MAWA EVENTS

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

Phone: +601116373203 | **Email:** info@mawaevents.net

ASSET RELIABILITY & MAINTENANCE MANAGEMENT

"Maximizing Asset Performance Through Proactive Maintenance and Reliability Strategies""

Schedule

Date	Venue	Fees (Face-to-Face)
05 – 09 Jan 2026	Kuala Lumpur, Malaysia	USD 3495 per delegate
13 – 17 Jul 2026	Dubai, UAE	USD 3495 per delegate

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

Introduction

Asset-intensive organizations rely on the consistent availability and performance of physical assets to meet operational, safety, and business goals. Poor maintenance leads to increased downtime, higher costs, and reduced asset life, while effective asset reliability strategies improve productivity, safety, and profitability.

This comprehensive five-day training provides maintenance engineers, asset managers, and operations professionals with best practices, frameworks, and tools to optimize asset reliability. It covers condition-based maintenance, reliability-centered maintenance (RCM), failure mode analysis, and the integration of technology to reduce risk and maximize return on assets.

Objectives

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

- Understand the principles of asset reliability and maintenance strategy selection.
- Develop and implement preventive and predictive maintenance programs.
- Apply failure modes and effects analysis (FMEA) and root cause analysis (RCA).
- Use key performance indicators (KPIs) to assess maintenance effectiveness.
- Extend asset life cycles and reduce maintenance-related downtime.
- Align maintenance activities with operational and strategic objectives.

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Why Attend

- Learn practical tools to reduce equipment failure and unplanned outages.
- Improve reliability without increasing maintenance cost.
- Implement risk-based maintenance approaches tailored to your operation.
- Align maintenance with production, safety, and financial performance.
- Improve teamwork between reliability, operations, and engineering departments.

Target Audience

This program is designed for:

- Maintenance engineers and asset reliability specialists
- Engineering and operations managers
- Plant and facilities managers
- Maintenance planners and supervisors
- Professionals responsible for maintenance planning and performance

Individual Benefits

Key competencies that will be developed include:

- Asset reliability planning and risk management
- Maintenance strategy design and execution
- Condition monitoring and failure diagnostics
- Use of CMMS and data in reliability programs
- Performance analysis and continuous improvement

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Reduced downtime and maintenance costs
- Higher equipment availability and OEE (Overall Equipment Effectiveness)
- Improved planning and resource utilization
- Enhanced safety and environmental compliance
- Greater return on capital equipment investments

Instructional Methodology

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

- Technical Briefings – Best practices in reliability and maintenance
- Workshops – Strategy selection, failure analysis, and planning tools
- Case Studies – Industry-specific maintenance challenges
- Exercises – FMEA, RCA, KPI analysis, and work order planning
- Templates – Maintenance plan formats, risk matrices, inspection sheets
- Interactive Sessions – Team reviews and group diagnostics

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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: Foundations of Reliability & Maintenance Management

- **Module 1: Asset Management Principles (07:30 – 09:30)**
- Role of maintenance in asset management
- Reactive vs. preventive vs. predictive strategies
- ISO 55000 and PAS 55 alignment
- **Module 2: Maintenance Strategy Development (09:45 – 11:15)**
- Maintenance philosophies and planning hierarchy
- Strategy selection tools (criticality, risk, and cost)
- Asset categorization and prioritization
- **Module 3: Reliability Engineering Fundamentals (11:30 – 01:00)**
- Reliability metrics: MTBF, MTTR, and availability
- Understanding degradation and failure patterns
- Reliability vs. maintainability vs. supportability
- **Module 4: Group Exercise – Strategy Selection Case (02:00 – 03:30)**
- Teams apply strategy planning tools to a sample asset list

Day 2: Failure Analysis & Maintenance Optimization

- **Module 5: Failure Modes and Effects Analysis (FMEA) (07:30 – 09:30)**
- Identifying potential failures and root causes
- Risk prioritization numbers (RPNs) and criticality scoring
- Integration with asset hierarchy and work orders
- **Module 6: Root Cause Analysis (RCA) (09:45 – 11:15)**
- RCA process and tools (fishbone, 5 Whys, fault tree)
- Identifying systemic vs. incidental failure
- RCA reporting and response design
- **Module 7: Preventive & Predictive Maintenance (11:30 – 01:00)**
- Interval planning and checklist creation
- Vibration, oil, thermography, and ultrasonic methods
- Sensor-based condition monitoring
- **Module 8: Workshop – FMEA + RCA Application (02:00 – 03:30)**
- Practice analyzing a sample breakdown and suggesting improvements

Day 3: Maintenance Execution and Performance Monitoring

- **Module 9: Planning, Scheduling & Work Management (07:30 – 09:30)**
- Planning principles and work order process
- CMMS roles and structure
- Backlog management and schedule compliance
- **Module 10: KPIs and Maintenance Performance Metrics (09:45 – 11:15)**
- KPIs: PM compliance, OEE, cost per failure, wrench time
- Data-driven reliability improvement
- Benchmarking and balanced scorecards
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Module 11: Maintenance Budgeting and Cost Control (11:30 – 01:00)

- Capex vs. Opex in maintenance
- Life cycle costing and repair/replace decisions
- Cost tracking and cost avoidance calculations
- **Module 12: Simulation – Planning & KPI Challenge (02:00 – 03:30)**
- Participants build a mini KPI dashboard and maintenance plan

Day 4: Risk, Safety & Asset Life Cycle Management

- **Module 13: Risk-Based Maintenance (07:30 – 09:30)**
- Integrating risk into maintenance decisions
- Reliability-centered maintenance (RCM) overview
- Risk registers and maintenance task selection
- **Module 14: Safety and Environmental Considerations (09:45 – 11:15)**
- Linking safety with asset reliability
- Permit to work, LOTO, and regulatory standards
- Environmental impact and compliance risks
- **Module 15: Life Cycle Asset Management (11:30 – 01:00)**
- Design for reliability and maintainability
- End-of-life planning and disposal
- Total asset cost-of-ownership modeling
- **Module 16: Workshop – Life Cycle and Risk Strategy Plan (02:00 – 03:30)**
- Group project integrating risk and asset cost decisions

Day 5: Integration, Digital Tools & Continuous Improvement

- **Module 17: Digitalization in Maintenance (07:30 – 09:30)**
- Industry 4.0, IIoT, and smart asset monitoring
- CMMS, EAM, and mobile maintenance platforms
- Predictive analytics and AI in maintenance
- **Module 18: Continuous Improvement in Maintenance (09:45 – 11:15)**
- Kaizen, TPM, and lean maintenance principles
- Daily management and continuous learning
- Engaging the workforce in reliability culture
- **Module 19: Final Review & Team Presentations (11:30 – 01:00)**
- Group recap and integrated project showcase
- Review of lessons learned
- **Module 20: Certification Briefing and Wrap-Up (02:00 – 03:30)**
- Feedback, certificates, and next-step planning

Certification

Participants who complete the program will receive a **Certificate of Completion in Asset Reliability & Maintenance Management** , recognizing their readiness to lead asset performance improvement initiatives across industries.

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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.
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