MAWA EVENTS

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

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BIG DATA FOR MAINTENANCE STRATEGIES

"Leveraging Data Intelligence to Optimize Maintenance, Reliability, and Asset Performance."

Schedule

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

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

Introduction

Maintenance has evolved from a reactive and preventive approach to a data-driven and predictive discipline. With the emergence of Big Data technologies, organizations can now analyze large volumes of operational data to forecast failures, optimize maintenance schedules, and improve asset reliability.

This course provides a comprehensive understanding of how Big Data analytics can transform maintenance management. Participants will learn how to collect, process, and analyze maintenance and operational data from sensors, equipment logs, and digital monitoring systems. The training highlights predictive and prescriptive maintenance approaches using data analytics, machine learning, and AI-driven insights to support smarter, faster, and cost-effective maintenance decisions.

By bridging engineering with data science, this program equips professionals with the tools and methodologies required to develop advanced maintenance strategies for modern infrastructure, aviation, transportation, and industrial sectors.

Objectives

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

- Understand the role of Big Data in modern maintenance management.
- Identify data sources from machines, sensors, and IoT systems.
- Apply data analytics to detect patterns, anomalies, and early failure signs.
- Develop predictive maintenance models to minimize downtime.
- Utilize key Big Data tools and platforms for maintenance optimization.
- Evaluate cost-benefit outcomes of data-driven maintenance strategies.
- Implement AI and machine learning solutions in asset management systems.

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Why Attend

This training offers practical and technical insights into how Big Data can revolutionize maintenance operations. Participants will gain the knowledge needed to move beyond traditional maintenance practices and adopt predictive analytics that reduce costs, improve asset lifespan, and ensure operational continuity. The course bridges maintenance engineering, IT, and management, providing a holistic understanding of digital transformation in maintenance.

Target Audience

This course is ideal for:

- Maintenance and Reliability Engineers
- Asset and Operations Managers
- Industrial and Mechanical Engineers
- Data Analysts and IT Professionals in Maintenance
- Facilities Managers and Maintenance Planners
- Aviation, Transport, and Infrastructure Professionals
- Anyone involved in predictive maintenance or asset performance improvement

Individual Benefits

- Learn to integrate data analytics with maintenance decision-making.
- Gain practical exposure to predictive maintenance techniques and tools.
- Improve your ability to interpret sensor and machine data effectively.
- Understand how AI and Big Data can minimize downtime and costs.
- Strengthen your skills for future-ready maintenance roles.
- Enhance your technical and analytical problem-solving capabilities.

Organizational Benefits

- Improve asset performance and reduce equipment failures.
- Lower maintenance costs through data-driven predictive insights.
- Enhance safety and operational reliability.
- Optimize spare parts management and maintenance scheduling.
- Increase overall productivity through intelligent maintenance planning.
- Build organizational capacity in advanced analytics and digital maintenance systems.

Instructional Methodology

The course combines theoretical concepts with hands-on practical learning, including:

- Instructor-led technical sessions and discussions
- Demonstrations of Big Data tools and platforms
- Real-world maintenance case studies and analytics exercises
- Group projects on predictive maintenance applications
- Visualization and dashboard creation workshops
- Interactive problem-solving and best-practice sharing

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Course Outline

Module 1: Introduction to Maintenance Strategies – Reactive, Preventive, and Predictive

Module 2: Understanding Big Data in Maintenance and Operations

Module 3: Data Sources – Sensors, IoT Devices, and Operational Logs

Module 4: Data Collection, Cleaning, and Integration Techniques

Module 5: Predictive Analytics and Machine Learning for Maintenance

Module 6: Tools and Platforms – Hadoop, Spark, and Cloud-Based Solutions

Module 7: Developing a Predictive Maintenance Framework

Module 8: Case Studies – Aviation, Transport, and Industrial Maintenance Analytics

Module 9: Data Visualization and KPI Dashboards for Maintenance Decision-Making

Module 10: Future Trends – AI, Digital Twins, and Smart Asset Management

Certification

Participants who successfully complete the training will receive a Certificate of Completion in Big Data for Maintenance Strategies, recognizing their ability to apply data analytics and AI techniques to enhance maintenance planning, reliability, and performance optimization.

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.

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