RAMAIAH UNIVERSITY OF APPLIED SCIENCES

Quarterly E-Newsletter

FORGE AND FLOW

Department of Mechanical Engineering

VOLUME 2 ISSUE 3 SEPTEMBER 2025

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ASME SETTING THE STANDARD
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RUAS ROBOTICS CLUB

DEAR READERS,
WE ARE DELIGHTED TO PRESENT THE THIRD EDITION OF FORGE AND FLOW, THE QUARTRLY 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

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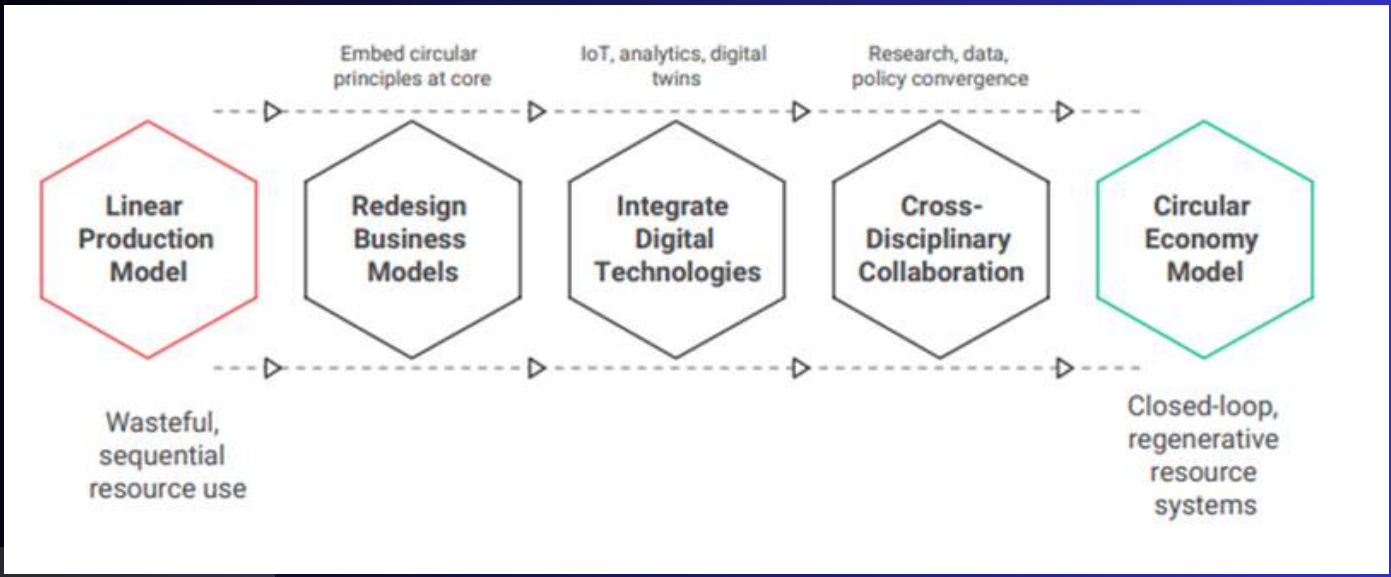
Articles

Rethinking Manufacturing: From Linear Growth to Circular Systems

In the quest for sustainability, the world's industries are making the transition away from conventional linear production paradigms to Circular Economy (CE) mindsets. The circular economy is not just about recycling or waste minimization—it is a change in the way companies design, conduct business, and generate value. In essence, the intention of circular economic theory is to construct closed-loop resource systems in which material, energy, and information are continually passed through interdependent processes without any loss of value. Such a vision, however, necessitates greater than mere material recovery; it demands a radical reform of business models and manufacturing systems to integrate circular thinking at their core. In linear models, supply chain players have rigid, sequential roles—producers make, consumers consume, and waste is disposed. But in a circular model, these distinctions are fuzzy. Economic players work in dynamic collaboration, converting value chains into circular value networks emphasizing reuse, repair, remanufacture, and regeneration. This can be imagined as an Archimedes spiral, with each loop marking forward movement to higher dimensions of sustainability and innovation.



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To facilitate such change, Circular Manufacturing Systems (CMS) combine circular thinking with digital technologies—like IoT-based monitoring, predictive analytics, and digital twins—to support real-time decision-making, traceability, and adaptive resource optimization. These systems underpin Industry 4.0-driven sustainability, enabling manufacturers to close loops on materials and have self-adjusting, lean production systems. This change, though, needs more than technology. It needs robust research foundations, trustworthy data ecosystems, and cross-disciplinary collaboration. Scientific evidence, industrial know-how, and policy guidelines need to come together to create the framework and confidence that are needed for circular adoption in scale. Circular manufacturing is ultimately not an environmental preference but a strategic necessity for strong and competitive industries. By embedding sustainability in every production and business layer, we step closer towards an economy that not only expands, but regenerates—one that maintains prosperity without depleting the planet's resources.

