



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

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IIC ID: IC202116073

ANNUAL REPORT (2021-2022)

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 the stakeholders
3. To foster the startups by providing them the necessary support
4. To provide support to commercialize 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 the innovative inquisitiveness of the college as a whole. Today, the IIC of SIT has 28 faculty and 06 student members.
- d. Under the aegis of IIC, the college has organized 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. Prof. Aparna Krishnan	Member, Dept. of Information Science
28. Dr. Praveen Shenoy K	Member, Dept. of Aeronautical Engg.
29. Mr. Gajanan Bhat	Student Member, Dept. of Computer Science & Engg.
30. Mr. Anirudh Shetty	Student Member, Dept. of Aeronautical Engg.
31. Mr. Pratheek Joshi	Student Member, Dept. of Mechanical Engg.
32. Ms. Punya MP	Student Member, Dept. of Electrical Engg.
33. Ms. Sanjana Jacob	Student Member, Dept. of Nanotechnology
34. Mr. Albert Vishal	Student Member, Dept. of Marine Engg

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.	Start-up / Alumni Entrepreneur
4.	Suhas Shetty, DevApps IT Solutions Pvt Ltd & TechSigma Global Technology, Pvt Ltd.	Start-up / 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	34+4
Total No. of Ias	4
Total No. of faculty Mentors From Portal	28
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 & 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	
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	Min Project	Mr. Sathish Kumar

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

SI No	Particulars	Mechanical	CS	E&C	Aero & Auto	Marine	MBA
a)	Number and Different types of I&E and IPR activities Conducted	01	nil	1	01	01	NIL
b)	No. of student's & faculty ideas generated	13	4	4	09	09	2
c)	No. of students & faculty Innovation/prototypes developed	08	4	4	06	05	NIL
d)	No. of Ips generated, published and granted	--	Nil	0	01	--	NIL
e)	No. of Student & Faculty Start-ups/Ventures established.	--	6	1	03	--	NIL
f)	Amount spent on promotion and awareness generation on Innovation	--	nil	--	--	--	NIL

	Entrepreneurship in the campus						
g)	Amount grant or fund supported to student & Faculty lead Innovations, startups and IPR	KSCST:8,000 VTU: 10,000	nil	10000	KSCST:32,000/- VTU: 10,000	KSCST:8,000 VTU: 10,000	NIL
h)	No. of Technology Transfer and Commercialisation happened	--	nil	1			NIL

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
Prasad Dharma Naik Nihal Cardoza Naveen Babu Sahid Rameez	Dr. Shankar KS	Design Fabrication and Analysis of Hybrid Solar Banana Dryer	<ul style="list-style-type: none"> Awarded with KSCST Bangaluru sponsorship under the 45th series student project program Received the best project award in Project Exhibition held at Srinivas Institute of Technology Mangaluru, 28th June 2022
Richard Michael Santhosh Vishnuprasad H Sanjay N Dhanashyam KV	Prof. Sandesh M Prabhu	Design and fabrication of pick and place robot for machine shop applications	Awarded with VTU financial assistance for innovative projects for final year ug students 2021-22
Shilpa 4sn18cs084 Shradda d Shetty 4sn18cs085 Shreyas sharma p 4sn18cs088 Yajnesh m 4sn18cs104	Prof. Nagaraj Hebbar	Identification and classification of paddy Seeds	award of Motorola sponsorship
Pratibha h s 4sn18cs065 Prajna k 4sn18cs058 Priya s r 4sn18cs067 A j shravya 4sn18cs001		AI-enabled analysis of climate change on Agriculture and yield prediction for Coastal Karnataka	
Smrithi b s Mansi b m Shaman belliappa k Saad Salman	Prof. Vivek Vijay Kumar	IoT-based smart dehydrator for Cocoa Seeds	<ul style="list-style-type: none"> Awarded with VTU financial assistance for innovative projects for final year ug students 2021-22 Received the best project award in Project Exhibition held at Srinivas Institute of Technology Mangaluru, 28th June 2022

