RAMAIAH UNIVERSITY OF APPLIED SCIENCES

Quarterly E-Newsletter

FORGE AND FLOW

Department of Mechanical Engineering

VOLUME 2 ISSUE 4 JANUARY 2026

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Institution of MECHANICAL ENGINEERS

ASME SETTING THE STANDARD

M S RAMAIAH UNIVERSITY OF APPLIED SCIENCES STUDENT SECTION

ROBOTICS AND AUTOMATION CLUB

DEAR READERS,

WE ARE DELIGHTED TO PRESENT THE FOURTH EDITION OF FORGE AND FLOW, THE QUARTERLY E-NEWSLETTER OF THE DEPARTMENTS OF MECHANICAL ENGINEERING.

THIS PLATFORM HIGHLIGHTS THE ACHIEVEMENTS OF OUR FACULTY AND STUDENTS, CELEBRATING THEIR ROLE IN DRIVING INNOVATION AND EXCELLENCE.

HEARTFELT THANKS TO ALL CONTRIBUTORS AND SUPPORTERS WHO MADE THIS EDITION POSSIBLE.

WARM REGARDS,
EDITORIAL TEAM



RAMAIAH UNIVERSITY OF APPLIED SCIENCES

Articles

ADVANCING FRONTIERS: ROBOTICS AND AUTOMATION SET TO TRANSFORM GLOBAL INDUSTRIES

INTRODUCTION:

The robotics and automation industry is growing faster than ever since technology is changing quickly and more businesses are using it. Automation is changing how the world works in many fields, from manufacturing to healthcare to logistics. It is also starting a new industrial revolution.

STATISTICS AND GROWTH IN THE MARKET:

The global robotics industry is predicted to develop at a rate of 19.6% per year, from $31.9 billion in 2025 to $190.8 billion by 2035. In 2022, more than 517,000 industrial robots were put to work around the world, a 31% increase from the year before. Robot density is also going up. South Korea has the most robots per 10,000 workers, with almost 1,000 robots per 10,000 people. The global average is 141 robots per 10,000 workers.

Robots for service and medicine are also growing. More than 10 million surgeries have been done with robotic devices like the da Vinci Surgical System. The agricultural robotics market, on the other hand, is expected to reach $11.6 billion by 2025, which shows that automation is being used in more and more ways.

GLOBAL USE AND MAIN FACTORS:

The US, China, South Korea, Germany, and India are all striving for large-scale automation projects. In India, the number of robot installations went up by 59% in 2023. This was due to government programs and the digitalization of businesses. The main reasons for this global change are rising labor costs, an aging workforce, and the need for more productivity.

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IMPROVEMENTS IN TECHNOLOGY:

New technologies are changing what robots can do:

- Collaborative robots (cobots) that can work securely with people
- Autonomous Mobile Robots (AMRs) for delivery and warehouses
- AI and machine learning for seeing, making decisions, and planning maintenance ahead of time
- 5G and edge computing make robots move quicker and more responsively.
- Cloud and IoT working together for centralized control and analysis

Humanoid robots like Tesla Optimus and Boston Dynamics' Atlas are going beyond what is possible. The humanoid robot industry is expected to reach more than 2 million units by 2035, which may add more than $1.7 trillion to the global economy each year.

WHAT WILL HAPPEN IN THE FUTURE:

The future of robots involves;

- Hyperautomation: Making both mental and physical tasks automatic.
- Smart factories are manufacturing systems that use AI and can control themselves.
- Robots in the service sector: robots in retail, hotels, and personal care.
- Sustainable Automation: robots that are good for the environment and use less energy and make less trash.

JOBS IN ROBOTICS AND AUTOMATION:

The growth of automation is not only taking jobs away; it's also making new ones. Some important employment roles that are becoming available in this field include:

- Robotics engineers are people who design and build robots.
- Automation Technicians (fixing and maintaining things)
- Experts in AI and machine learning
- Engineers in Mechatronics
- Data analysts for optimizing systems and predicting maintenance
- Robot Programmers and Operators
- System Integrators and IoT Designers
- Robots that help with healthcare

CONCLUSION:

The worldwide industrial landscape is changing because of robotics and automation. The sector promises not only more efficiency and innovation, but also a lot of new job prospects as it continues to grow and be adopted. People that are willing to change and work with smart machines will have a bright future.



