of MBA
16. Prof. Ashwini Shetty	Member, Dept. of Information Science & Engg.
17. Dr. Rajesh D S	Member, Dept. Of Computer Science & Engg.
18. Prof. Gourish Hegde	Member, Dept. of Electronics & Communications
19. Dr. Raghavendra M J	Member, Dept. of Mechanical Engg.
20. Prof. Chandra Jogi	Member, Dpt. Of Marine Engg.
21. Prof. Vivek	Member, Dept. of Marine Engg.
22. Prof. Sowmya	Member, Dept. of Information Science
23. Dr. Chandrashekar K G	Member, Dept. of Chemistry
24. Prof Rashmi	Member, Dept. of MBA
25. Prof. Sudarshan K	Member, Dept. of Computer Science & Engg.
26. Prof. Girish A R	Member, Dept. of Automobile Engg.
27. Dr. Praveen Shenoy K	Member, Dept. of Aeronautical Engg.
28. Mr. Athmaranjan K.	Member, Dept. of Information Science & Engineering
29. Prof. Prakash ST	Member, Dept. of Automobile Engineering
30. Ms. Nikshitha R S	Member, Dept. of MCA
31. Mr. Nivin K S	Member, Dept. of AIML
32. Mrs. Nitya B P	Member, Dept. of AIML
33. Mr. Tony K Sebastian	Member, Dept. of Marine
34. Mr. vivek V Kumar	Member, Dept. of Marine
35. Ms. Gayatri Kishor Naik	Student Member, Dept. of Computer Science & Engg.
36. Ms. Shwetha K P	Student Member, Dept. of Aeronautical Engg.
37. Ms. Nikhitha	Student Member, Dept. of Electronics Engg.
38. Mr. Harshith L	Student Member, Dept. of Automobile
39. Mr. Manjunath M.R	Student Member, Dept. of MBA

b. Industry Representation:

1.	Mr. Sundar S, MSME development institute, Ministry of MSME, GoI, Yeyyadi	Expert from nearby industry / Industry association / Ecosystem
2.	Nagarjun MG, Project Associate Coordinator, Karnataka State Council for Science & Technology	Patent Expert
3.	Gowtham K Mendon, ExtraMarks Education India Pvt. Ltd.	Startup / Alumni Entrepreneur
4.	Suhas Shetty, DevApps IT Solutions Pvt Ltd & TechSigma Global Technology, Pvt Ltd.	Startup / Alumni Entrepreneur

**2. Brief mention of key functionaries at the IIC Institute**

1. Dr. Shrinivasa Mayya D      President
2. Dr. R K Hegde                  Convenor, Innovation Activity
3. Dr. Shankar K S                Internship activity coordinator
4. Dr. Sooryakrishna              ARIIA and startup activity coordinator
5. Dr. Prasad                        NIRF coordinator
6. Dr. Hariprakash                Social Media Coordinator
7. Prof. Jayaram Thumbe        IPR activity coordinator
8. Prof. Rakesh Mallya          NSS Coordinator

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

Total No. of IIC Members	39
Total No. of IAs	12
Total No. of Faculty Mentors From Portal	40
Pre-Incubation Units, If any	5
Incubation Units, If any	0
IP Facilitation Unit, If any	01 (Tie up with Srinivas University, IPR cell)

**4. Highlight Facilities, Infrastructure of Pre-Incubation and incubation kind and Student bodies/clubs engaged in promoting Innovation and Entrepreneurship in the campus.**

SI No	Department	Facilities / Infrastructure	Faculty in-charge
1	Mechanical	Activity room with a computer (M304)	Prof. SathyaPrakash A
2	Computer Science and Engineering	Project work lab with around 30 computer systems, 4GB RAM, 500GB Hard disk, I3 processor equipped	Prof. Shailesh
3	Marine	Activity room with computer (M204)	Prof. Chandra Jogi
4	ECE	Hardware lab with LED Display board, Power Supply, AFO, CRO	Mr. Sathish Kumar
5	College	Discussion Room, Innovation & Incubation club	Dr. SooryaKrishna