Savan p Nagabharana a Poojary Swasthik Suprith Arun kumar		Implementation of Study of Water Management in agriculture using IoT for small farms	<ul style="list-style-type: none"> Awarded with KSCST Bangaluru sponsorship under 45th series student project program Awarded with best paper presentation in international conference RTIMES organized by Srinivas Institute of Technology Mangaluru, 10-11th June 2022
Naveen Kumar T M, Navneet Soni, Nithin Kumar H K, Vardhaman Ravindra Vaswade	Mr. Srinidhi Kukkila	Robotic Arm Installed Fruit Plucking UAV-Based On AI	<ul style="list-style-type: none"> won the 45th series of State Level KSCST Seminar & Exhibition “Best Project of the Year” award
Mr. Bharani G, Devegouda, Shweta Iragar,Sneha K M, Amrutheshwari B U	Dr. Ramakrishna N Hegde	Vortex-Based Multi-Blades Windmill	<ul style="list-style-type: none"> Awarded with KSCST Bangaluru sponsorship under 45th series student project program
Babitha C M, Nithin V, Suprith D R.	Dr.Gangadhara Rao	Quad Tilt Wing Vtol UAV	<ul style="list-style-type: none"> Awarded with KSCST Bangaluru sponsorship under 45th series student project program
Gilson Stanley, Manoj PG, Mohammad Thufail and Syed Mohtashim Ali	Mr. Jerome Antony	Apparatus for Coffee Cherry and Similar Crops	<ul style="list-style-type: none"> selected by VTU, Belagavi
Shubha KH, Deekshith, Ujwal Kiran and Midhun R	Mr. Girish AR	Design and Fabrication of Solar Equipped Portable Electric Tiller Machine	<ul style="list-style-type: none"> selected by VTU, Belagavi

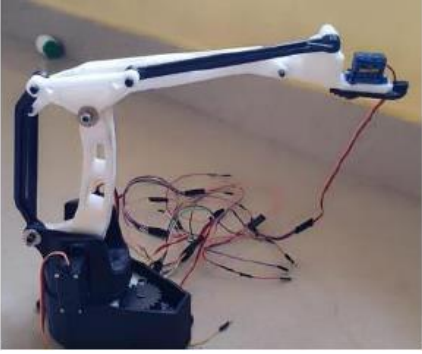



Patent Details:



Faculty	Patent title	Patent body	Department
Mr.Lokesh K S	Electronic Waste Management Practice	Australian Patent	Aeronautical

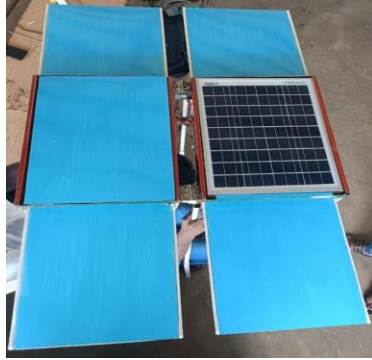





Faculty Achievements:


Faculty	Patent title	Department
Mr.Lokesh B Assistant Professor & Head	<ol style="list-style-type: none"> “Project of the Year” award by Karnataka State Council for Science and Technology (KSCST),2015 “Gandhian Young Technological Innovation” award presented by National Innovation Foundaton at festival of Innovation,Rastrapati Bhavan,New Delhi,2016 “Best Project Award” at 4th National level IEEE project Expo held at Mysuru,2018 “Project of the Year” award by Karnataka State Council for Science and Technology (KSCST),2022 	Department of Electrical and Electronics Engineering

