MAWA EVENTS

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

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DATA ANALYSIS AND DATA VISUALIZATION IN AUTOMOTIVE INDUSTRY

""Transforming Raw Data into Insightful Visuals to Drive Innovation, Efficiency & Quality in Automotive Operations""

Schedule

Date	Venue	Fees (Face-to-Face)
23 – 27 Mar 2026	London, UK	USD 3495 per delegate

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

Introduction

The automotive industry is undergoing rapid transformation—powered by automation, connectivity, and data. Engineering, manufacturing, quality control, logistics, and marketing all generate massive amounts of structured and unstructured data. To compete in this evolving environment, professionals must be able to extract insights, create visual narratives, and support real-time decision-making using data analytics.

This 5-day intensive course bridges the gap between technical data handling and business insight generation. It introduces key data analysis techniques and cutting-edge visualization tools that support strategic and operational excellence across the automotive value chain.

Objectives

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

- Understand the role of data analytics and visualization in automotive environments
- Analyze automotive operational, engineering, and customer datasets using practical tools
- Build interactive dashboards and dynamic charts for real-time decision support
- Use data storytelling to communicate findings to technical and non-technical audiences
- Apply insights to improve quality, supply chain efficiency, customer satisfaction, and product development

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Why Attend

This program is designed for:

- Data analysts and engineers in automotive or manufacturing sectors
- Quality, operations, and supply chain professionals
- R&D and product development staff
- Marketing and customer insights teams
- Anyone looking to apply data tools to real-world automotive problems

Target Audience

Key competencies that will be developed include:

- Data cleaning, transformation, and analysis
- Visualization design and storytelling principles
- Dashboard development using Power BI and Excel
- Interpretation of technical trends, anomalies, and correlations
- Reporting to both technical and management audiences

Individual Benefits

Upon completing the training course, participants will demonstrate:

- More accurate and timely data-driven decisions
- Improved quality control and root cause analysis
- Enhanced visibility into operational and customer performance
- Reduced downtime and cost through predictive analytics
- Better alignment of technical reporting with business strategy

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- More accurate and timely data-driven decisions
- Improved quality control and root cause analysis
- Enhanced visibility into operational and customer performance
- Reduced downtime and cost through predictive analytics
- Better alignment of technical reporting with business strategy

Instructional Methodology

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

- Strategy Briefings – Data strategy, analytics maturity, and visualization frameworks
- Case Studies – Automotive examples in quality, supply chain, and customer data
- Hands-On Workshops – Dashboard development, data transformation, chart design
- Peer Exchange – Real-world use cases and cross-department applications
- Tools – Excel, Power BI, optional: Python (Pandas), R (ggplot2), data modeling templates

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Course Outline

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

Day 1: Data Foundations and Automotive Context

- Module 1: Automotive Data Ecosystem (07:30 – 09:30) • Sources of data across automotive functions • Structured vs. unstructured data • Real-time vs. historical datasets
- Module 2: Data Cleaning and Preparation (09:45 – 11:15) • Removing duplicates, handling missing data • Data normalization and transformation • Excel and Power Query basics
- Module 3: Workshop – Preparing Automotive Data (11:30 – 01:00) • Data preprocessing for analytics and dashboards

Day 2: Analysis and Exploration Techniques

- Module 4: Descriptive and Diagnostic Analysis (07:30 – 09:30) • Trend, variance, and correlation analysis • Pareto charts, scatter plots, and control charts • Drill-down techniques in Power BI
- Module 5: Root Cause and KPI Monitoring (09:45 – 11:15) • Automotive quality metrics and defect tracking • Cycle time, downtime, yield, and OEE analysis • Linking shop-floor data to performance
- Module 6: Workshop – Analyzing Plant or Vehicle Data (11:30 – 01:00) • Live walkthrough of analysis using Excel and Power BI

Day 3: Data Visualization and Dashboarding

- Module 7: Visualization Principles and Best Practices (07:30 – 09:30) • Choosing the right chart types • Avoiding clutter, distortion, and misinterpretation • Layout, color, and labeling for clarity
- Module 8: Interactive Dashboards in Power BI (09:45 – 11:15) • Filters, slicers, and interactivity • Combining multiple views into single reports • Real-time data feeds and refresh cycles
- Module 9: Workshop – Building a Dashboard (11:30 – 01:00) • Step-by-step development of a plant-level performance dashboard

Day 4: Data-Driven Applications in Automotive

- Module 10: Predictive and Prescriptive Techniques (07:30 – 09:30) • Introduction to regression and forecasting • Using historical trends for maintenance or demand planning • Applying analytics to warranty and customer feedback
- Module 11: Customer and Market Analytics (09:45 – 11:15) • Segmentation and behavior patterns • Voice of customer, satisfaction, and NPS tracking • Marketing data dashboards
- Module 12: Workshop – Applying Predictive Models (11:30 – 01:00) • Optional use of Excel Solver, Python, or R for forecasting

Day 5: Presentation and Communication of Insights

- Module 13: Data Storytelling Techniques (07:30 – 09:30) • Building narratives from analysis • Framing insights for technical vs. non-technical audiences • Communicating uncertainty and assumptions
- Module 14: Final Project & Dashboard Presentation (09:45 – 01:00) • Group-based project: Create a full dashboard and analysis • Present findings to peers and facilitators

Certification

Participants will receive a Certificate of Completion in Data Analysis and Data Visualization in the Automotive Industry, validating their capability to transform complex data into actionable insights through effective analysis and visual storytelling.

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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