SI No	Department	Student Bodies / Club	Faculty in-charge
1	Computer Science and Engineering	ASCEE Association of Computer Engineers	Mr. Aravind Naik
		Computer Society of India	Mrs. Padmanayana
2	ECE	SSOSC Lab	Prof. Shailesh
3		STEADY	Mr. Sathish Kumar
4	Automobile	AMARA Association	Prof. Girish
5	Aeronautical	Aeroclub	Dr. Lokesh KS
6		Srinivas-Lakshya Innovation Centre	Dr. Praveen Shenoy
7	AI&DS	AADE	Prof. Sneha Bose
8	Marine	AIMES	Prof Sathish K G
9	Mechanical	3D printer	Sathya Prakash A

## 5. Highlight Achievements (Narrative/Graphical/tabular representation)

SI No	Particulars	Mechanical	CS	E&C	Aero & Auto	Marine	AI&DS	ISE
a)	Number and Different types of I&E and IPR activities Conducted	00	01	1	01	02	--	--
b)	No. of student's & faculty ideas generated	05	4	8	12	11	--	--
c)	No. of students & faculty Innovation/prototypes developed	04	00	8	08	08	--	--
d)	No. of Ips generated, published and granted	02	00	2	03	--	03	01
e)	No. of Student & Faculty Startups/Ventures established.	--	00	1	00	--	--	--
f)	Amount spent on promotion and awareness generation on Innovation Entrepreneurship in the campus	--	--	2000/-	--	--	--	--
g)	Amount grant or fund supported to student & Faculty lead Innovations, startups and IPR	KSCST: 5500/-	--	9000/-	KSCST:14,000/-	--	--	--
h)	No. of Technology Transfer and Commercialisation happened	--	--	--	--	--	--	--

## 6. Highlight a few best IIC Faculty/Student members and their achievements/ Rewarded for the innovations at different forums [Profile of a few faculties with 2-3 lines of their achievements]


Students	Faculty	Innovation	Achievements
Smitha Poojary, Likhitha, Rachana And Shruthi R K	Sathish Kumar, Clitus	“Chatbot For College Campus”	Selected By The KSCST The Council Under "Student Project Programme - 46th Series"
Deeksha, Bhagyashree, Sooraj And Sreekanth	Sathish Kumar,	Attendance Using Gps And Selfie”	Selected By The KSCST The Council Under "Student Project Programme - 46th Series," This Project Was Selected For State Level Seminar And Exhibition At Alva's Institute Of Engineering And Technology, Moodubidire
Akshay S, Shruthi K, Sumanth And Vanitha	Sathish Kumar,	E-Commerce Website Using Blockchain, By	Selected In The” In The Motorola FAER- Integra Scholar Program – 2023
Vinayak Kammar, Sahana H S, Mohit Manjunath Kulkarni Gajanan R Ambiger	Dr. Raghvendra M J	Performance Assessment Of Induction Motor By Condition Monitoring With Iot	Shortlisted As Finalists For KSCST 46th Series Student Project Programme (SPP) For 2022-23.
Sajan Thomas, Akshata Desai, Thingalaya Mitesh Dinesh, And Oswin Vinith D'souza	Prof. Vivek V Kumar	Flow Analysis For Dehydration Process For Tray Drying System For Seeds	Shortlisted For KSCST 46th Series Student Project Programme (SPP) In 2022-23
Pramod Navaneeth Nischal Siddarth U Muhammad Shakeel	Venkatesh Rao S N	Automatic Brake Failure Indicator With Automatic Braking By An Electromagnetic Coil	KSCST Funded Project
Abhishek Rao G Kishan Narayan Babajiyavar Saeed Safiulla Rahiman Vipul Kumar T R	Mr. Prakash S T	Fabrication Of Battery Management System For Ev	KSCST Funded Project
Ajith N V Suhan Raj	Mr. Girish A R	Design, Fabrication Of Brakes And Suspensions System For Ev	KSCST Funded Project

Rohan M K			
Akshay Kumar M S Hemanth Y J Nireekshith T U Sumanth S Shet	Mr. Madhusudhan S.	Crime Predictive Model for Hotspot Mapping	KSCST

