MAWA EVENTS

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

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

OPTIMIZING EQUIPMENT MAINTENANCE & REPLACEMENT DECISIONS

"Make Smarter, Cost-Effective Decisions to Maximize Equipment Life and Performance."

Schedule

Venue (InHouse)	Fees
At Your Organization Premises	Ask For The Quotation

► **Available delivery methods:** In-House Training

Introduction

This intensive 5-day training program focuses on how to make informed, data-driven decisions regarding the maintenance, repair, and replacement of industrial equipment. Participants will explore techniques for life cycle costing, condition-based monitoring, and maintenance optimization, along with asset risk analysis and failure forecasting. The course bridges engineering, finance, and operations to develop strategies that reduce downtime, control costs, and enhance asset reliability.

Objectives

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

- Apply life cycle costing (LCC) and total cost of ownership (TCO) models
- Evaluate maintenance and replacement trade-offs quantitatively
- Use reliability-centered and risk-based maintenance frameworks
- Analyze failure trends and predict optimal replacement timing
- Align asset strategies with operational and financial goals

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Why Attend

Effective equipment decisions directly impact plant availability, safety, and profitability. This course empowers professionals to optimize resource allocation, extend asset life, and support sustainable operational strategies.

Target Audience

- Maintenance and Reliability Engineers
- Asset and Equipment Managers
- Financial Analysts and Plant Managers
- Operations Engineers and Technical Planners
- Procurement and Lifecycle Asset Strategists

Individual Benefits

- Strengthen your ability to evaluate maintenance economics
- Improve predictive thinking and asset risk evaluation
- Support capital planning and ROI-focused decision-making
- Increase confidence in equipment investment recommendations

Organizational Benefits

- Reduce total lifecycle cost of equipment
- Improve forecasting of equipment needs and failures
- Optimize maintenance schedules and minimize downtime
- Enhance collaboration between engineering and finance teams

Instructional Methodology

- Real-world case studies from multiple industries
- Group exercises in LCC, RCFA, and replacement analysis
- Hands-on modeling of maintenance scenarios
- Interactive workshops and simulation tools
- Daily knowledge checks and final evaluation

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Course Outline

DETAILED 5-DAY COURSE OUTLINE (CUSTOMIZABLE)

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 Equipment Strategy & Lifecycle Costing

- Module 1: Introduction to Asset Lifecycle and Reliability Principles (07:30 – 09:30)
- Module 2: Total Cost of Ownership (TCO) vs. Life Cycle Costing (LCC) (09:45 – 11:15)
- Module 3: Key Cost Drivers in Maintenance and Equipment Selection (11:30 – 01:00)
- Module 4: Case Study: LCC Comparison of Equipment Alternatives (02:00 – 03:30)

Day 2: Maintenance Optimization Approaches

- Module 1: Preventive vs Predictive vs Condition-Based Maintenance (07:30 – 09:30)
- Module 2: Risk-Based Maintenance (RBM) & Reliability-Centered Maintenance (RCM) (09:45 – 11:15)
- Module 3: Failure Data Collection and MTBF, MTTR Analysis (11:30 –01:00)
- Module 4: Maintenance Modeling for Cost-Effectiveness (02:00 – 03:30)

Day 3: Replacement Strategies and Economic Evaluation

- Module 1: Economic Life of Equipment – Theoretical Foundations (07:30 – 09:30)
- Module 2: Net Present Value (NPV), ROI, and Payback for Equipment Projects (09:45 – 11:15)
- Module 3: Decision Rules for Repair vs Replace Dilemmas (11:30 – 01:00)
- Module 4: Practical Exercise – Replacement Analysis Using Spreadsheet Tools (02:00 – 03:30)

Day 4: Forecasting, Risk, and Reliability Assessment

- Module 1: Failure Mode Effects and Criticality Analysis (FMECA) (07:30 – 09:30)
- Module 2: Using Weibull Analysis for Failure Forecasting (09:45 – 11:15)
- Module 3: Integrating Condition Monitoring Data in Decisions (11:30 – 01:00)
- Module 4: Workshop – Risk and Reliability in Capital Planning (02:00 – 03:30)

Day 5: Implementation & Strategic Alignment

- Module 1: Aligning Equipment Decisions with Asset Management Strategy (07:30 – 09:30)
- Module 2: Communication with Stakeholders: Engineering, Finance & Operations (09:45 – 11:15)
- Module 3: Group Simulation – Optimize a Multi-Asset Portfolio (11:30 – 01:00)
- Module 4: Final Exam, Certification Wrap-Up, and Action Planning (02:00 – 03:30)

Certification

Participants who successfully complete the training and assessments will be awarded a Certificate of Completion—Optimizing Equipment Maintenance & Replacement Decisions. This program supports CPD hours and contributes toward professional development goals in maintenance and asset management.

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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In-House / Customized Training Interested in running this course for your team? Please contact us:	TEL: **+601116373203**	EMAIL: **info@mawaevents.net**

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