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

Sl No	Department	Innovations name	Images
1		<p><u>Title:</u> Design and fabrication of pick and place robot for machine shop applications</p> <p><u>Students:</u> Richard Michael Santhosh Vishnuprasad H Sanjay N Dhanashyam KV</p> <p><u>Faculty:</u> Prof. Sandesh M Prabhu</p>	
2	Mechanical	<p><u>Title:</u> Design and fabrication of pesticide sprayer with rotary mechanism using solar energy Students:</p> <p><u>Students:</u> Vijeth A Naveen kumar Vignesh k N S GANAPATI</p> <p><u>Faculty:</u> Prof. UN Baipadithaya</p>	
3		<p><u>Title:</u> Design and fabrication of arecanut insecticide sprayer machine</p> <p><u>Students:</u> Pavan D Darshan M M Rakesh Ajjappa Onikeri Huligeppa Bheemanna Mudnur</p> <p><u>Faculty:</u> Prof. Sudheendra HN</p>	
4		<p><u>Title:</u> Design and fabrication of raw jackfruit processing unit</p> <p><u>Students:</u> Mohammed Abdul Muhith Shiran Krishnan Vineed M V</p> <p><u>Faculty:</u> Prof. Jayaram Thumbu</p>	
5	Computer Science and Engineering	<p><u>Title:</u> Tulu character dataset creation and Recognition</p> <p><u>Students:</u> Rithesh t d (4sn18cs074) Sahana h r (4sn18cs077) Shridhan s rai (4sn18cs090)</p>	

		Shriraksha (4sn18cs091) <u>Faculty:</u> Prof. Sudarshan k.	
6		<u>Title:</u> Smart cradle for baby monitoring <u>Students:</u> Anushree u r (4sn18cs011) Bhavana k v (4sn18cs014) Deepak sharma p (4sn18cs019) Niveditha n (4sn18cs056) <u>Faculty:</u> Prof. Mamatha.	
7		<u>Title:</u> Performance assessment of bearing condition monitoring for early fault detection <u>Students:</u> Nitishgowda d j Bhimanna sangappa batakurki Gangadhara k m Abhishek n s <u>Faculty:</u> Prof. Nithin Joshua	
8		<u>Title:</u> Implementation of Study of Water Management in agriculture using IoT for small farms <u>Students:</u> Savan P Nagabharana A Poojary Swasthik Suprith Arun Kumar <u>Faculty:</u> Mr. Vivek Vijay Kumar	
9	Marine	<u>Title:</u> Detection of flaws in ship hull using underwater ROV. <u>Students:</u> Bopanna H R Arunussav V Gowda Allen Joel Dsouza Ashik V <u>Faculty:</u> Mr. Sathish K G	
10		<u>Title:</u> Portable Solar panel for e-bike <u>Students:</u> Rashwath J Vishakh Chandran A K Ramnath Rajashekhara	

		<p><u>Faculty:</u> Mr. SATHISH K G</p>	
11		<p><u>Title:</u> Advanced Robot prototype for Underwater applications</p> <p><u>Students:</u> NIRANJAN BORADE NAGARAJ R SHET SHASHANK K V MADAN HUNNIME GOUDA</p> <p><u>Faculty:</u> Mr. TONY K SEBASTIAN(TKS)</p>	
12		<p><u>Title:</u> Robotic Arm Installed Fruit Plucking Uav- Based On Ai</p> <p><u>Students:</u> Naveen Kumar T M, Navneet Soni, Nithin Kumar H K, Vardhaman RavindraVaswade</p> <p><u>Faculty:</u> Mr. Srinidhi Kukkila</p>	
13	Aeronautical	<p><u>Title:</u> Quad Tilt Wing Vtol Uav For Antidrone Application</p> <p><u>Students:</u> Babitha C M, Nithin V, Suprith D R</p> <p><u>Faculty:</u> Dr.Gangadhara Rao</p>	
14		<p><u>Title:</u>Vortex Based Multi-Blades Windmill</p> <p><u>Students:</u> Bharani G, Devegouda, Shweta Iragar,Sneha K M, Amrutheshwari B U</p> <p><u>Faculty:</u> Dr. Ramakrishna N Hegde</p>	
15	Automobile	<p><u>Title:</u> Design And Fabrication Of Solar Equipped Portable Electric Tiller Machine</p> <p><u>Students:</u> Shubha KH, Deekshith, Ujwal Kiran and Midhun R.</p> <p><u>Faculty:</u> Mr. Girish A</p>	

