MAWA EVENTS

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

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

LEAN SIX SIGMA PRINCIPLES IN PLANT MAINTENANCE

"Reducing Downtime, Enhancing Efficiency & Driving Continuous Improvement"

Schedule

Date	Venue	Fees (Face-to-Face)
27 – 29 Oct 2026	Kuwait	USD 2495 per delegate

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

Introduction

Plant maintenance is a critical function that directly affects safety, productivity, and cost efficiency. Applying Lean Six Sigma principles to plant maintenance allows organizations to minimize downtime, eliminate waste, and standardize best practices across maintenance operations.

This course provides participants with a strong foundation in Lean Six Sigma methodologies, specifically tailored for maintenance professionals. By integrating reliability-centered maintenance with lean tools and statistical thinking, participants will learn how to improve asset performance, reduce failures, and establish a culture of continuous improvement in maintenance management.

Objectives

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

- Apply Lean Six Sigma concepts to plant and equipment maintenance activities
- Identify maintenance-related waste and eliminate non-value-adding activities
- Use root cause analysis, Pareto charts, and basic statistical tools
- Develop preventive and predictive maintenance strategies using DMAIC
- Optimize maintenance workflows, spare parts usage, and technician productivity

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Why Attend

- Learn how Lean and Six Sigma enhance reliability and uptime
- Reduce maintenance costs through standardization and continuous improvement
- Gain practical tools to drive performance and eliminate process inefficiencies
- Enhance your ability to solve chronic maintenance problems using data
- Build a maintenance system focused on quality, speed, and long-term asset health

Target Audience

This program is designed for:

- Maintenance and reliability engineers
- Plant and operations managers
- Mechanical, electrical, and instrumentation technicians
- Continuous improvement coordinators and asset managers
- Anyone responsible for improving maintenance performance and reducing breakdowns

Individual Benefits

Key competencies that will be developed include:

- Lean Six Sigma methodology and its application to maintenance processes
- Root cause analysis and structured problem solving
- Preventive and predictive maintenance planning
- Process mapping, workflow optimization, and maintenance KPIs
- Improved ability to lead continuous improvement projects in maintenance

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved equipment uptime and reduced unplanned outages
- Reduced cost of maintenance through process optimization
- More data-driven decisions and accurate failure analysis
- Consistent application of preventive and predictive maintenance practices
- A stronger culture of quality, accountability, and continuous improvement

Instructional Methodology

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

- Strategy Briefings – Lean Six Sigma DMAIC model and maintenance best practices
- Case Studies – Industrial examples of maintenance process improvements
- Workshops – Hands-on tools: 5 Whys, fishbone diagram, process mapping
- Peer Exchange – Challenges and insights from plant operations across industries
- Tools – RCA templates, OEE calculators, FMEA worksheets

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Course Outline

Detailed 3-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: Lean Six Sigma Foundations for Maintenance

- Module 1: Introduction to Lean Six Sigma (07:30 – 09:30) • Principles of Lean (eliminating waste) and Six Sigma (reducing variation) • Overview of the DMAIC problem-solving methodology • Common maintenance inefficiencies and improvement opportunities
- Module 2: Defining Maintenance Challenges (09:45 – 11:15) • Mapping current maintenance practices and identifying issues • Voice of the Customer (VOC) in maintenance context • Using Pareto analysis to prioritize maintenance problems
- Module 3: Maintenance Waste and Workflow Mapping (11:30 – 01:00) • Types of waste in plant maintenance (motion, waiting, over-processing) • Value stream mapping of maintenance processes • Identifying bottlenecks and non-value-added activities
- Module 4: Workshop – Mapping a Maintenance Process (02:00 – 03:30) • Group activity: creating current-state maintenance workflow • Analysis of improvement opportunities

Day 2: Root Cause, Analysis & Reliability Tools

- Module 1: Analyzing Failures and Downtime (07:30 – 09:30) • Common failure modes and patterns in plant equipment • Root cause analysis: 5 Whys and cause-effect diagrams • Using failure data for decision making
- Module 2: Applying the DMAIC Model to Maintenance (09:45 – 11:15) • Define, Measure, Analyze, Improve, Control • Selecting the right maintenance improvement project • Developing a project charter and identifying KPIs
- Module 3: Reliability-Centered Maintenance (RCM) & Predictive Tools (11:30 – 01:00) • Condition-based and predictive maintenance strategies • Using OEE (Overall Equipment Effectiveness) to guide improvements • FMEA for maintenance planning
- Module 4: Workshop – Conducting a Root Cause Analysis (02:00 – 03:30) • Team-based RCA for a selected equipment failure • Presentation and improvement planning

Day 3: Lean Implementation and Maintenance Performance

- Module 1: Standardization and 5S in Maintenance (07:30 – 09:30) • Standard work and visual management in maintenance • 5S methodology for workshops and storerooms • Building a culture of housekeeping and inspection
- Module 2: Continuous Improvement and KPI Tracking (09:45 – 11:15) • Tracking MTBF, MTTR, PM compliance • Maintenance dashboards and review meetings • Sustaining improvements and minimizing variation
- Module 3: Final Assessment and Action Planning (11:30 – 01:00) • Review of tools and implementation checklist • Action plans for applying Lean Six Sigma in your facility
- Module 4: Wrap-Up and Certificate Distribution (02:00 – 03:30) • Team presentations • Certificates and course close-out

Certification

Participants will receive a Certificate of Completion in Lean Six Sigma Principles for Plant Maintenance, validating their ability to enhance maintenance performance, reliability, and process efficiency using structured Lean and Six Sigma methodologies.

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**