~DR. SACHIT TS

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The Thermodynamic Origin of the Arrow of Time

Why does time seem to move only forward when the laws of physics work equally well backward? At the microscopic level, the equations governing classical mechanics, electromagnetism, and quantum mechanics are largely time-reversal symmetric. Yet everyday phenomena—cooling coffee, spreading perfume, or friction-generated heat—are unmistakably irreversible. This contrast defines the arrow of time problem.

The resolution lies in thermodynamics, specifically the Second Law, which states that the total entropy of an isolated system does not decrease. Entropy, introduced by Boltzmann, measures the number of microscopic configurations compatible with a macroscopic state. High-entropy states simply correspond to vastly more microstates than low-entropy ones, making them overwhelmingly more probable.

This statistical bias explains why heat flows from hot to cold and why ordered systems tend to become disordered. Importantly, entropy increase is not imposed by fundamental dynamics—it emerges statistically. While microscopic laws allow entropy-decreasing trajectories, such events are astronomically unlikely for systems containing billions of particles.

Modern experiments in nonequilibrium physics confirm this view. Fluctuation theorems, such as the Jarzynski equality and Crooks relation, show that entropy-decreasing events can occur in small systems but are exponentially suppressed as system size increases. Similarly, Landauer's principle establishes a minimum heat cost for erasing information, linking thermodynamic irreversibility to information processing.

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Thermodynamics explains how time gains a direction—but not why it exists at all. For entropy to increase, the universe must have begun in a remarkably low-entropy state. This assumption, known as the Past Hypothesis, is supported by cosmological observations but remains an open question in fundamental physics.

In essence, the arrow of time is not built into the laws of physics. It arises from probability, entropy, and the special conditions of the early universe—making time's direction an emergent feature of the macroscopic world.



~JNANA VENKATA RENUKA
3RD SEM, 2ND YEAR
MECHANICAL ENGINEER

RAMAIAH UNIVERSITY OF APPLIED SCIENCES

FACULTY ACHIEVEMENTS

Dr. Viju U



Ms. Viji U successfully completed Ph.D defense on Fault Diagnosis and Network Reconfiguration in a Ring main Power distribution network under the guidance of Dr. Nagaraja Rao S on 5th November 2025.

Dr. Viji U successfully completed five day training Program on “PLC Programming and Applications using Siemens S7-1200/1500” at National Skills Training Institute (NSTI), Bengaluru from 08/12/20 to 12/12/2025





Dr. Viji U successfully completed the NPTEL Certification in Micro robotics with an outstanding score of 84%.

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FACULTY ACHIEVEMENTS

DR. PRAMOD A SUCCESSFULLY COMPLETED THE NPTEL CERTIFICATION IN ARTIFICIAL INTELLIGENCE IN DRUG DISCOVERY AND DEVELOPMENT WITH AN OUTSTANDING SCORE OF 90%, EARNING THE ELITE + GOLD DISTINCTION.





DR. PRAMOD A DEMONSTRATED A STRONG COMMITMENT TO THE ACADEMIC COMMUNITY AND THE ADVANCEMENT OF THE FIELD BY SERVING AS AN ACTIVE PEER REVIEWER FOR THE JOURNAL ENGINEERING APPLICATIONS IN ARTIFICIAL INTELLIGENCE.

DR. MALLARADYA H M SUCCESSFULLY COMPLETED AICTE ATAL VAANI FDP ON INTELLIGENT AUTOMATION: LEVERAGING ROBOTICS, AI, AND IOT FOR INDUSTRY 4.0 AT SRI JAYACHAMARAJENDRA COLLEGE OF ENGINEERING FROM 10/11/2025 TO 15/11/2025.



DR. MALLARADHYA H M SUCCESSFULLY COMPLETED FIVE DAY TRAINING PROGRAM ON “PLC PROGRAMMING AND APPLICATIONS USING SIEMENS S7-1200/1500” AT NATIONAL SKILLS TRAINING INSTITUTE (NSTI), BENGALURU FROM 08/12/20 TO 12/12/2025.



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FACULTY ACHIEVEMENTS



DR. SACHIT T S ATTENDED THE EMPOWERING SCIENCE, TECHNOLOGY AND INNOVATION CONCLAVE (ESTIC) 2025 WAS HELD FROM 3RD TO 5TH NOVEMBER 2025 AT NEW DELHI. THE CONCLAVE SERVED AS A NATIONAL-LEVEL PLATFORM BRINGING TOGETHER POLICYMAKERS, RESEARCHERS, ACADEMICIANS, INDUSTRY LEADERS, STARTUPS, AND STUDENTS TO DELIBERATE ON EMERGING TRENDS AND OPPORTUNITIES IN SCIENCE, TECHNOLOGY, AND INNOVATION. THE EVENT ALIGNED WITH INDIA'S VISION OF VIKSIT BHARAT 2047.