16		<p>Title: Apparatus for Coffee Cherry and Similar Crops</p> <p>Students: Gilson Stanley, Manoj PG, Mohammad Thufail and Syed Mohtashim Ali</p> <p>Faculty: Prof. Jerome Anthony</p>	
17		Electric Power Generation using Flywheel and Magnets	
18	E&E	Electric Vehicle	
19		Graphical Water Fall	

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 customized 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	Automobile Engg.	Growth Associates	2016	Akshay V
8		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)
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1	Mechanical	Design and fabrication of pick and place robot for machine shop applications	2021-22	The pick and place robot is designed to load and unload a workpiece from and to a shaping machine in conjunction with the machine vice that can be tightened or loosened using a chain and sprocket drive from a motor.
2	Computer Science and Engineering	Identification and classification of paddy Seeds	2022	They used a Deep learning technique for feature extraction. They performed a comparative analysis of some ML-based classifiers like SVM, ANN and a pretrained CNN, i.e., RESNET. Could get a classification accuracy of 77.6%
3		Ai-enabled analysis of climate change on Agriculture and yield prediction for Coastal Karnataka		They used Long Short Term Memory (LSTM) networks to study the time series behavior of climatic conditions throughout the year for 10 years and used the LSTM trained neural network to suggest to farmers the next crop they need to select in the coming days for harvesting a reliable yield.
4		Tulu character dataset creation and Recognition		Trained a CNN to recognize the 52 characters of Tulu lipi (script). The specialty of this research project work was the guide/students prepared/ collected the Tulu lipi script alphabets from around 50 different Tulu speaking experts, who courteously agreed to present their handwritten Tulu alphabets
5	Marine Engineering	Implementation of Study of Water Management in agriculture using IoT for small farms	2021-22	The project uses IoT and moisture sensors to collect data and manage water management in small farms.
6		Condition-based maintenance of a CODLAG NPS with supervised data analysis.		The project uses a new machine learning model to predict the fuel consumption of ships' combined diesel-electric and gas propulsion systems.
7	Aeronautical Engg	Robotic Arm Installed Fruit Plucking Uav- Based On Ai	2022	Grabbing the fruits from the trees in hilly region and mountains are also very difficult. So, this project could be implemented to harvest various kinds of fruits in orchards like apples, bananas, citrus, etc
8		Object Detection And Drone Trapping System	2022	The research is designing and modelling of Vertical Take-off and Landing (VTOL) Aircraft and also to trap the foreign drone propellers in the net system mid-air and seize the Incoming foreign drone.
9		Vortex Based Multi-Blades Windmill	2022	Its working principle is based on vortex induced vibration. So the power which generated from the blade used for domestic purpose
10	Automobile Engg	Parchment Aparatus For Coffee Cherry And Similar Crops	2022	Parchment apparatus for coffee cherry is designed and developed to reduce time required to dry them naturally and reduce wastage which is commonly caused due to changing weather conditions.
11		Design And Fabrication Of Solar Equipped Portable Electric Tiller Machine	2022	Agriculture has been an integral part of the human ecosystem. However, traditional farming methods require much human effort and take a long time. Tilling is one of the most labour-intensive operations in agriculture
12		Design And Fabrication Of Automated Switching Headlight With Self-Charging System Using Wind Energy	2022	This work plans to keep away from glare given high light emission and consequently to lessen mishaps, by manufacturing programmed exchanging light

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

- **Following students have participated in the Smart India Hackathon 2021**

1. Fathimathul Fayiza-4SN19CS024
2. Harshitha-4SN19CS029
3. Kavita Patil-4SN19CS044
4. Nihal-4SN19CS060
5. Anirudh-4SN19CS010
6. J Janani -4SN19CS034

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

- i. *“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
- ii. *“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)



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