



*Training Course:
Strategic Production Engineering for Smart
Manufacturing*

*10 - 14 August 2025
Dubai (UAE)*

Residence Inn by Marriott Sheikh Zayed Road, Dubai

Training Course: Strategic Production Engineering for Smart Manufacturing

Training Course code: EN236137 From: 10 - 14 August 2025 Venue: Dubai (UAE) - Residence Inn by Marriott Sheikh Zayed Road, Dubai Training Course Fees: 5300 € Euro

Introduction

Production Engineering is evolving to meet the demands of smart manufacturing, digital transformation, and global competitiveness. Organizations require a new generation of engineers who not only understand traditional manufacturing systems, but can also lead innovation, automation, and continuous improvement initiatives.

This 5-day training program is designed to equip professionals with a strategic understanding of modern production engineering practices, including digital integration, system optimization, data-driven operations, and agile manufacturing methods. Participants will explore how to build flexible, efficient, and intelligent production systems aligned with Industry 4.0.

Course Objectives

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

- Understand the role of production engineering in digital and smart manufacturing.
- Design efficient and adaptive production systems.
- Apply tools for real-time monitoring, automation, and performance optimization.
- Use data analytics to improve decision-making and operational control.
- Integrate lean, agile, and sustainable practices into production strategies.

Target Audience

This program is ideal for professionals in engineering, operations, and industrial management, including:

- Production Engineers and Plant Managers.
- Industrial and Systems Engineers.
- Process Improvement Specialists.
- Manufacturing and Operations Leaders.
- R&D and Automation Engineers.

Outlines

Day 1: The Future of Production Engineering

- Evolution of production systems in the era of smart manufacturing.
- Key trends: digitalization, connectivity, real-time control.
- Role of production engineering in Industry 4.0.
- Interactive workshop: Assessing your current production maturity level.

Day 2: Smart Systems Design & Optimization

- Designing agile and flexible production lines.
- Integrating sensors, IoT, and cyber-physical systems.
- Simulation tools and digital twins for production planning.
- Case study: Optimizing a digital production flow.

Day 3: Real-Time Monitoring & Automation

- Smart automation: robotics, PLCs, and machine learning.
- Production monitoring systems SCADA, MES.
- Predictive maintenance using AI and sensor data.
- Hands-on session: Building a simple smart monitoring plan.

Day 4: Data-Driven Production Engineering

- Using production data for performance analysis.
- Key KPIs: throughput, downtime, cycle time, yield.
- Data visualization dashboards for operations control.
- Workshop: Creating a data-driven decision support model.

Day 5: Agile, Lean & Sustainable Production

- Integrating lean and agile practices in modern factories.

- Sustainable engineering and resource-efficient design.
- Managing rapid change and continuous improvement.
- Group exercise: Designing a lean-smart production system.

Registration form on the Training Course: Strategic Production Engineering for Smart Manufacturing

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