MR. PRITHAM BHAT SUCCESSFULLY COMPLETED PH.D DEFENSE ON DEVELOPMENT OF A BATTERY COOLING SYSTEM FOR THE PERFORMANCE ENHANCEMENT OF A LI-ION BATTERY MODULE IN ELECTRIC VEHICLES UNDER THE GUIDANCE OF DR. MAHESH K VARPE ON 27TH NOVEMBER 2025.



DR. SURESH R, DR. SACHIT T S, DR. ANANTH S I AND DR. DAYANANDA B S HAVE FILED FOLLOWING TWO INDIAN PATENTS.

1. R SURESH AND SACHIT T.S, DEPARTMENT OF MECHANICAL ENGINEERING, PATENT TITLE: INTELLIGENT PNEUMATIC BUMPER SYSTEM WITH REAL-TIME OBJECT DETECTION FOR UNDERRIDE COLLISION PREVENTION IN HEAVY MOTOR VEHICLES, APPLICATION NO. 202541093232, DOCKET ID OMS.0004.001301, DATE: 1ST OCT 2025, FET-RUAS

2. ANANTH S IYENGAR, DAYANANDA B.S AND R SURESH PATENT TITLE: A ROBOTIC ROVER SYSTEM FOR AUTOMATED SOLAR DRYING AND RAKING SYSTEM FOR COFFEE BEANS WITH REAL-TIME OBJECT DETECTION MODULE USING AI. APPLICATION NO: 202541120002, OMS.0004.001335, DATE: 1ST DEC. 2025, FET-RUAS

STUDENT ACHIEVEMENTS


KAMMAVARI SANGHAM (R) - 1952

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Department of Mechanical Engineering

CERTIFICATE

BEST RESEARCH PAPER

This is to certify that the paper titled Performance Enhancement of an Evacuated Tube Solar Water Heater Using Heat Pipe and Parabolic Trough Collector authored by J. C. Indudhar, Pavan Kumar A, Pavankumar Reddy, Ananth S Iyengar has been awarded as the **Best Research Paper** during the **NATIONAL CONFERENCE ON RECENT INNOVATIONS IN ENGINEERING (NCRIE-2025)** organized by K. S. Institute of Technology, Bengaluru, Karnataka on 4th December, 2025.

Dr. Anil Kumar A
HOD ME

Dr. Kushal Kumar B. N
Chief convener

Dr. Dilip Kumar K
Principal & Director

MR. J C INDUDHER AND MR. PAVAN KUMAR A OF 7TH SEM MECHANICAL ENGINEERING STUDENTS HAVE BEEN AWARDED BEST RESEARCH PAPER DURING THE NATIONAL CONFERENCE ON RECENT INNOVATIONS IN ENGINEERING AT KSIT, BANGALORE ON 4/12/2025.


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Faculty of Engineering and Technology-FET

Department of Mechanical Engineering

Certificate of Achievement

Mr. Pavan Kumar A (USN: 23ETME005013)

of M.S.Ramaiah University of Applied Sciences, Bengaluru-560058

has been awarded **2nd Place** for outstanding performance in the **SOFE – Speak Out for Engineers** titled by RUAS **"Institution of Mechanical Engineers (IMechE) Student Chapter"** held on **18th December 2025**. This program was organized by the Department of Mechanical Engineering, Ramaiah University of Applied Sciences, Bengaluru.

Mr. Sandeep N
Asst. Professor- Co-ordinator

Dr. Suresh N
HOD –ME

Dr. Sarat Kumar Maharana
Dean - FET

MR. PAVAN KUMAR A OF 7TH SEM MECHANICAL ENGINEERING STUDENTS HAS BEEN AWARDED 2ND PLACE FOR OUTSTANDING PERFORMANCE IN THE SOFE – SPEAK OUT FOR ENGINEERS TITLED BY RUAS "INSTITUTION OF MECHANICAL ENGINEERS (IMECHE) STUDENT CHAPTER"


ASME

M S RAMAIAH UNIVERSITY OF APPLIED SCIENCES STUDENT SECTION

RAMAIAH UNIVERSITY OF APPLIED SCIENCES

CERTIFICATE

OF ACHIEVEMENT

This certificate is proudly presented to

Mr.NIHAL KIRAN REDDY

(USN:25ETME005030)

of M. S. Ramaiah University of Applied Sciences, has secured 2nd Position in the "ASME Turbo Quiz", a Technical Quiz Competition held on 21st November 2025, organized by the Department of Mechanical Engineering through ASME Student Chapter, Ramaiah University of Applied Sciences, Bengaluru.