MR. SANDEEP N,
DEPARTMENT OF MECHANICAL ENGINEERING

He is an Assistant Professor with the Department of Mechanical Engineering, RUAS. Equipped with over 15 years of extensive experience in teaching, research and consulting in Operational Excellence, he has guided at more than 50 Master's degree projects pertaining to his chosen area of expertise and topics relevant to industry. He has extended his knowledge towards training personnel from top automotive and Fortune 500 companies in India.

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Robotics: Revolutionizing the Future of Manufacturing

Robotics is revolutionizing the world of manufacturing by transforming how products are designed, produced, and assembled. In the past, manufacturing relied heavily on manual labor, which limited speed, precision, and consistency. Today, with the integration of advanced robotics, factories operate with higher efficiency and remarkable accuracy. Robots are used in almost every stage of production—from welding, painting, and assembling automobile parts to packaging and material handling. These machines can work continuously without fatigue, ensuring uniform quality and faster output while reducing production costs. Moreover, robotics has greatly improved workplace safety by taking over dangerous, repetitive, or physically demanding tasks, allowing human workers to focus on supervision, programming, and maintenance. Collaborative robots, or "cobots," are now designed to work safely alongside humans, enhancing teamwork between man and machine. The introduction of Artificial Intelligence (AI) and Machine Learning (ML) has made robots even smarter and more adaptable, enabling them to make decisions, detect errors, and learn from experience. This combination of robotics and intelligence is a major driver of the "Industry 4.0" revolution, where factories are becoming more connected and automated. While the rise of robotics raises concerns about job displacement, it also creates new opportunities for skilled engineers and technicians who design, operate, and maintain these systems. Ultimately, robotics is not replacing humans—it is reshaping the nature of work and pushing manufacturing toward greater innovation, precision, and sustainability. By improving efficiency, quality, and safety, robotics continues to redefine the future of the manufacturing industry, making it smarter, faster, and more capable than eve

MR. RAHUL K
3RD SEMESTER
DEPARTMENT OF MECHANICAL ENGINEERING

He is A passionate innovator with a keen interest in advanced robotics and futuristic automation technologies. Always eager to explore how intelligent machines can transform everyday life.

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Departmental Activities

INSIGHTS ON MECHANICAL AND ROBOTICS ENGINEERING & APPLICATIONS

10TH SEPTEMBER 2025

The department of Mechanical Engineering organised an Expert Talk on Insights on Mechanical and Robotics Engineering & Applications on 10/09/2025 by Dr. P Raghothama Rao (Former Scientist G, DRDO, Former Chairman NDRF, IE(I), Associate Editor – Journal of Aerospace Science & Technology) – an enriching talk blending engineering excellence with futuristic applications.

Visit to Bio – Fuel Plant

The Department of Mechanical Engineering team comprising of Dr. Dayananda B S, Dr.Suresh R, Dr. Ananth S I and Dr. Pavan Kumar Reddy visited to Bio – Fuel Plant, Siddaganga Institute of Technology, Tumakuru on 7th August 2025 to collaborate on Research on bio fuels and establishing Bio Diesel plant at RTC.

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Departmental Activities

Alumni Talk

11TH SEPTEMBER 2025

Mr. Adithya S Dath is currently working as Mechanical Engineer at Husqvarna Construction, Sweden. He obtained B.Tech degree in Mechanical Engineering from RUAS in 2019 and then pursued Master's in Mechanical Engineering at Linköping University, Sweden (2021–2023). He shared his inspiring journey from campus life to industry, encouraging students to be curious, bold, and inquisitive while offering valuable insights into career planning and industry expectations.

PARENTS - TEACHERS MEETING

The Department of Mechanical Engineering organized a Parent-Teacher Meeting to strengthen the connection between faculty and parents and discuss the overall progress of students.

The session provided an opportunity to share academic updates, address individual concerns, and gather valuable feedback from parents to enhance the learning experience. It served as a platform to ensure collaborative efforts toward students' academic growth and holistic development.