**Patent Details:**

	<b>Faculty</b>	<b>Patent title</b>	<b>Patent body</b>	<b>Department</b>
1	Dr.Lokesh K S	Electronic Waste Management Practice	Australian Patent	Aeronautical
2	Dr. Praveen Shenoy K	Weather Forecasting Using Arduino Based Cubesatellites	Indian Patent (Published)	
3	Prof. Girish AR	Fabrication And Development Of Bldc Motor And Controller For Designed Electric Vehicle	Indian Patent (Published)	Automobile
	Dr. Gangadhara Rao			Aeronautical
	Prof. Varun			Automobile
	Dr. Lokesh K S			Aeronautical
	Prof. Prakash ST			Automobile
	Prof. Jagadeesh			Aeronautical
4	Venkatesh Rao S N	Automatic Brake Failure Indicator With Automatic Braking By Electromagnet Coil Type Braking	Indian Patent (Published)	Mechanical
	Sudheendra H N			
	Sathyaprakash Anekallu			
5	Aravind Naik	Grow -N-Know	Indian Patent (Published)	Computer Science
6	Dr. Padmanayana	Detection Of Phishing Website	Indian Patent (Published)	Computer Science
7	Madhusudhan S	Crime Predictive Model & Hotspot Mapping Using Machine Learning	Indian Patent (Published)	AIML
	Athmaranjan K			Computer Science
	Sowmya			Informations Science
	Parvathraj K M M			AIML
	Dr. JOSE ALEX MATHEW			AI&DS
	Nithya B P			AIML
	Nivin			AIML
Sneha Bose	AI&DS			
8	Sathish Kumar.K	Wireless Quiz Buzzer Using Esp8266	Indian Patent (Published)	ECE
	Soorya Krishna K			
	Clitus Neil D Souza			
9	Vivek Vijay Kumar	Calculation And Analysis Of Carbon Intensity Indicator For Merchant Vessels	Indian Patent (Published)	Marine
	Sunil Prakash Rodrigues			Mechanical
	Nithin Joshuva			
	Sathisha K G			
	Mohamed Gowspeer			
	Tony K Sebastian			Marine

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

SI No	Department	Innovations name	Images
1	ECE	Wireless quiz buzzer using ESP8266	
5	Computer Science and Engineering	Early detection of Alzheimers disease	software
6		Detection of Parkinson's disease using drawing	software

7		Design and Fabrication of Potato Planting Machine	
8		Design and Fabrication of Canning Equipment for Tuna Fish	
9		Fabrication of Portable Fresh Water Generator for Fishing Vessels	
10	Marine	Developing an Automatic Leak Detection System for Fluids in Ship	
11		Design and Fabrication of Controller Driven Gyro Stabilizer for Smaller Boat	
		Design and Fabrication of IOT Based Smart Multipurpose Dehydrator	
		Design and Fabrication of Hovercraft With the Object Detection.	



		Performance Assessment of Induction Motor by Condition Monitoring with IOT	
12		Weather Forecasting Using Arduino-Based Cube Satellites	
13	Aeronautical	Detection Of Leaf Spot Disease In Arecanut Plants And Simultaneously Spraying Pesticide Using Quadcopter	
14		Unmanned Aerial Vehicle For Fire And Safety	
15	Automobile	Design And Fabrication Of Motor, Controller And Charging Unit For Ev	

16		<p>Fabrication Of Battery Management System For Ev</p>	
17		<p>Design and fabrication of smart polar coordinated fire extinguisher  Project Associates Nabeel 4sn16me728  Akshaykrishna N 4sn19me004  Gautham 4sn19me005  Project Guide Mr. U. N. Baipadithaya</p>	
18		<p>Design and fabrication of a parabolic trough solar collector for steam generation  Project Associates Gokul P 4sn19me006  Deekshith 4sn20me401  Akhilesh Gatty 4sn20me400  Project Guide Prof. Jayaram Thumbre</p>	
19	Mechanical	<p>Automatic Brake Failure Indicator With Automatic Braking By An Electromagnetic Coil  Project Associates Pramod 4sn19me012  Navaneeth Nischal 4sn19me011  Siddarth U 4sn19me015  Muhammad Shakeel 4sn19me010   Project Guide Mr. Venkatesh Rao S N</p>	
		<p>Design And Fabrication Of Stair-Climbing Mechanism To Lift Load Over Stairs  Project Associates Akshaykrishnan 4sn19me003  Jayananda 4sn20me402  Srujan Shetty.B 4sn19me016  Hashim B.K. 4sn19me007   Project Guide Mr. Sudheendra H N</p>	
20	ISE	<p>Deep-Fake Detection Using Convolution Neural Network</p>	



