MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

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THE INTERNET OF THINGS (IOT) IN MANUFACTURING

"Harnessing IoT to Revolutionize Manufacturing Efficiency, Quality, and Innovation"

Schedule

Date	Venue	Fees (Face-to-Face)
24 – 28 Aug 2026	London - UK	USD 3495 per delegate

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

Introduction

The Internet of Things (IoT) is transforming the manufacturing industry by enabling real-time data collection, advanced analytics, and enhanced automation. This 5-day intensive course covers the principles, technologies, and practical applications of IoT in manufacturing. Participants will gain an in-depth understanding of how IoT can optimize production processes, reduce downtime, and improve product quality.

The course will explore the integration of IoT technologies in manufacturing systems, how to collect and analyze data from connected devices, and how to implement IoT solutions to improve operational efficiency. Real-world case studies and hands-on workshops will allow participants to gain practical skills in deploying IoT systems within manufacturing environments.

Objectives

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

- Understand the core principles and technologies behind IoT in manufacturing
- Identify the key components and architecture of IoT systems
- Implement IoT solutions to monitor, control, and optimize manufacturing processes
- Analyze data collected from IoT devices to make informed decisions
- Develop a roadmap for IoT adoption and integration in manufacturing organizations
- Overcome challenges associated with implementing IoT in manufacturing environments

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Why Attend

- Gain insights into the transformative power of IoT in modern manufacturing
- Learn how to design and implement IoT-based solutions to optimize production lines and reduce operational costs
- Enhance your ability to leverage real-time data for predictive maintenance, quality control, and process optimization
- Understand the challenges and best practices for implementing IoT in complex manufacturing systems
- Acquire hands-on experience in deploying IoT devices and systems in a manufacturing environment

Target Audience

This program is designed for:

- Manufacturing engineers, operations managers, and plant managers
- IoT professionals and technology managers in the manufacturing industry
- Data scientists and analysts involved in industrial IoT data management
- IT professionals responsible for implementing IoT infrastructure in manufacturing systems
- Anyone interested in learning how IoT can optimize manufacturing and improve operational efficiency

Individual Benefits

Key competencies that will be developed include:

- A comprehensive understanding of IoT technologies and their applications in manufacturing
- The ability to integrate IoT systems into manufacturing processes for enhanced performance
- Practical skills in analyzing IoT data for decision-making and process optimization
- Knowledge of IoT-based predictive maintenance strategies to minimize downtime
- The capability to design and implement cost-effective IoT solutions in manufacturing

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Enhanced efficiency in manufacturing processes through the use of IoT solutions
- Improved ability to reduce downtime and maintenance costs by leveraging predictive maintenance tools
- Better decision-making through real-time data insights from IoT devices
- A stronger ability to implement IoT technologies to enhance product quality and operational performance
- Reduced operational costs and increased overall productivity by leveraging connected systems and automation

Instructional Methodology

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

- Strategy Briefings – Deep dive into IoT technologies, architecture, and their applications in manufacturing
- Case Studies – Real-world examples of IoT implementation in manufacturing environments and the lessons learned
- Workshops – Hands-on exercises to deploy and manage IoT devices, and analyze data for process optimization
- Peer Exchange – Group discussions and knowledge sharing on challenges and successes in IoT implementation
- Tools – Practical tools for IoT data analysis, device management, and system integration

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Course Outline

Detailed 5-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: Introduction to IoT and Its Role in Manufacturing

- Module 1: Overview of IoT Technologies (07:30 – 09:30)
- Introduction to the Internet of Things (IoT) and its role in modern manufacturing
- Key components of an IoT system (sensors, devices, connectivity, and data processing)
- IoT architecture and how it integrates with manufacturing operations
- Module 2: IoT Benefits in Manufacturing (09:45 – 11:15)
- How IoT enhances efficiency, productivity, and decision-making in manufacturing
- Real-time monitoring, predictive maintenance, and quality control applications
- Case study: IoT success stories in manufacturing
- Module 3: Key IoT Devices and Connectivity (11:30 – 01:00)
- Understanding IoT devices (sensors, actuators, and controllers) used in manufacturing
- Connectivity technologies (Wi-Fi, Bluetooth, LPWAN, etc.) for IoT
- Choosing the right IoT devices and connectivity for specific manufacturing needs