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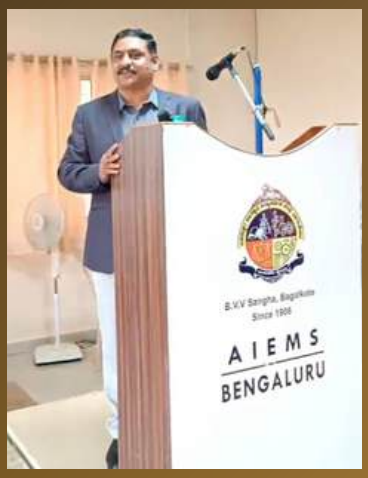
FACULTY ACHIEVEMENTS

Dr. Dayananda B S, Professor and Head, Department of Mechanical Engineering delivered a Technical Talk on Industrial Safety Management at Amrutha Institute of Engineering & Management Sciences, Bidadi, Bangalore on 13th September 2025, Saturday.



Mr. Naveen Kumar K H Assistant Professor, Mechanical Engineering department awarded with Annual Exemplary Teacher award on 11th September 2025 on the occasion of Teachers day 2025.

Dr. Mallaradhya H M was awarded as Most spirited Individual on 15th September 2025 on account of Engineer's Day.

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FACULTY ACHIEVEMENTS

Dr. Ananth S Iyenger received a certificate of Excellence in Reviewing from the Journal of Engineering and Research for an outstanding contribution to the quality of Journal.

Mr. Shrikrishna M Badiger Presented a Paper on "BOUNDARY FORCE AND BODY FORCE METHODS FOR STRESS ANALYSIS OF PLATE WITH A HOLE" conducted by ASME, India on 10th to 13th September 2025 at Hyderabad.

Dr. Pramod A, attended Professional Development Programme (PDP) on Course File Preparation and Question Paper setting conducted by National Institute of Technical Teachers Training and Research, Chennai from 04/08/2025 to 08/08/2025.

Mr. Shrikrishna M Badiger attended Faculty Development Program (FDP) under AICTE - Vibrant Advocacy for Advancement and Nurturing of Indian Languages (VAANI) on Roots to Recipes: Tech-Driven Agri practices in Kannada language at GM INSTITUTE OF TECHNOLOGY from 20/08/2025 to 22/08/2025.

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FACULTY ACHIEVEMENTS

The Following Faculty members attended 26th ISTE State Level Faculty Convention and the 33rd Dr. L. S. Chandrakant Memorial Lecture Series held on 10th September 2025 at MSRUAS, Peenya Campus, under theme of "AI in your Classroom: Tools, Tactics & Ethical Integration".

- Dr. B. S. Dayananda
- Dr. M. C .Murugesh
- Dr. Mallaradhya H M
- Dr. Pramod A
- Dr. Suresh R
- Mr. Naveen Kumar K H
- Mr. Sachit T S
- Mr. Sandeep N
- Mr. Praveen Kittali
- Mr. Abhilash N
- Mr. Ananth Shalvapulle Iyengar
- Mrs. U Vijji

Mr. Sandeep N's Research Paper on Sustainable Development Goals has been selected among the Top 5 papers in the SDG Summit 2025 – Research Paper Competition organized by Vision Karnataka Foundation and also invited to present paper during the SDG Summit 2025 scheduled on 10th October 2025 at the FKCCI Auditorium, Bengaluru.

Dr. Ananth S Iyenger and Dr. Suresh R received Rs. 2 Lakhs grants from AICTE – VAANI scheme for organising the three days FDP on Uniting for the Planet: Strategies for Sustainable Energy and Climate Resilience from 21st to 23rd July 2025.

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FACULTY PUBLICATIONS

- B.U Balappa, B.S Dayananda, P.A Dinesh, R Suresh “Thresher-Dehuskar Farm Machinery: Review of current situation and future needs in Indian context and development of prototype unit”, Agriculture and Natural Resources.58 (2024)267-274.DOI: doi.org/10.34044/j.anres.2024.58.2.11.

- B.U Balappa, B.S Dayananda, P.A Dinesh, “Current Practices in agriculture farm machinery design: small land holders” Doctoral Colloquium 2024 Business Competitiveness for Attaining Sustainability 7th and 8th june 2024.

- B.U Balappa; Shivasharanappada Gouda;Nandish P.K; Rohan Mullik; Khalid Mohammed Khizar “Development of Robotic arm for pick and place operation in small scale industry” IEE 2024 Second International Conference on Advances in Information Technology (ICAIT).

- K.S Shreeharsha; Balappa Ukamanal; “Design and development of mulberry stem harvestor”AIP Conf.Proc.3233, 020008(2025) https:/doi.org/10.1063/5.0234234.