Dr. Ananth S. Iyengar

Dr. B. S. Dayananda

Dr. Sarat Kumar Maharana
Dean - FET

MR.NIHAL KIRAN REDDY OF 1ST SEM MECHANICAL ENGINEERING STUDENTS HAS BEEN AWARDED HAS SECURED 2ND POSITION IN THE "ASME TURBO QUIZ", A TECHNICAL QUIZ COMPETITION HELD ON 21ST NOVEMBER 2025, ORGANIZED BY THE DEPARTMENT OF MECHANICAL ENGINEERING THROUGH ASME STUDENT CHAPTER, RAMAIAH UNIVERSITY OF APPLIED SCIENCES, BENGALURU.

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Activities Conducted







The Lathe Craft Competition organized by the Department of Mechanical Engineering and IMechE Student Chapter. Held on December 4, 2025, in the Workshop Arena, the event challenged mechanical engineering students to demonstrate precision lathe machining skills.

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Activities Conducted

SOFE 2025: Speak Out For Engineers

The Department of Mechanical Engineering, in collaboration with the Institution of Mechanical Engineers (IMechE), successfully conducted SOFE 2025. This public speaking contest provided engineering students with an opportunity to demonstrate their proficiency in presenting technical concepts with clarity and precision.





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Sponsored Research Projects (Oct to Dec 2025)

Project:
Thermal Performance Evaluation of Solar Heat Reflective Paints for Naval Applications Investigation Team: Dr. Rahul Cadambi (PI), Mr. Parikshith (TCE), Mr. Rohit (TCE), Mr. Chandru Kulkarni (TCE)

Sanctioned Amount: Rs. 9.480 lakhs
Amount Received: Rs. 9.480 lakhs
Sponsoring Agency: NMRL-DRDO, Ambernath
Status:
(i) All the Milestones completed.
(ii) Closure report submitted.
(iii) New Proposal submitted to NMRL-DRDO, Ambernath for second phase of project to carry out prototype testing.

Project:
Design and Development of Shear Thickening Nanofluid Enabled Anti Vibration Mounts Investigation Team: Dr. Rahul Cadambi (PI), Mr. Parikshith (TCE), Mr. Chandru Kulkarni (TCE) and Mr. Nagarjuna (TCE)

Sanctioned Amount: Rs. 36.38 lakhs
Amount Received: Rs. 36.38 lakhs
Sponsoring Agency: NPOL-DRDO, Kochi
Status:
(i) 85kg and 120kg mount testing is approved. Has met all the requirements as per the Specifications. Repeatability tests will be carried out at Kochi.
(ii) Physical testing of the 15kg mounts are in progress at NPOL-DRDO, Kochi.
(iii) Final tests will be carried out at NSTL-DRDO, Vizag before handing it over to Indian Navy for trials on ship.

Project:
Development of Molybdenum Based Chalcogenides Thin Film Sensors for Room Temperature NH3 Gas Sensors Investigation Team: Dr. Rahul Cadambi (PI), Dr. Manmeet Kaur (PC), BARC-Mumbai, Dr. Srikari S. (Co-PI), Dr. R. S. Keshava Murthy (Co-PI) and Ms. Simran Shah (JRF)

Sanctioned Amount: Rs. 32.35 lakhs
Amount Received: Rs. 22.550 lakhs
Sponsoring Agency: DAE-BRNS, New Delhi
Status:
(i) Gas sensing stability tests of MoS2 thin films are currently in progress.
(ii) Hybrid thin films of ZnO/MoS2 ZnO/rGo synthesis in progress.
(iii) MoS2 detects NH3 gas and NO2 gas at room temperature with sensitivity parameters.

Project:
Process Parameter Optimisation of Hybrid Composites Investigation Team: Dr. Rahul Cadambi (PI), Mr. Bhargav (ME), Mr. Parikshith (TCE) and Mr. Chandru Kulkarni (TCE)

Sanctioned Amount: Rs. 55.035 lakhs
Amount Received: Rs. 33.750 lakhs
Sponsoring Agency: DMSRDE-DRDO, Kanpur
Status:
(i) All the milestones review completed.
(ii) Closure report in progress.