**8. Highlight selected startups established by students/faculties with mention of founder/cofounder name**

SI No	Department	Startups names	Year	Founder name
1	Computer Science and Engineering	Websites: ethicalsecurityexperts.com (Providing Cyber security training and consultancy) workshops.ethicalsecurityexperts.com (E-commerce website to sell coconut oils and customised paintings)	2021	Monish Chinmaya Ramana
2		Polite masters (www.politemasters.com) Service about the seminar, workshop and social services. Topic: cybersecurity, cyber awareness, ethical hacking, cyber crime solution		Anush G
3		DevAppSys IT Solutions Pvt Ltd www.devappsys.com TechSigma Global Technology Pvt Ltd www.websigmaglobal.com		Mr.Suhas Shetty
4		Socialhoox Technologies Pvt Ltd www.socialhoox.com		SHAMNAS CV
5		Taskmonk		Vikram Kedlaya
6	Aeronautical Engg	Lakshya-Space	2022	Deepak M Kurubar
7		Lakshya Technologies	2022	Dhanush D B
8		Lakshya Organic	2022	Deepak MK
9		Astronautic Institute	2023	Dhanush D B
10	Automobile Engg.	Growth Associates	2016	Akshay V
11		Fetchit LLP	2015	

**9. List of any breakthrough Innovations / Technology Developed at the Institute (2-3 technology with 2-3 lines about technology and innovation**

SI No	Department	breakthrough Innovations	Year	Details (2-3 lines about technology and innovation)
1	Mechanical	Design And Fabrication Of Stair-Climbing Mechanism To Lift Load Over Stairs	2022-23	Design and Fabrication of Stair climbing mechanism to lift load over stairs deals with the design and manufacture of mechanism for stair climbing to lift load over staircase flight.
2	Marine Engineering	Design and Fabrication of IoT Based Smart Multipurpose Dehydrator	2022-23	The "Design and Fabrication of IoT Based Smart Multipurpose Dehydrator" represents a breakthrough innovation by seamlessly integrating IoT technology with food dehydration processes. This innovation enhances precision and control, enabling users to monitor and adjust dehydration conditions remotely, leading to higher efficiency, improved food quality, and reduced energy consumption, revolutionizing the field of food preservation.
7	Aeronautical Engg	Weather Forecasting Using Arduino-Based Cube Satellites	2022-23	The ease in usage of CubeSats to access space-based research has become popular due to the competition in the launch market and the reduction in the cost of the technology. Smaller satellites, such as CubeSats, help us understand the variations in the physical properties & characteristics such as climate, temperature, humidity, moisture level, dust concentration and pressure variations, many of which