- Rakesha Sharma C R, Dr Suresh R, Mr Balappa B U, Mr Anshuman Dube “Development of an Electro Tribological Instrument to Examine the Deterioration of the Robot- Bearing”International journal of multi-disciplinary Research Analysis December 2024.https://doi.org/10.47191/ijmra/v7-i12-22

- Bhat, P. and Varpe, M.K., 2025. Performance Assessment of Serpentine and L-Shaped Cold Plate Battery Thermal Management for Cylindrical Lithium-Ion Battery Module. Energy Storage, 7(6), p.e70239. https://doi.org/10.1002/est2.70239, Cite score 3.9; Journal IF : 4, (Q2 Journal)

- Nagaraja, S., & Suresh, R. (2025). An integrative framework for circular manufacturing system in Indian industry. Circular Economy and Sustainability, 1–17. Springer.

- VIJAYA KUMAR S, & Suresh R. (2026). 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. doi: 10.21608/jesaun.2025.404637.1615 Bhat, P., Varpe, M.K.,(2025), Thermal impact of PCM thickness on a cylindrical Li-ion cell. J Therm Anal Calorim. IF: 3.2 https://doi.org/10.1007/s10973-025-14676-w

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FACULTY PATENTS

Dr. Rahul M Cadambi, Professor of Mechanical Engineering was felicitated at RMC Council Hall by RUAS for two patents (Indian Patent No.: 539369 and Indian Patent No.: 515914).

RAMAIAH UNIVERSITY | NAAC A+

RUAS IP Day 2025

CERTIFICATE
OF RECOGNITION

This certificate is proudly presented to

Dr. Rahul M Cadambi

for the innovation entitled

"A Method and Device for Composite Filament Winding"

granted by the Indian Patent Office (Patent No. 515914)

This recognition is awarded for exemplary innovation, and contribution to intellectual property development at Ramaiah University of Applied Sciences.

Dr. Dheepa Sreenivasan
Dean-ORI
RUAS

Patent

Dr K K Raina
Hon'ble Vice Chancellor
RUAS

RAMAIAH UNIVERSITY | NAAC A+

RUAS IP Day 2025

CERTIFICATE
OF RECOGNITION

This certificate is proudly presented to

Dr. Rahul M Cadambi

for the innovation entitled

"Compact Pomegranate Aril Remover"

granted by the Indian Patent Office (Patent No. 539369)

This recognition is awarded for exemplary innovation, and contribution to intellectual property development at Ramaiah University of Applied Sciences.

Dr. Dheepa Sreenivasan
Dean-ORI
RUAS

Patent

Dr K K Raina
Hon'ble Vice Chancellor
RUAS

RAMAIAH UNIVERSITY OF APPLIED SCIENCES

A+ GRADE

STUDENT ACHIEVEMENTS

Bharath and Joshika participated in the ROS Nexus Hackathon 2025, held on 3rd September 2025 at BNMIT, Bengaluru.
Organized by the IEEE RAS BNMIT Student Branch in collaboration with RoboManthan Pvt. Ltd. and RoboHawks, the event focused on the Robot Operating System (ROS), where participants designed virtual robotic solutions in a simulated environment.
Bharath and Joshika showcased creativity and strong technical skills, gaining valuable insights into ROS-based development and modern robotics workflows.

Fluid Power Challenge (FPC) 2025 – Participation

Students Vimal Kanth and A.R. Bharath represented the team "TEAM RUAS" from Ramaiah University of Applied Sciences in the Fluid Power Challenge (FPC) 2025 – The M.S. Yoganarasimha Prize for Innovation in Design, organized by the Fluid Power Society of India. The team presented their innovative project "ROBODRAIN" under the guidance of Dr. Mallaradhya H. M., showcasing their creativity and technical excellence in design.

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PLACEMENTS

THINK LABORATORY Co.,Ltd.
株式会社シンク・ラボラトリー

MS. ANAGHAVALLI M, B.TECH MECHANICAL 2021 BATCH SECURED INTERNATIONAL PLACEMENT AT THINK LABORATORY CO. LTD, JAPAN WITH CTC OF 16 LPA.

WELCOME ON BOARD

DR. PRAMOD A
ASSISTANT PROFESSOR
DEPARTMENT OF MECHANICAL ENGINEERING

He received his Ph.D. in Smart Manufacturing in 2025 from the National Institute of Technology Calicut, India His passion for research runs deep in areas such as Smart Manufacturing, Multi-Sensor Data Fusion, Signal Processing, Robot Vision, Deep Learning, and Cloud Computing. Dr. Pramod has also demonstrated a strong commitment to academic scholarship by serving as a reviewer for over 70 articles in internationally recognized, peer-reviewed journals published by Elsevier, Springer, and SAGE.

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2nd sem, MECHANICAL

Mr.Akul Abhilash Nair
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Assistant Professor

Mr. Naveen Kumar K H
Assistant Professor

HEARTFELT THANKS TO ALL OUR CONTRIBUTORS AND READERS WHO MADE THIS EDITION POSSIBLE.
YOUR SUPPORT KEEPS US GOING!