



Online/Classroom FDP on Smart Manufacturing and Industry 4.0 Solutions

1st – 5th September 2025



Chairman, EICT Academy & Director MNIT Jaipur

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Objective (Electronics & ICT Academy-Phase II)

1) To conduct specialized FDPs for faculty/mentor training in line with the vision of MeitY by promoting emerging areas of technology and other high-priority areas that are pillars of both the "Make in India" and the "Digital India" programs.

2) To promote synergy and collaboration with industry, academia, universities and other institutions of learning, especially in emerging technology areas.

3) To support the National Policy on Electronics 2019 (NPE 2019) which envisions positioning India as a global hub for ESDM sector, including MeitY Schemes/policies such as Programme for Semiconductors and Display Fab Ecosystem; India AI; National Programme on AI, Production Linked Incentive Scheme for IT Hardware & Large-Scale Electronics Manufacturing; EMC; SPECS; Chips to System (C2S); etc.

4) To promote standardization of FDPs through Joint Faculty Development Programmes.

5) To support the vision of the National Education Policy (NEP 2020), which mandates that Indian educators go through at least 50 hours in professional development programmes per year.

6) To design, develop & deliver specialised FDPs on emerging technologies/ niche areas/ specialised modules for specific research areas for Faculty in Higher Education Institutions (HEI), besides FDPs on multi-disciplinary areas connected with ICT tools and technologies and other digital hybrid domains, covering a wide spectrum of engineering and non-engineering colleges, polytechnics, ITIs, and PGT educators.

An intensive 40 Hour Faculty Development Programme in Hybrid mode is being organized for faculty of engineering and technological institutions. It is also open to persons from industry and doctoral students of Indian organizations. The main theme of training program will be oriented around exploring the state-of-the-art methods for Digital Transformation in Additive Manufacturing from 1st – 5th September 2025 (Mon to Fri).

Experts/Speakers-

1.) Dr. John Rozario Jegaraj Scientist G DRDL, Lab,

2.) Prof. A.N Jinoop, Teesside University UK

3.) Prof. Dhanesh Mohan, Sunderland University, London, UK

4.) Sagar Nikam, Ulster University, UK

5.) Mr. S. K. Varshney, DST Delhi

6.) Dr. T. Ram Prabhu, Scientist E, CEMILAC, Bengaluru

7.) Prof. M. K. Banerjee, Research Chair, SJVU

8.) Prof. S. Aravindan, Professor, IIT Delhi

9.) Dr. Jinesh Kumar Jain, Associate Professor, MNIT Jaipur

10.) Dr. Yashwant Koli, Assistant Professor, MNIT Jaipur

Programme Modules:

Module 1: Fundamentals of Smart Manufacturing and Industry 4.0: Introduction to Smart Manufacturing and Industry 4.0 Concepts, Key Enablers of Industry 4.0: IoT, AI, and Big Data, Cyber-Physical Systems and Digital Twins in Manufacturing, Benefits and Challenges of Implementing Smart Manufacturing, Overview of Global Industry 4.0 Standards and Frameworks

Module 2: Digital Transformation in Manufacturing: Digitalization and Automation in Manufacturing Processes, Role of Cloud Computing and Edge Computing in Industry 4.0, Data Analytics for Decision-Making in Smart Manufacturing, Integration of ERP and MES Systems with Industry 4.0 Tools, Case Studies: Successful Digital Transformations in Manufacturing

Module 3: Advanced Robotics and Automation in Industry 4.0: Autonomous Robots and Cobots in Smart Manufacturing, Industrial Robotics Programming and Applications, AI and Machine Learning for Predictive Maintenance, Human-Robot Interaction in Industry 4.0 Environments, Safety Standards and Challenges in Robotic Automation

Module 4: Additive Manufacturing: Role of additive manufacturing in smart manufacturing, Additive Manufacturing using WAAM-CMT, Microstructural analysis of additively manufactured materials, joining of intrinsic additively manufactured components using Diffusion bonding, Post processing techniques for AM components

Module 5: Sustainability and Future Trends in Industry 4.0: Green Manufacturing in the Context of Industry 4.0, Future Trends in Industry 4.0: Autonomous Factories and Beyond

Simulation/Laboratory/Software: Hands-On Experience with IoT Devices in Manufacturing (Real-Time Data Acquisition), Creating a Digital Twin of a Simple Manufacturing Process, Programming and Simulating Robotic Operations in a Virtual Environment, Process Monitoring and Optimization in Additive Manufacturing Using IoT, Analysis of Energy Efficiency and Carbon Footprint in Smart Manufacturing Processes

Programme Coordinator:

Dr. Jinesh Kumar Jain

Dr. Yashwant Koli

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Registration:

Registration is open to faculty, working professionals, industry persons, doctoral, postgraduate and graduate students from India and rest of the world. Participants will be admitted on first-come first-served basis. Register online at <http://online.mnit.ac.in/eict/>

Registration Fee:

Mode of programme	Academia (faculty/Students): India/SAARC/Africa	Others: India/SAARC/Africa	Rest of the world
Online	Rs. 500/-	Rs. 1500/-	US \$ 60/-
Classroom	Rs. 2000/-	Rs. 4000/-	--

(A) Fee once paid will not be refunded back.

(B) The fee covers online participation in the programme, tutorial notes and examination, certification charges etc.

(C) The registration amount may be paid through online mode- NEFT/UPI/Cards/SWIFT, provided at the registration portal.

(D) Detailed schedule will be shared after receiving registration Form

→ For queries, email us at fdp.academy@mnit.ac.in



MNIT Jaipur one of the oldest NITs, the institute has a rich heritage of sixty years producing world class engineers, managers, architects and scientists. Ranked 43rd nationally in the NIRF ranking-2024 (Engineering), the institute offers learning opportunities for undergraduate, postgraduate students, and researchers in various domains. Having a lush green campus of over 317 acres within the heart of the pink city, close to Jaipur International Airport, the campus offers a safe and lively environment. A world class teaching infrastructure, state-of-art laboratories welcome you at the campus. The institute has a vision to impart education of international standards and conduct research at the cutting edge of technology.