				reflect the Earth's atmospheric changes. "Long Range" (LoRa), a radio communication technique, is the communication module for a range of 1km. Data is captured at every 200m from the ground level to forecast the variations in the sensor readings. The latitude and longitudinal values of the CubeSat are captured using GPS. The designed CubeSat is used for weather monitoring and forecasting. Further, the project finds applications in defence, automotive and surveillance sectors, especially in agriculture monitoring.
8		Detection Of Leaf Spot Disease In Arecanut Plants And Simultaneously Spraying Pesticide Using Quadcopter	2022-23	Areca nuts, also referred to as betel nuts, are a tropical crop. India is the world's second-largest producer and consumer of areca nuts. The fungal disease known as areca nut leaf spot disease damages the leaves of the areca nut palm tree. The fungus <i>Marasmiellus areca</i> , which attacks leaves and produces irregular, circular patches of yellow, brown, or black hue to form on the surface of the leaves, is what causes the disease. Tropical locations are prone to the disease, which spreads swiftly and causes defoliation and yield loss. This can be accomplished by using a drone to spray the medication directly onto their tips, as manual spraying has numerous negative effects. In the existing system disease detection and spraying are individually done that adds to operating cost and time. A combined system incorporating both these could address the above issue.
9		Unmanned Arial Vehicle For Fire And Safety	2022-23	Fire accidents are common occurrence in manufacturing industries, oil industries, forest fires, nuclear power plant, coal industries and mining as well As the initial responders to such situations, many firefighters take a life-threatening risk. Many brave lives are lost in these accidents and some of these fires are lethal. A drone may be fitted with equipment or materials for suppressing or extinguishing fires. The drone can give supplies to needed individuals in areas where fire fighters are unable to reach them in time by carrying a safety package. The drone will have excellent manoeuvrability and be able to reach remote, small, inaccessible regions.
10	Automobile Engg	Analysis And Optimization Of Electric Vehicle		The switch to electric cars (EVs) from conventional gasoline-powered vehicles the two main issues that engine-powered vehicles face are greenhouse gas emissions and fuel efficiency. Less upkeep is required for electric vehicles. Saving a lot of money and preserving the environment is possible. Working with lightweight materials has become a crucial area for advancement in the automobile sector in the modern world. The results of this study provide insight into how EVs may transform the transportation sector and reduce global warming. The body and chassis frame of a two-seater electric car are being designed as the main objective of this study. Software called CATIA V5 was used for the design, while ANSYS 19.2 was used for the analysis. The chassis was subjected to a comparative investigation using three distinct materials, namely conventional steel.
11		Design And Fabrication Of Motor, Controller And Charging Unit For Ev		Electric vehicles are the most effective solution for green mobility because of their great efficiency and lack of greenhouse gas emissions. The performance of switching reluctance motors, induction motors, brushed direct current (DC) motors, and permanent

				magnet Brushless DC (BLDC) motors under both normal and emergency conditions is compared using simulation. This study shows that the best electric motors for high-performance electric vehicles are BLDC motors. An accurate model of a BLDC motor is necessary to assess the motor performance for various control strategies. The best option for green transport is BLDC motors with optimal back-Electro Motive force (EMF)voltage due to their great efficiency and absence of greenhouse gas emissions.
12		Fabrication Of Battery Management System For Ev		Any battery-powered system, including electric cars, hybrid electric vehicles, renewable energy systems, and other applications, must have a battery management system (BMS). By keeping track of the battery's state of charge (SOC), state of health (SOH), and other vital parameters, the BMS is in charge of guaranteeing it's safe and effective operation. Designing and implementing a BMS for a 48V lithium-ion battery pack used in a electric vehicle is the goal of this undertaking. The various BMS designs, such as centralized, distributed, and modular systems, are then covered. By exposing the battery pack to various outside temps, the temperature monitoring feature is put to the test. The cell balancing feature is assessed by measuring the voltage balance between the cells. In this project, a BMS for lithium- ion battery pack used in an electric vehicle is designed and put into use. By keeping an eye on key factors and managing the battery pack's charging and discharging cycles, the BMS ensures the battery pack operates reliably and safely.

## 10. Participation in IIC-institute in various programs of Central and State Govt. Highlighting specially for the schemes or programs

- ARIIA – participation and Rank



- NISP Adoption status – Trained Faculty, Policy Formulation, Policy Implementation
- Smart India Hackathon etc

## 11. Detail of Social Media & Connections of IIC institute

- Website: <https://www.sitmng.ac.in/>
- Twitter: <https://twitter.com/sitmangalore>
- Facebook: <https://shorturl.at/pryLQ>
- Instagram: [https://www.instagram.com/p/Cq2GT58ru3D/?img\\_index=1](https://www.instagram.com/p/Cq2GT58ru3D/?img_index=1)

## 12. Contact: <https://www.sitmng.ac.in/Contact-Us/Contact>

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

- "The Institute has a well-oiled group of clubs that provide the thrust for innovative thinking. I commend the work of the management, principal, staff and the students in creating such an atmosphere."* Mr. Bajpe Zakaria, CEO, Al-Muzain
- "There is so much potential within the young family members that such a club will surely help inculcate innovative ideas in them."* Dr. CA Sri. Raghavendra Rao, Chancellor – Srinivas University, President -A Shama Rao foundation,



Convener

(Dr Ramakrishna N Hegde)

