

INDUSTRIAL PLANT OPERATIONAL & MAINTENANCE OPTIMIZATION WITH PERFORMANCE RELIABILITY EXCELLENCE

“Maximizing Asset Performance Through Operational Discipline, Maintenance Strategy, and Reliability Integration”

Schedule

Date	Venue	Fees
09 - 13 Feb 2026	Dubai, UAE	USD 3495 per delegate

Introduction

Industrial plants face constant pressure to increase reliability, reduce downtime, and improve asset performance—without escalating operational costs. The key to achieving these objectives lies in aligning operational and maintenance functions under a unified framework of performance and reliability excellence.

This intensive 5-day course is designed to equip plant professionals with the methodologies, tools, and practical insights required to optimize operations and maintenance strategies. Through case studies, group activities, and structured modules, participants will gain a deep understanding of how to drive continuous improvement in equipment performance, reduce unplanned failures, and enhance plant reliability metrics.

Objectives

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

- Apply principles of reliability-centered operations to industrial plant environments
- Align maintenance practices with performance, safety, and business goals
- Optimize preventive, predictive, and corrective maintenance strategies
- Use data and KPIs to drive decisions that improve asset availability
- Foster a culture of cross-functional reliability improvement

Why Attend

- Learn how to reduce maintenance-related downtime and failures
- Improve equipment availability, OEE, and lifecycle performance
- Bridge the gap between operations and maintenance through aligned goals
- Gain tools and templates to apply reliability engineering and continuous improvement
- Benchmark against world-class maintenance and operational excellence models

Target Audience

This program is designed for:

- Plant operations and maintenance managers
- Reliability engineers and planners
- Mechanical, electrical, and instrumentation engineers
- Maintenance supervisors and asset management professionals
- Plant-based improvement team members and performance auditors

Individual Benefits

Key competencies that will be developed include:

- Integrated understanding of operations and maintenance optimization
- Capability to implement proactive and reliability-focused strategies
- Skills to lead performance and cost improvement initiatives
- Enhanced decision-making using reliability data and KPIs
- Confidence in aligning team goals with plant performance objectives

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Reduced downtime and improved plant reliability
- Better coordination between maintenance and production teams
- Increased asset lifecycle and ROI through improved planning
- Standardized procedures for condition monitoring and failure prevention
- Stronger maintenance culture and continuous improvement systems

Instructional Methodology

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

- Strategy Briefings - Models of operational excellence, maintenance maturity, and reliability pillars
- Case Studies - Industrial plant success stories with reliability and O&M alignment
- Workshops - Real-life scenario analysis and implementation planning
- Peer Exchange - Interactive discussions on optimization challenges and plant-specific cases
- Tools - Reliability KPIs, failure mode tracking sheets, and asset hierarchy templates

MAWA EVENTS

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

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



Course Outline

DETAILED 5-DAY COURSE OUTLINE

Training Hours: 07:30 AM – 03:30 PM **Daily Format:** 3-4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Foundations of Plant Reliability and Operational Optimization

- Module 1: Principles of Performance and Reliability Excellence (07:30 – 09:30) • The role of reliability in plant performance • Understanding the performance-reliability-cost triangle • Critical success factors in O&M optimization
- Module 2: Asset Hierarchy and Criticality Analysis (09:45 – 11:15) • Creating and managing an asset hierarchy • Determining equipment criticality • Linking asset criticality to strategy development
- Module 3: Maintenance Strategy Selection (11:30 – 01:00) • Reactive, preventive, predictive, and condition-based maintenance • Aligning strategy with risk and failure profiles • Optimization of maintenance intervals and resource usage
- Module 4: Workshop – Maintenance Strategy Review (02:00 – 03:30) • Review and gap analysis of current maintenance plans • Group activity: developing strategy for critical equipment • Feedback and discussion

Day 2: Performance Monitoring and Reliability Tools

- Module 1: Key Reliability Metrics and Indicators (07:30 – 09:30) • MTBF, MTTR, OEE, and other KPIs explained • Data-driven decision-making in plant operations • Dashboards and reporting for reliability
- Module 2: Root Cause Failure Analysis (RCFA) (09:45 – 11:15) • RCFA principles and process • Tools: 5 Whys, fishbone diagrams, failure tree • RCFA documentation and lessons learned
- Module 3: Reliability-Centered Maintenance (RCM) Concepts (11:30 – 01:00) • Core concepts and structure of RCM • Failure modes and effects analysis (FMEA) • RCM implementation planning
- Module 4: Workshop – RCFA Application (02:00 – 03:30) • Case study: equipment failure analysis • Identifying causes and corrective measures • Sharing group insights

Day 3: Operational Discipline and Maintenance Planning

- Module 1: Maintenance Planning and Scheduling Best Practices (07:30 – 09:30) • Planning process flow and planner role • Work order management and prioritization • Weekly scheduling practices
- Module 2: Shutdown and Turnaround Optimization (09:45 – 11:15) • Turnaround strategy and planning stages • Risk-based scope definition and resource alignment • Lessons learned from past shutdowns
- Module 3: Work Execution and Performance Control (11:30 – 01:00) • Field supervision and work control measures • Job completion and performance feedback • Safety and permit-to-work integration
- Module 4: Workshop – Maintenance Planning Case (02:00 – 03:30) • Analyze a planning and scheduling scenario • Identify improvement points • Discussion and review

Day 4: Digitalization, CMMS, and Predictive Technologies

- Module 1: Leveraging CMMS for Operational Insight (07:30 – 09:30) • CMMS data structure and reporting capability • Work history, backlog analysis, and KPI tracking • Maintenance libraries and asset registers
- Module 2: Condition Monitoring Techniques (09:45 – 11:15) • Vibration, thermography, oil analysis, and ultrasonic testing • Selecting techniques based on failure mode • Data collection and analysis methods
- Module 3: Digital Tools for Reliability (11:30 – 01:00) • Using dashboards and mobile tools in maintenance • Predictive analytics and machine learning basics • Digital transformation of O&M
- Module 4: Group Activity – CMMS Performance Assessment (02:00 – 03:30) • Review of CMMS reports and outputs • What to improve and how • Sharing practical experiences

Day 5: Reliability Leadership and Continuous Improvement

- Module 1: Building a Culture of Reliability (07:30 – 09:30) • Leadership principles in plant reliability • Engagement strategies for O&M teams • Behavior-based reliability and ownership

- Module 2: Continuous Improvement Models (09:45 – 11:15) • PDCA, DMAIC, and other improvement cycles • Reliability audits and review processes • Performance-based incentives and KPI alignment
- Module 3: Final Workshop – Integrated Optimization Plan (11:30 – 01:00) • Teams create a plant optimization roadmap • Peer reviews and presentation • Implementation discussion
- Module 4: Final Wrap-Up and Q&A (02:00 – 03:30) • Personal action plans and lessons learned • Final Q&A with trainer • Certification and closing

Certification

Participants will receive a Certificate of Completion in Industrial Plant Operational & Maintenance Optimization with Performance Reliability Excellence, validating their expertise in implementing reliability-centered, performance-driven strategies to improve the productivity and effectiveness of industrial plant operations.

Why Choose MAWA Events

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Please contact us:

TEL:

+601116373203

EMAIL:

info@mawaevents.net

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