



ENGINEERING STAFF COLLEGE OF INDIA



Autonomous Organ of The Institution of Engineers (India)
(IMS [ISO 9001:2015, ISO 14001:2015, ISO 50001:2018, ISO 45001:2018],
ISO/IEC 17025:2017 Certified, AICTE & CEA Recognized Institution)
Old Bombay Road, Gachibowli, Hyderabad – 500 032. Telangana, India

Quality & Productivity Division

Hybrid (Offline & Online) Continuing Professional Development Programme on

Application of AI and ML for Production and Quality Control in Manufacturing Industry to Increase productivity

Dates: 17 – 19 August 2026
at ESCI Campus, Hyderabad

INTRODUCTION

The manufacturing industry is undergoing a significant transformation through the adoption of Artificial Intelligence (AI) and Machine Learning (ML). These technologies are enabling organizations to enhance production efficiency, improve product quality, minimize defects, reduce downtime, optimize resource utilization, and make data-driven decisions. AI-powered manufacturing systems facilitate predictive maintenance, automated quality inspection, intelligent process optimization, and real-time monitoring, resulting in improved productivity and competitiveness.

This three-day professional training programme is designed to provide manufacturing professionals with practical insights into the application of AI and ML in production and quality control. The programme combines conceptual understanding with industrial case studies, demonstrations, and implementation strategies suitable for modern manufacturing environments.

OBJECTIVES

Upon completion of this programme, participants will be able to:

- Understand fundamentals of AI, Machine Learning, and Automation
- Explore AI tools for engineering design, manufacturing, and quality
- Improve productivity using AI-driven workflows
- Learn practical applications in Aerospace & Automotive industries
- Implement AI for predictive maintenance and process optimization
- Enhance decision-making using data analytics

COURSE COVERAGE

The following course content will be detailed during the training programme:

- **Foundations of AI & ML in Manufacturing**
 - Introduction to Artificial Intelligence
 - Machine Learning Fundamentals
 - Deep Learning Concepts
 - AI vs Automation
 - Digital Manufacturing and Industry 4.0
 - Manufacturing Data Analytics
 - Industrial Internet of Things (IIoT)
- **AI Applications in Production & Quality Control**
 - AI in Smart Manufacturing
 - AI-Based Quality Control

- Machine Learning for Quality Improvement
- Hands-on Demonstrations
- **Predictive Manufacturing & Implementation Strategies**
 - Predictive Maintenance
 - AI Implementation Roadmap
 - Future Manufacturing Technologies

METHODOLOGY

Methodology of the programme includes class room Sessions with Lecture/discussion with audio visual aid, benched marked practices if any, video shows, Chalk & Talk sessions, group discussions, case studies, debates, sharing of experiences, etc. All the sessions will be interactive demanding active participation from all the members. Case Method of Instructions will be the main method of knowledge facilitation.

TARGET PARTICIPANTS

Managers and Team Leaders, Engineers and Technical Professionals, Supervisors, Project Managers, HR Professionals, Customer Relationship Executives, Sales and Marketing Professionals, Business Development Teams, Young Professionals and Executives. Executives from all the functions like: Design, Engineering, Production, Purchase, Quality, Stores, Maintenance, Administration & Finance of Government/ Public Sector / State/ Private Power Sectors Organization Manufacturing/ Service Sector viz. Educational Institutions, Construction Projects, Financial Institutions, Refineries, Steel, Paper, Fertilizer, Sugar, Cement, Chemical & Pharmaceutical Companies, Software Companies, etc.

EXPERT FACULTY

The faculty consists of experts from industry, Entrepreneur and academia, besides that from ESCI.

PROGRAMME DIRECTOR

Dr. KATTI. BHARATH, *M.Tech, Ph.D (NIT-Warangal)*
Faculty & Course coordinator
Quality & Productivity Division
Engineering Staff College of India
Mob: 7097282619 / Ph: 040-66304105
Email: gp@escihyd.org

PROGRAMME OFFICER

Ms. VAISHNAVI
Quality & Productivity Division
Engineering Staff College of India
Old Bombay Road, Gachibowli, Hyderabad -
500032
Mob: 7671825426 / Ph: 040-66304110

PROGRAMME DATES & TIMINGS

Dates: 17 – 19 August 2026

Timings : On the first day, Registration will commence at **09:30 Hrs**. On all other days the programme timings will be from **09:45-17:15 Hrs** with breaks in between for tea & snacks.

COURSE FEE:

RESIDENTIAL: Rs. 18,000/- (Rupees Eighteen Thousand only) per Participant + GST@18% Extra. Fee includes, course material, course kit, twin-sharing/single AC accommodation as per availability, breakfast, lunch, dinner, tea / coffee and snacks during the actual days of training programme.

NON- RESIDENTIAL: Rs. 16,200/- (Rupees Sixteen Thousand Two Hundred only) per Participant. Fee includes, course material, course kit, lunch, tea / coffee and snacks during the actual days of training programme

Online: WebEx platform.

Rs. 10,500 /- (Rupees Ten Thousand & Five Hundred only) per participant + GST@18% Extra.

TRAINING FEE PAYMENT OPTION:

PAN Card No AAATT3439Q; GST No. 36AAATT3439Q1ZV. H.S. No. 999293 (Under commercial training or coaching services – clause 65(105) (ZCC) of Finance act – 1994).

Programme fee is to be paid in in favor of **“THE INSTITUTION OF ENGINEERS (INDIA) – ENGINEERING STAFF COLLEGE OF INDIA”** in the form of demand draft payable at Hyderabad. Alternatively, the payment may be made by Electronic Fund Transfer (EFT) to ESCI – SB A/c No.

912010049234564 with Axis Bank Ltd., Gachibowli branch, Old Mumbai Highway, Cyberhills Colony, P Janardhan Reddy Nagar, Gachibowli, Hyderabad – 500032, T.S., by NEFT/ RTGS/ IFSC Code No. UTIB0000733 – MICR No.500211020. While using EFT method of payment, please ensure to communicate us your company name, our Invoice reference and programme title.

CERTIFICATION

A Certificate of participation will be awarded to each participant on conclusion of the programme.

REGISTRATION

To register, manually please send your nominations giving details of name, designation, contact address, email address, mobile no, telephone and fax number of the participant along with the details of mode of payment of fee, addressed to: Email: **qp@escihyd.org**

GENERAL INSTRUCTIONS

- ESCI encourages participants to present case studies from their respective organizations.
- ESCI provides complimentary accommodation and boarding to the participants one day before commencement (Check-in 1200 h) and one day after conclusion (Check-out 1200 h) of the programme duration. Overstay charges will be applicable as per ESCI rules (subject to availability of accommodation).
- Well-developed Information Centre and Internet facilities are available to the participants free of cost.