

IIOT & INDUSTRIAL NETWORKING FOR AUTOMATION ENGINEERS

"Connecting Industrial Systems for Smart, Secure, and Data-Driven Automation"

Schedule

Date	Venue	Fees (Face-to-Face)
15 - 17 Jun 2026	Riyadh - KSA	USD 2495 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

Introduction

The Industrial Internet of Things (IIoT) and advanced industrial networking technologies are transforming modern automation systems by enabling real-time data exchange, predictive maintenance, and smarter decision-making. Automation engineers must understand how industrial devices, controllers, and systems are connected securely and reliably to achieve Industry 4.0 objectives.

This intensive 3-day course provides a practical understanding of IIoT concepts, industrial communication protocols, and networking architectures used in automation environments. Participants will gain hands-on knowledge to design, integrate, and maintain robust industrial networks that support smart manufacturing and digital transformation initiatives.

Objectives

By the end of this course, participants will be able to:

- Understand IIoT concepts and their role in industrial automation
- Design and implement industrial networking architectures
- Identify and apply common industrial communication protocols
- Integrate field devices, PLCs, SCADA, and IIoT platforms
- Address cybersecurity challenges in industrial networks
- Support Industry 4.0 and smart factory initiatives

Why Attend

- Gain practical knowledge of IIoT and industrial networking
- Learn how to connect automation systems securely and efficiently
- Understand modern industrial communication standards
- Enhance troubleshooting and system integration skills
- Support digital transformation and smart manufacturing goals

Target Audience

This program is designed for:

- Automation engineers and control engineers
- Electrical and instrumentation engineers
- Maintenance and reliability engineers
- SCADA and PLC engineers
- System integrators and technical specialists
- Engineers involved in Industry 4.0 initiatives

Individual Benefits

Key competencies that will be developed include:

- Strong understanding of IIoT architecture and components
- Ability to design and troubleshoot industrial networks
- Knowledge of industrial communication protocols and standards
- Improved cybersecurity awareness for automation systems
- Practical skills for integrating OT and IT environments

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved reliability and performance of automation systems
- Enhanced data visibility and operational intelligence
- Reduced downtime through better network design
- Stronger cybersecurity posture for industrial networks
- Readiness to implement Industry 4.0 technologies

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings – Overview of IIoT concepts, industrial networking, and automation architectures
- Case Studies – Real-world examples of IIoT-enabled automation systems
- Workshops – Network design exercises and system integration scenarios
- Peer Exchange – Group discussions on implementation challenges and solutions
- Tools – Reference architectures, protocol comparison charts, and best-practice guidelines

Course Outline

Detailed 3-Day Course Outline

Training Hours: 7:30 AM – 3:30 PM Daily Format: 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Fundamentals of IIoT and Industrial Networking

Module 1: Introduction to IIoT and Industry 4.0 (07:30 – 09:30)

- Evolution of industrial automation and IIoT
- Key IIoT components and architecture
- Role of data and connectivity in smart factories

Module 2: Industrial Networking Basics (09:45 – 11:15)

- OSI model and industrial Ethernet
- Network topologies and architectures
- Deterministic vs non-deterministic networks

Module 3: Industrial Communication Protocols (11:30 – 01:00)

- Modbus, Profibus, Profinet, EtherNet/IP
- OPC UA and MQTT for IIoT
- Protocol selection criteria

Module 4: Hands-on Network Design Workshop (02:00 – 03:30)

- Designing basic industrial networks
- Device addressing and segmentation
- Practical integration scenarios

Day 2: IIoT Integration and Cybersecurity

- PLC, SCADA, and IIoT platform integration
- Edge computing and data acquisition
- Cybersecurity risks in industrial networks
- Network segmentation and secure communication

Day 3: Advanced Applications and Best Practices

- Smart sensors and predictive maintenance
- Cloud and on-premise IIoT solutions
- Troubleshooting industrial networks
- Best practices, standards, and future trends

Certification

Participants will receive a Certificate of Completion in IIoT & Industrial Networking for Automation Engineers, validating their competence in industrial networking, IIoT integration, and automation system connectivity for modern industrial environments.

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