



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

Quality 4.0: How Industry 4.0 is Revolutionizing Quality Management

Dates: 21-25 September 2026
at ESCI Campus, Hyderabad

INTRODUCTION

Quality 4.0 represents the transformation of traditional quality management through the integration of **Industry 4.0 technologies, data analytics and intelligent digital systems**.

The programme provides participants with a comprehensive understanding of how technologies such as **Industrial IoT (IIoT), Artificial Intelligence (AI), Machine Learning (ML), Big Data Analytics, Digital Twins, Cloud Computing, Edge Computing, Computer Vision, Robotics and Advanced Automation** can be applied to improve product quality, process capability, inspection, traceability and continuous improvement.

This five-day programme focuses on moving from **reactive quality control to predictive, preventive and intelligent quality management**, supported by real-time data and connected manufacturing systems.

OBJECTIVES

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

- Understand the evolution from traditional Quality Management to Quality 4.0.
- Understand the relationship between **Industry 4.0 and Quality 4.0**.
- Identify opportunities for digital transformation of quality processes.
- Apply IIoT and real-time monitoring for quality improvement.
- Understand AI/ML applications in defect detection and prediction.
- Use data analytics for process and quality decision-making.
- Understand digital inspection and automated quality control.
- Apply predictive quality and predictive maintenance concepts.
- Understand digital traceability and quality data management.
- Develop a roadmap for implementing Quality 4.0 in an organisation.

COURSE COVERAGE

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

- **QUALITY 4.0 & INDUSTRY 4.0 FUNDAMENTALS**
 - Evolution of Quality Management
 - Understanding Industry 4.0
 - Introduction to Quality 4.0
 - Quality 4.0 Implementation Challenges
- **IIoT, DATA & SMART QUALITY MONITORING**
 - Industrial IoT for Quality Management
 - Real-Time Quality Monitoring
 - Quality Data Management

- Big Data Analytics for Quality
- **AI, MACHINE LEARNING & INTELLIGENT QUALITY**
- Artificial Intelligence for Quality Management
- Machine Learning for Defect Prediction
- AI-Based Defect Detection
- Predictive Quality
- AI & Root Cause Analysis
- **DIGITAL INSPECTION & SMART QUALITY SYSTEMS**
- Smart Inspection Technologies
- Integrated Digital Quality Management Systems
- Cybersecurity & Data Integrity
- Quality 4.0 and Lean Six Sigma
- Quality 4.0 & Risk Management

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

Quality Managers and Quality Engineers, Production Managers and Engineers, Manufacturing Engineers, Process Engineers, Inspection Engineers, Maintenance Professionals, Industrial Engineers, Six Sigma / Lean Professionals, Continuous Improvement Professionals, R&D and Product Development Teams, Digital Transformation Teams, Plant Heads and Operations Managers, Management Representatives, Quality Auditors, IT/OT Professionals involved in manufacturing, Senior Management and Decision Makers

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
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PROGRAMME OFFICER

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PROGRAMME DATES & TIMINGS

Dates: 21 – 25 September 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. 27,500/- (Rupees Twenty Seven Thousand Five Hundred 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. 24,750/- (Rupees Twenty Four Thousand Seven Hundred and Fifty 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. 17,500 /- (Rupees Seventeen 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) (ZZC) 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.