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Collaborative Research Activities

1. Joint Research Activity with Prof. J. N. Reddy and Prof. Arun Srinivasa, Texas A&M University, USA

Outcomes

· Joint book publication on composite materials in progress.

2. Joint Research Activity with CSIR-NAL

Outcome

· Ph. D. activity of Mr. Bhargav (Assistant Professor, Dept. of Mechanical Engineering)

· Conference paper accepted. Presentation is on 20th December 2025.

Books

1. Srikari S., Suresh R. and Rahul M. Cadambi, (eds.), (2025) 'Advances in Materials Science and Technology'. First Edition, CRC Press

Book Chapter

1. R. M. Cadambi and Sunith Babu L., (Jan 27, 2026), Chapter 11. Natural Fibre Composites – A Sustainable Lightweight Material for Electric Vehicles, (Eds.) R. Suresh, C. Durga Prasad, Satish Kumar, Bharath K.N., Ajith G. Joshi, CRC Press (ISBN: 9781032975054)

Journal Publications

1. Sunith Babu Loganathan, Lokesha Krishnappa, Girish V Kulkarni, Jaya Prakash Kode, Rajesh Mathivanan, Namburi Harsha, Rahul M Cadambi, 'Heat Exposure and Its Implications on the Low-Velocity Impact Characteristics of GFRP Laminates', Accepted in Q3 journal (Issue details yet be furnished)

Other Accomplishments

Prof. Rahul Cadambi is involved in three indigenous developments of prototypes and innovation with DRDO laboratories under the 'Make-in-India' and 'Atmanirbhar Bharat' missions to Indian Armed Forces. Dr. Rahul was also instrumental in getting an MoU with IAF and RUAS. He recently represented RUAS team at two prestigious events in New Delhi in September 2025.

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DEVELOPMENT OF WT/GT FIRE RESISTANT AND EMI/EMC COMPLAINT COMPOSITE DOORS AND HATCHES FOR INDIAN NAVY SHIPS

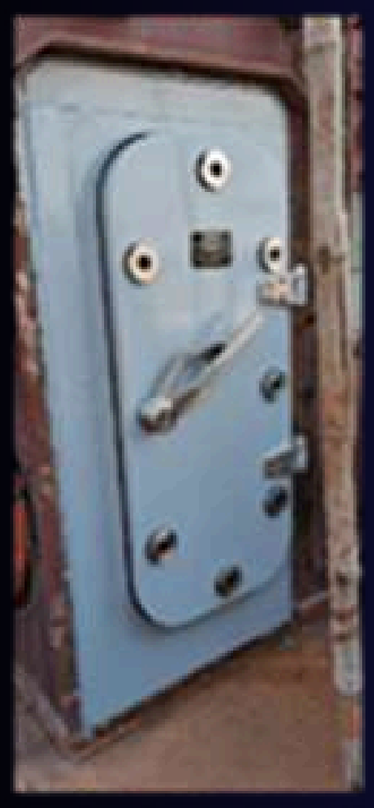
In a significant stride towards Indian Navy Ships Indigenization, Ramaiah University of Applied Sciences (RUAS), in collaboration with Valdel Advanced Technologies Limited, the Indian Navy, and TDF–DRDO, has successfully developed India's first A60-certified composite naval doors and hatches. These advanced composite structures are the only Indian-made naval doors to achieve IMO FTP A60 fire certification, marking a major technological breakthrough in maritime safety and lightweight design. The developed system has achieved a Technology Readiness Level (TRL) of 8–9, demonstrating near-deployment maturity for naval applications.

