

# MASTERING APM & MAINTENANCE 4.0 FOR OPERATIONAL EXCELLENCE

*"Transform Maintenance Practices with Advanced APM and Industry 4.0 Tools"*

## Schedule

Date	Venue	Fees (Face-to-Face)
10 - 14 May 2026	Manama, Bahrain	USD 3495 per delegate

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

## Introduction

Asset Performance Management (APM) and Maintenance 4.0 are driving the next generation of operational excellence in industrial organizations. Integrating advanced analytics, predictive maintenance, and digital technologies ensures optimal asset reliability, reduced downtime, and enhanced productivity. This intensive 5-day training equips participants with practical skills and knowledge to implement APM strategies and Maintenance 4.0 practices effectively.

The course covers APM frameworks, predictive and preventive maintenance techniques, digital tools, condition monitoring, and performance optimization. Participants will engage in hands-on exercises, case studies, and workshops to apply modern maintenance strategies that enhance operational efficiency, reduce costs, and drive sustainable performance.

## Objectives

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

- Understand APM principles and Maintenance 4.0 concepts
- Implement predictive and preventive maintenance strategies
- Utilize digital tools and analytics for asset monitoring and optimization
- Enhance equipment reliability and operational performance
- Apply condition-based monitoring and data-driven maintenance decisions
- Integrate Maintenance 4.0 practices into organizational workflows
- Drive cost reduction, efficiency, and sustainable operational excellence

## Why Attend

- Learn how to optimize asset performance and reliability
- Gain expertise in predictive and preventive maintenance strategies
- Enhance operational efficiency and reduce unplanned downtime
- Understand and apply Maintenance 4.0 digital tools and technologies
- Improve organizational decision-making and performance monitoring

## Target Audience

This program is designed for:

- Maintenance managers and engineers
- Reliability engineers and asset managers
- Operations and production managers
- Technical supervisors and team leaders
- Professionals seeking advanced knowledge of APM and Maintenance 4.0

## Individual Benefits

Key competencies that will be developed include:

- Knowledge of APM frameworks and Maintenance 4.0 practices
- Skills in predictive, preventive, and condition-based maintenance
- Competence in digital tools, analytics, and performance monitoring
- Ability to optimize asset lifecycle and reduce maintenance costs
- Enhanced problem-solving and decision-making capabilities
- Improved professional credibility in maintenance and reliability management

## Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved asset reliability and operational efficiency
- Reduced downtime and maintenance-related costs
- Enhanced integration of predictive and preventive maintenance strategies
- Strengthened organizational performance monitoring and decision-making
- Better adoption of digital technologies for operational excellence
- Increased competitiveness and sustainable performance outcomes

## Instructional Methodology

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

- Strategy Briefings - Fundamentals of APM, Maintenance 4.0, and reliability management
- Case Studies - Real-world examples of operational excellence and maintenance improvements
- Workshops - Hands-on exercises in predictive maintenance, condition monitoring, and analytics
- Peer Exchange - Group discussions on challenges and lessons learned in maintenance
- Tools - Templates, monitoring dashboards, data analytics tools, and performance assessment frameworks

## MAWA EVENTS

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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 APM and Maintenance 4.0

##### Module 1: Fundamentals of Asset Performance Management (07:30 – 09:30)

- Overview of APM concepts and frameworks
- Role of maintenance in operational excellence

##### Module 2: Maintenance 4.0 Principles (09:45 – 11:15)

- Digitalization, IoT, and Industry 4.0 in maintenance
- Key technologies and trends

##### Module 3: Maintenance Strategy Assessment (11:30 – 01:00)

- Evaluating current maintenance practices
- Identifying gaps and opportunities for improvement

#### Day 2: Preventive and Predictive Maintenance Techniques

##### Module 4: Preventive Maintenance Planning (07:30 – 09:30)

- Developing effective preventive maintenance schedules
- Best practices and optimization techniques

##### Module 5: Predictive Maintenance Methods (09:45 – 11:15)

- Condition-based monitoring and predictive analytics
- Techniques for early detection of potential failures

##### Module 6: Workshop: Maintenance Planning Exercises (11:30 – 01:00)

- Hands-on exercises for preventive and predictive maintenance
- Scenario analysis and decision-making

#### Day 3: Digital Tools and Data Analytics

##### Module 7: Maintenance 4.0 Technologies (07:30 – 09:30)

- IoT sensors, AI, and machine learning applications
- Digital twins and monitoring dashboards

##### Module 8: Data Analytics for Maintenance (09:45 – 11:15)

- Analyzing asset data to drive decisions
- KPI development and performance tracking

##### Module 9: Workshop: Analytics and Monitoring (11:30 – 01:00)

- Practical exercises using digital tools and dashboards
- Data-driven maintenance planning

#### Day 4: Reliability and Performance Optimization

##### Module 10: Reliability Engineering Concepts (07:30 – 09:30)

- Failure modes, effects, and criticality analysis (FMEA/FMECA)
- Reliability-centered maintenance (RCM)

##### Module 11: Performance Optimization Techniques (09:45 – 11:15)

- Enhancing equipment uptime and operational efficiency
- Cost reduction and resource optimization strategies

##### Module 12: Workshop: Reliability and Optimization Exercises (11:30 – 01:00)

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Applying reliability analysis and optimization techniques

- Group exercises and case studies

Day 5: Implementation and Continuous Improvement

Module 13: APM and Maintenance 4.0 Implementation (07:30 – 09:30)

- Integration into organizational workflows
- Change management and team alignment

Module 14: Continuous Improvement and KPI Tracking (09:45 – 11:15)

- Monitoring performance and iterative improvements
- Lessons learned and sustainability

Module 15: Case Studies and Action Planning (11:30 – 01:00)

- Real-world success stories
- Developing personalized implementation roadmaps

### Certification

Participants will receive a Certificate of Completion in Mastering APM & Maintenance 4.0 for Operational Excellence, validating their expertise in advanced asset performance management, predictive maintenance, and digital maintenance strategies for operational excellence.

### Why Choose MAWA Events

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