Day 2: Implementing IoT Solutions in Manufacturing

- Module 4: IoT Data Collection and Integration (07:30 – 09:30)
- Methods for collecting data from IoT devices in manufacturing environments
- Data integration challenges and strategies for effective data management
- Building an IoT infrastructure to handle large volumes of real-time data
- Module 5: IoT in Process Optimization and Automation (09:45 – 11:15)
- Leveraging IoT for real-time process optimization and automation in manufacturing
- Designing and implementing automated manufacturing systems using IoT
- Case study: IoT-enabled process optimization in a production facility
- Module 6: Data Analytics for Manufacturing Decisions (11:30 – 01:00)
- How to analyze data generated by IoT devices to improve decision-making
- Tools for IoT data analysis and visualization in manufacturing settings
- Practical examples of using IoT data for operational efficiency

Day 3: Advanced IoT Applications and Predictive Maintenance

- Module 7: Predictive Maintenance with IoT (07:30 – 09:30)
- Introduction to predictive maintenance strategies using IoT technology
- Identifying equipment failure patterns and predicting maintenance needs with IoT data
- Implementing predictive maintenance programs and monitoring systems
- Module 8: IoT for Quality Control and Traceability (09:45 – 11:15)
- How IoT improves product quality through real-time monitoring
- Using IoT for traceability in manufacturing processes (tracking product and component history)
- Implementing IoT solutions to meet quality standards and compliance
- Module 9: Advanced IoT Solutions for Complex Manufacturing Systems (11:30 – 01:00)
- IoT applications in complex and large-scale manufacturing environments
- Integrating IoT with existing systems (ERP, SCADA, MES) for seamless operation
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Challenges and strategies for scaling IoT solutions in large manufacturing plants

Day 4: Security, Scalability, and Integration Challenges

- Module 10: IoT Security in Manufacturing (07:30 – 09:30)
- Understanding IoT security risks in manufacturing systems
- Best practices for securing IoT devices and networks in manufacturing environments
- Case study: Addressing IoT security breaches in a manufacturing company
- Module 11: Scalability and Future of IoT in Manufacturing (09:45 – 11:15)
- How to scale IoT solutions as manufacturing operations grow
- Future trends in IoT and their potential impact on the manufacturing industry
- Developing a roadmap for IoT scalability and adoption in manufacturing
- Module 12: IoT Integration with Legacy Systems (11:30 – 01:00)
- Challenges of integrating IoT with legacy manufacturing systems
- Strategies for smooth integration and minimizing disruption to existing operations
- Case study: Successful IoT integration in a legacy manufacturing facility

Day 5: Certification and Course Review

- Module 13: Real-World Case Studies and Best Practices (07:30 – 09:30)
- Review of case studies demonstrating the impact of IoT in manufacturing
- Discussion on lessons learned and best practices for IoT implementation
- Module 14: Review and Final Q&A (09:45 – 11:15)
- Recap of key concepts covered during the course
- Final Q&A session to clarify doubts and questions
- Module 15: Certification and Course Closure (11:30 – 01:00)
- Distribution of certificates of completion
- Closing remarks and networking opportunity

Certification

Participants will receive a Certificate of Completion in IoT for Manufacturing, validating their expertise in IoT technologies, data analysis, and implementation strategies in manufacturing environments.

Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
- **Industry-Leading Faculty:** Courses delivered by seasoned professionals with hands-on experience.
- **Practical Insights:** Learn to turn theory into actionable strategies for real-world business impact.
- **Client-Focused Solutions:** Customized programs designed to achieve your organisation’s unique goals.

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