Key performance highlights include:

· 50% weight reduction compared to conventional steel doors and hatches

· EMI shielding up to 60 dB at 18 GHz, enhancing electronic protection

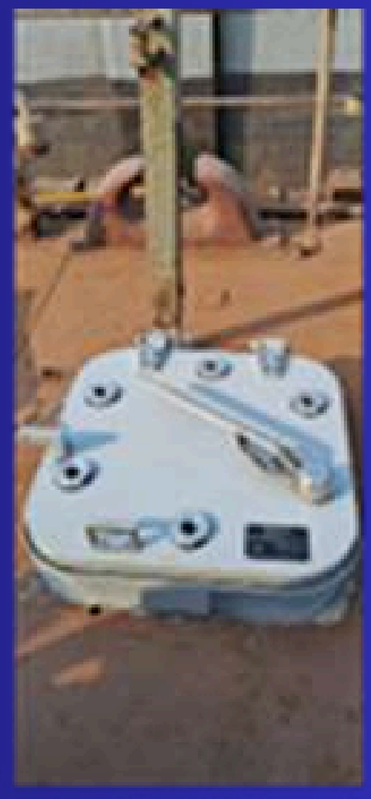
· Water resistance from 0.5 to 1.2 bar, ensuring operational reliability in marine environments



Composite Door Installation on Indian Naval Ship



Composite Door and Hatch Product Delivery at Office of Raksha Mantri & TDF-DRDO



Composite Hatch Installation on Indian Naval Ship

https://drdo.gov.in/drdo-advanced-technologies-pioneers-india-s-first-a60-certified-naval-door-boosting-indigenous-defence-capabilities

The project showcases RUAS's strong innovation capability in defence composites, with key contributions from Prof. Rahul M. Cadambi (Department of Mechanical Engineering, FET) and the Techno Centre team—Mr. Parikshith, Mr. Ravi Shankar, Mr. Dakshath Jembige and Mr. Sandesh Pawar.

This achievement underscores India's growing self-reliance in advanced naval materials and systems under the 'Make-in-India' and 'Atmanirbhar Bharat' missions.

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Display of Composite Door & Hatches in Indian Navy Ships in Aero India 2025, Bangalore





Valdel Advanced Technologies Pioneers India's First A60-Certified Naval Door, Boosting Indigenous Defense Capabilities

Published May 15, 2025 | By admin

SOURCE: AFI



As published in https://idrw.org/valdel-advanced-technologies-pioneers-indias-first-a60-certified-naval-door-boosting-indigenous-defense-capabilities/

The project, formally titled "Development of Composite WT/GT and Fire Class/EMC Compliant Doors and Hatches for Indian Naval Ships," was a collaborative effort involving Valdel Advanced Technologies, the Indian Navy, and academic partner M.S. Ramaiah University of Applied Sciences (RUAS). Initiated in 2021, the project leveraged DRDO's TDF scheme, which fosters innovation by bridging academia, industry, and defense stakeholders under the 'Make in India' initiative.

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INDIGENOUS DEVELOPMENT OF STF-BASED ANTI-VIBRATION MOUNTS FOR ELECTRONIC WARFARE EQUIPMENT WITH NPOL-DRDO

Under the ‘Make in India’ initiative, Ramaiah University of Applied Sciences (RUAS) has undertaken the indigenous design and development of advanced Anti-Vibration Mounts (AVMs) for Electronic Warfare (EW) equipment used by the Indian Navy. The mounts are developed using innovative Shear Thickening Fluid (STF) Nanofluidtechnologies to achieve superior vibration isolation and damping performance under dynamic loading conditions.

The STF-based Anti-Vibration Mounts are currently undergoing performance testing as JSS 55555 standards at NPOL, Kochi, to validate their real-world efficiency in naval environments. This collaborative effort between RUAS and NPOL (DRDO) exemplifies India’s growing self-reliance and innovation in defense-grade vibration control systems, aligning with national goals of ‘Atmanirbhar Bharat’ and ‘Make in India’ for advanced naval technologies.

Investigating Team involves Prof. Rahul M. Cadambi (Department of Mechanical Engineering, FET), Mr. Parikshith N (Techno Centre), Mr. Chandru Kulkarni (Techno Centre) and Mr. Nagarjuna M. A. (Techno Centre).

SIGNING OF MOU OF INDIAN AIR FORCE WITH RUAS AT NEW DELHI ON 22ND SEP 2025







M S Ramaiah University of Applied Sciences (RUAS), Bengaluru, has signed a prestigious Memorandum of Understanding (MoU) with the Department of Aerospace Design (DAD), Air HQ, Indian Air Force, marking a landmark collaboration to promote research, innovation, and the application of emerging technologies.

The MoU was formally signed by Prof. Kuldeep Kumar Raina, Vice Chancellor, RUAS, and Air Marshal Sanjiv Ghuratia AVSM, VSM representing the Indian Air Force. The ceremony was further graced by Air Commodore Gyan Deep Singh VSM.

