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Opportunities and Challenges with Cybersecure Smart Manufacturing

AI/ML, IIoT, Digital Twin



1st August 2026



KI Vasu Auditorium, Indian Institute of Science
Bangalore, India

Workshop Overview

Manufacturing is undergoing a rapid transformation driven by Additive Manufacturing (AM), Artificial Intelligence (AI), and Machine Learning (ML), along with advanced digital production technologies. These innovations enable faster design cycles, complex geometries, and mass customization while delivering real-time insights into quality through smart sensors and imaging systems.

However, this digital evolution also introduces critical challenges—particularly in cybersecurity and intellectual property (IP) protection. Emerging threats such as design replication, and counterfeiting pose serious risks to modern manufacturing ecosystems.

This one-day industry-focused workshop offers a comprehensive platform to explore cutting-edge technologies, emerging risks, and practical solutions for building secure, intelligent, and scalable manufacturing systems.

Who Should Attend

- Manufacturing industry professionals
- R&D engineers and technical experts
- Industry 4.0 and digital transformation leaders
- Cybersecurity professionals in manufacturing
- Academic researchers and faculty
- Postgraduate and doctoral students



Dr. Nikhil Gupta

Professor of Mechanical and Aerospace Engineering, with affiliations in Civil, Urban, and Environmental Engineering, and the Center for Cybersecurity, NYU, USA
Elected Senior Member of IEEE,
Fellow of ASM International (FASM), Fellow of the American Society for Composites (ASC), and Senior Member of the National Academy of Inventors



Dr. Karthika Venkatesan

Scientist - E, C-DAC Bangalore

Speakers

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Why Attend

- Gain industry-relevant insights into smart manufacturing technologies
- Learn how to integrate AI and Additive Manufacturing for enhanced productivity
- Understand and mitigate cyber-security risks in digital production
- Explore real-world case studies and implementation strategies
- Network with industry experts and academic leaders

Workshop Outcomes

Participants will leave with:

- A clear understanding of cyber-secure manufacturing frameworks
- Practical knowledge of AI-enabled quality control systems
- Strategies for protecting digital manufacturing assets and IP
- Actionable insights for scalable industrial deployment

What You Will Learn

- ✓ Fundamentals of Additive Manufacturing (AM) and material behavior
- ✓ Machine Learning for process monitoring and *in-situ defect detection*
- ✓ AI-driven process optimization for quality, consistency, and repeatability
- ✓ Cybersecurity risks in digital manufacturing and the *digital thread*
- ✓ Protection against design theft, and counterfeiting
- ✓ Strategies for robust intellectual property (IP) protection
- ✓ Scalable and secure implementation blueprints for industry adoption

Registration Fee

Category	Up to 30 th June 2026 (Early Bird)	Up to 31 st July 2026 (Regular)
Delegates - Academia	2,500	3,000
Delegates - Industry	4,000	5,000

Sponsorship

Category	Amount INR
Platinum	2,00,000
Gold	1,50,000
Silver	1,00,000
Bronze	50,000

Register Now

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One-Day Intensive Workshop (Offline)

For Sponsorship Opportunities, Please Contact:

Mr. T S Rao | +91 9008017696
Vice President (Industry) IA-PMFP

Dr. Ajay Kumar | +917416770041
Indian Institute of Technology, Tirupati, India

