



# MECHATROMA

## Department of Mechanical Engineering



 [www.iimtindia.net](http://www.iimtindia.net)

 Plot no. 19 & 20, Knowledge Park III,  
Greater Noida (U.P.)

 [contact\\_gn@iimtindia.net](mailto:contact_gn@iimtindia.net)

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Smart Manufacturing

VOLUME XX, ISSUE IV  
NEWSLETTER

Oct-Dec 2025

# From Chief Editor's Desk



## Dr. Nitin Kumar Waghmare HOD, Mechanical Engineering

Dear Readers,

I am delighted to welcome you to the latest edition of our quarterly newsletter. This publication is a testament to our collective achievements, ongoing projects, and the vibrant spirit that drives our department forward. We strive to bring you the most relevant and inspiring stories each quarter, highlighting our team's incredible work and dedication.

During the last quarter (April-June 2025), the department has made significant contributions in various domains such as teaching and research, product development, sponsored projects, outreach activities and students' achievements. I am sure this issue will give a glimpse of the above.

Great things are often the culmination of a series of small, seemingly insignificant actions brought together with purpose and dedication. It is the accumulation of these small efforts that ultimately leads to extraordinary achievements. Each tiny step forward, each decision made with care, and each challenge overcome contributes to a larger tapestry of success.

The power of small actions lies not in their individual magnitude but in their collective impact. Like the threads of a rope, each strand may be weak on its own, but when woven together, they form an unbreakable bond. Similarly, the small things we do each day—whether it's learning a new skill, helping someone in need, or pushing through a difficult task—may seem minor in isolation. However, when combined over time, they become the foundation upon which great things are built.

Embracing this mindset allows us to approach challenges with a sense of hope and resilience. It reminds us that every small victory is a step closer to achieving our dreams. So, let us celebrate the small wins, for they are the building blocks of greatness. By focusing on the journey, one small step at a time, we can create something truly remarkable.

Thank you and best wishes

Dr. Nitin Kumar Waghmare  
Chief Editor & HOD  
Dept. of Mechanical Engineering

**The only way to  
do great work is to  
love what you do  
~ Steve Jobs**

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# EXPERT TALK

## LEAN MANUFACTURING AND SIX SIGMA BASICS

### Introduction

An Expert talk was organized by the Department of Mechanical Engineering on 07th November 2025. The objective of this Talk was to provide students with exposure to lean manufacturing and six sigma basics used in manufacturing companies.

### Objective of the expert talk

#### The main objectives are as follows:

- Develop awareness of Lean and Six Sigma principles, tools, and techniques.
- Explain the significance of process optimization, waste reduction, and quality improvement.
- Demonstrate how Lean Six Sigma contributes to productivity enhancement and cost efficiency.
- Motivate participants to apply continuous improvement strategies in academic and industrial projects.

### Key Learnings

#### I Fundamental Concepts:

- Clear understanding of the core principles of Lean Manufacturing and Six Sigma.
- Awareness of the importance of waste elimination, process flow, and quality improvement.
- II Tools and Techniques:
- Exposure to essential Lean tools such as Value Stream Mapping (VSM), 5S, Kaizen, Kanban, and Just-In-Time (JIT).
- Understanding Six Sigma methodologies including DMAIC and the use of statistical tools for process analysis and control.

#### III Integration of Lean and Six Sigma:

- Knowledge of how combining Lean's waste reduction with Six Sigma's defect reduction leads to operational excellence.
- Insight into how Lean Six Sigma supports continuous improvement and sustainability in industrial operations.

#### IV Practical Applications:

- Appreciation of real-world case studies demonstrating successful Lean Six Sigma implementation.
- Understanding the measurable impact on productivity, quality, cost, and customer satisfaction.
- V Professional Development:
- Development of problem-solving, analytical, and decision-making skills.
- Encouragement to adopt a culture of continuous improvement in academic and industrial environments.

## Interaction with Experts

Students engaged in this session with experts who provided valuable insights on:

- The talk highlighted the importance of integrating Lean principles for waste reduction with Six Sigma methods for quality improvement and process control.
- Participants gained awareness of how data-driven decision-making and continuous improvement drive operational excellence.
- Real-world examples illustrated the practical benefits of Lean Six Sigma in enhancing productivity, cost efficiency, and customer satisfaction.
- The session emphasized that Lean Six Sigma is a strategic mindset, fostering innovation, teamwork, and sustainable improvement.



Students and Faculty Members at Event

Oct-Dec 2025

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# ISHRAE INDIA CHAPTER

## INDUSTRY 4.0 & SMART MANUFACTURING

The Department of Mechanical Engineering, in association with the ISHRAE India chapter of IIMT College of Engineering, Greater Noida, hosted ED cell Activity an Expert talk on "Industry 4.0 & Smart manufacturing" on 21th November, 2025, at the Sarabhai Hall.

**Objective:** The objective is to discuss the benefits and challenges of implementing Industry 4.0 and smart manufacturing.

**Target Participants:** All students of B. Tech Mechanical Engineering

### About the Event:

The Mechanical Engineering Department under ISHRAE India chapter successfully organized an expert talk on "Industry 4.0 & Smart manufacturing" on 21th November, 2025, at the Sarabhai Hall. The event witnessed a remarkable presence of students, faculty members, and industry experts. The lecture commenced with an inaugural address by Dr. Satyaveer Singh who is student branch advisor of the ISHRAE India chapter from IIMT College of Engineering, Greater Noida. The chief guest of this event was Dr. Jyotirmay Mathur. Dr. Mathur, is a Professor in Mechanical Engineering and at the Centre for Energy and Environment, at MNIT Jaipur. After doing his undergraduate education with Mechanical Engineering, he has done post-graduation in energy studies from the Indian Institute of Technology, New Delhi (India) and doctorate in energy systems from University of Essen (Germany). Professor Mathur has published more than 150 research papers in referred international journals, authored 8 books in the field of energy and supervised 25 doctoral students besides having 2 patents for his innovations related to HVAC. Prof. Jyotirmay Mathur works in the field of energy planning and modeling, building energy simulation, energy conservation in buildings, low energy cooling, renewable energy system optimization. Besides research, his special interest lies in the field of development and implementation of codes and standards related to building energy efficiency, Indoor Environment Quality, and HVAC equipment. He has also played important role in various national level committees in India at BEE, BIS, DST, MNRE, and at ISO, IEC, IEA at International level. At the end of this Program, vote of thanks was given by, Dr. Love Kumar (Assistant Professor), Department of Mechanical Engineering. Other faculty members present in this program were Mr. Manoj Kumar and Mr. Krishan kumar Karotiya from Mechanical department.



Figure 1: Dr. Jyotirmay Mathur. is giving a lecture in Sarabhai Hall, IIMT College of Engineering, Greater Noida on 21 November 2025.



patch Figure 2: Dr. Jyotirmay Mathur. is giving a lecture in Sarabhai Hall, IIMT College of Engineering, Greater Noida on 21 November 2025.





— Aim For Excellence —

## Department of Mechanical Engineering



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4<sup>th</sup> Year

**Greater Noida Campus**

**Mob. : +91 9911009144 | +91 9717015300**

Plot no. 19 & 20, Knowledge Park III, Greater Noida (U.P.)