This partnership highlights RUAS's role in advancing academia–defence collaboration, driving innovation and contributing to nation-building through knowledge, technology and impactful research.

Prof. Rahul Cadambi was instrumental in leading the MoU with IAF and RUAS.

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REPRESENTED RUAS IN TSATS 2025 AND FICCI BHARAT R&D SUMMIT 2025 AT NEW DELHI

RUAS had a stall in TSATS 2025 and FICCI 2025 summit. The stall attracted significant attention from senior officials of the :

· General Anil Chauhan, Chief of Defence Staff (CDS)

· General Upendra Dwivedi, Chief of Army Staff for the Indian Army

· Air Marshal Sanjiv Ghuratia, AVSM, VSM, Air Officer-in-Charge Maintenance

· Vice Admiral Sanjay Vatsayan, Vice Chief of the Naval Staff

· Senior officers from Directorate of Design, Air Headquarters (Indian Air Force)

·Representatives from Directorate of Indigenisation (Army) and Directorate of Naval Design (Navy)

· The FICCI Directors and senior officials
· Several industrial leaders and MSME







FDP: 01

1. Dr. Suresh R attended the AICTE sponsored FDP on Human Centric and Sustainable Manufacturing in Industrial 5.0 Era at J.J. College of Engineering and Technology from 06/10/2025 to 11/10/2025

Publications : 04

1. Nagaraja, S., Suresh, R. (Nov. 2025). An Integrative Frame Work for Circular Manufacturing System in Indian Industry, Circular Economy and Sustainability, Q1 Journal (IF5.6) https://doi.org/10.1007/s43615-025-00696-z

2. Balappa B U, Dayananda B S, Dinesh P A, Suresh R (Dec. 2026) Statistical and ANN Modeling of Groundnut Seed Metering Unit Performance and Optimization Using TOPSIS, J. Inst. Eng. India Ser. A (Q2 Journal) (IF: 1.95), 106, 1269–1280 (2025). https://doi.org/10.1007/s40030-025-00932-7

3. S. Vijaya Kumar and R. Suresh, (Nov. 2025) Exploring Challenges and Enablers of Sustainable Supply Chains in Indian Automotive SMEs for Enhancing Long-Term Competitiveness, JES:Journal of Engineering Sciences, 54(1) :23-49, (Q3 Journal, https://doi.org/10.21608/jesaun.2025.404637.1615

4. Balappa B U, Dayananda B S, Dinesh P A, Suresh R (Dec. 2026) Engineering Design and Functional Evaluation of a Finger Millet Thresher with Integrated Dehusker, Journal of Engineering Sciences (JES), vol 54, (3) https://doi.org/10.21608/jesaun.2025.399572.1587

Patent filed: 2

1. R Suresh and Sachit T.S, Department of Mechanical Engineering, Patent title: Intelligent Pneumatic Bumper System with Real-Time Object Detection for Underride Collision Prevention in Heavy Motor Vehicles, Application No. 202541093232, docket ID OMS.0004.001301, Date: 1st Oct 2025, FET-RUAS

2. Ananth S Iyengar, Dayananda B.S and R Suresh Patent title: A Robotic Rover System for Automated Solar Drying and Raking System for Coffee Beans with Real-Time Object Detection Module using AI. Application No: 202541120002, OMS.0004.001335, Date: 1st Dec. 2025, FET-RUAS

Session Chair :02

1. Dr. Suresh attended and contributed as a session chair in the 2nd Annua Research Scholar symposium -2025 at MSRUAS, Bangalore on 1th and 12th Dec. 2025

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Industrial Visit

The 3rd Semester Mechanical Engineering students visited M/S Rapri Industries Pvt. Ltd on 28th November 2025. This visit provided valuable insights into the functioning and infrastructure of Rapri Industries Pvt. Ltd.







The Department of Mechanical Engineering organized Counselling session from Ms. Arti Bihani, student wellness counsellor for the 5th sem Robotics students for their mental well being and academic excellence on 18th November 2025.

RAMAIAH UNIVERSITY OF APPLIED SCIENCES

EDITORIAL TEAM

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Mr. Rathan Raj N
2nd sem, MECHANICAL

EXECUTIVE EDITOR

Ms. J V Renuka K
2nd sem, MECHANICAL

Mr. Akul Abhilash Nair
2nd sem, MECHANICAL

FACULTY COORDINATORS

Mr. Sandeep N
Assistant Professor

Mr. Naveen Kumar K H
Assistant Professor