

DEPARTMENT OF MECHANICAL ENGINEERING (HALF YEARLY NEWSLETTER)



VISION OF THE INSTITUTE

Strive continuously for academic excellence by providing best contemporary, functional education and endeavoring to attain supreme engineering educational excellence, through sincerity of motive and focused efforts.

MISSION OF THE INSTITUTE

To prepare students to succeed in information-directed and technology-driven global economy to become global citizens through effective teaching and learning process with strong practical exposure.

VISION OF THE DEPARTMENT

To achieve the transcendence standard quality education in mechanical engineering with sound technical knowledge, practical skills and to develop the technocrats to cater the needs of socio-economical development of the country.

MISSION OF THE DEPARTMENT

M1: Facilitate budding mechanical engineers to learn with passion & gain sound technical knowledge and practical skills.

M2: Provide maximum exposure to interdisciplinary technologies such as Industry 4.0 and encourage innovation.

M3: Develop real world problem solving skills, entrepreneurship aptitude through industry-institute interactions and collaborative team activities.

ABOUT THIS ISSUE

Department of Mechanical Engineering, PIEMR is proud to announce the second issue of its periodical newsletter. This newsletter covers recent activities held within the department, research work and projects. It also highlights future events that are planned by the department.

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MESSAGE FROM DIRECTOR

Dr. Manojkumar Deshpande
Director
PIEMR, Indore

Reflecting on the journey of the past half-year, I am deeply impressed by the collective commitment and the significant strides we've made across various sectors of our organization. This newsletter not only celebrates our successes but also acknowledges the challenges we've met with resilience and determination. Your individual contributions and your ability to work seamlessly as teams have been truly inspiring. As we embark on the second half, let's build upon the lessons learned, strengthen our collaborations, and continue to strive for excellence in all that we do. The opportunities ahead are significant, and I am confident in our ability to achieve even greater heights together.



MESSAGE FROM HEAD OF DEPARTMENT

Prof. Lokesh Kumar Boriwal
HOD, Department of Mechanical Engineering
PIEMR, Indore

This mid-year update provides a comprehensive overview of our achievements and progress during the first half of the year. It highlights the tangible results of our shared vision and the dedicated efforts of each team member. Your commitment to quality and your proactive engagement have been crucial in reaching these milestones. I want to express my sincere gratitude for your hard work and the positive impact you have on our organization. As we move into the second half, let's continue to foster a culture of innovation, collaboration, and continuous improvement, ensuring our continued success and growth in the months to come.



COVER STORY

SMART AUTOMATION: TRANSFORMING MECHANICAL ENGINEERING

Smart automation is reshaping the field of mechanical engineering by merging traditional mechanical systems with digital intelligence. It refers to the use of advanced technologies such as sensors, robotics, artificial intelligence (AI), and the Internet of Things (IoT) to automate tasks with minimal human intervention while maximizing efficiency, accuracy, and productivity.

In modern manufacturing environments, smart automation enables machines to not only perform repetitive tasks but also to adapt, learn, and make decisions based on real-time data. Mechanical engineers are at the heart of this transformation—designing intelligent systems that integrate mechanical components with software and control systems.

One key advantage of smart automation is improved operational efficiency. Automated systems can run continuously with minimal errors, leading to higher output and lower costs. Predictive maintenance, made possible through data-driven insights, ensures that machines are serviced before failures occur—saving time and resources.

Smart automation also plays a crucial role in quality control. AI-powered vision systems can detect microscopic defects in real-time, ensuring consistent product quality. In sectors like automotive, aerospace, and precision manufacturing, this level of accuracy is essential.

Furthermore, collaborative robots (cobots) are revolutionizing the shop floor by working alongside human operators, enhancing safety and productivity. These systems can quickly adapt to new tasks, making manufacturing more flexible and responsive to market demands.

As the demand for smarter systems grows, mechanical engineers must evolve into multi-disciplinary professionals—combining knowledge of mechanics with electronics, programming, and data analysis.

Smart automation is not just a trend—it's the future of mechanical engineering, driving innovation, sustainability, and competitiveness in the global industry.

ACTIVITIES AND RECENT EVENTS

INDUSTRY VISIT TO MSME INDORE

Our recent Industry Visit to the Micro, Small & Medium Enterprises (MSME) Development Institute in Indore provided our team with a valuable perspective on the dynamic landscape of small-scale industries in our region. The visit offered insights into the various support mechanisms and initiatives provided by the MSME Development Institute to foster growth and innovation within this vital sector. Our team had the opportunity to interact with entrepreneurs and learn about their challenges and successes, gaining a deeper understanding of the local industrial ecosystem. This visit underscored the importance of MSMEs in economic development and provided potential avenues for collaboration and knowledge sharing. We thank the MSME Development Institute for their informative session and for highlighting the vibrant entrepreneurial spirit of Indore.



INTERACTION SESSION OF TIFAN 2024 WITH EXPERTS FROM JOHN DEERE AND SAE AT SGSITS INDORE

SGSITS Indore recently hosted an insightful interaction session as part of TIFAN 2024, featuring experts from industry giants John Deere and the Society of Automotive Engineers (SAE). This session provided a valuable platform for students and faculty to engage directly with seasoned professionals, gaining perspectives on the latest technological advancements and career opportunities in the agricultural and automotive sectors. Experts shared their knowledge on current industry trends, research and development initiatives, and the skills sought after by leading companies. The interactive Q&A session fostered a dynamic exchange of ideas and provided invaluable guidance to aspiring engineers. This event underscores our commitment to bridging the gap between academia and industry, providing our students with crucial real-world insights.

