MAWA EVENTS

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

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

DATA ANALYSIS AND DATA VISUALIZATION FOR AVIATION INDUSTRY

"Turning Aviation Data into Insightful Decisions and Operational Excellence"

Schedule

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

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

Introduction

The aviation industry produces vast volumes of data from operations, maintenance, safety, passenger behavior, and more. However, the true value lies in transforming this data into actionable insights that drive efficiency, safety, and profitability.

This course empowers aviation professionals with data analysis and visualization skills using modern tools and techniques. From extracting patterns to building interactive dashboards, participants will learn to interpret complex aviation datasets and support better decision-making.

Objectives

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

- Collect, clean, and structure aviation data for analysis
- Apply statistical and analytical techniques to aviation datasets
- Use tools like Excel, Power BI, and Python (optional) for data visualization
- Develop dashboards for operational performance, safety, and customer insights
- Communicate data findings clearly to technical and non-technical stakeholders

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Why Attend

- Learn practical techniques to analyze real-world aviation datasets
- Enhance decision-making using interactive dashboards and data storytelling
- Gain hands-on experience with popular data analysis and visualization tools
- Identify trends and anomalies in flight, maintenance, and safety data
- Support smarter planning and improve airline and airport operations

Target Audience

This program is designed for:

- Operations and planning professionals in airlines and airports
- Flight safety and maintenance analysts
- Aviation data engineers and reporting staff
- IT personnel supporting aviation data systems
- Business analysts and decision-makers in aviation management

Individual Benefits

Key competencies that will be developed include:

- Applied aviation data analysis and exploration skills
- Dashboard creation using Excel and Power BI
- Ability to generate actionable insights from large datasets
- Understanding of key aviation performance metrics
- Improved data communication and presentation skills

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Enhanced ability to use data in operational and strategic decisions
- Improved reporting and visualization of aviation KPIs
- Higher efficiency in safety, maintenance, and customer analytics
- Stronger data literacy across technical and managerial teams
- Data-driven culture for continuous improvement and innovation

Instructional Methodology

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

- Strategy Briefings – Industry context, aviation data types, and analytic frameworks
- Case Studies – Airline and airport use-cases in data-driven optimization
- Workshops – Excel, Power BI, and optional Python-based hands-on exercises
- Peer Exchange – Data challenges and use cases from different aviation segments
- Tools – Aviation-specific datasets, KPI templates, and dashboard models

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Course Outline

Detailed 5-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: Foundations of Data Analytics in Aviation

- Module 1: Aviation Data Landscape (07:30 – 09:30) • Types and sources of data in aviation (flight, maintenance, passengers, etc.) • Structured vs. unstructured data formats • Data quality, integration, and governance issues
- Module 2: Fundamentals of Data Analysis (09:45 – 11:15) • Data types, measures, and distributions • Data cleaning and preparation techniques • Descriptive statistics and exploratory data analysis
- Module 3: Workshop – Data Cleaning in Excel (11:30 – 01:00) • Practical session on data structuring, filtering, and summarizing
- Module 4: Peer Exchange – Data Challenges in Aviation (02:00 – 03:30) • Group discussion on data limitations and opportunities in participants\' organizations

Day 2: Analytical Techniques for Aviation Decision Support

- Module 5: Advanced Excel for Aviation Analysis (07:30 – 09:30) • Using formulas, pivot tables, and charts for aviation KPIs • Scenario analysis, trend lines, and variance reporting
- Module 6: Introduction to Power BI for Visualization (09:45 – 11:15) • Overview of Power BI interface and functions • Connecting aviation datasets and building dashboards
- Module 7: Workshop – Visualizing Flight Data in Power BI (11:30 – 01:00) • Create interactive dashboards for operational performance metrics
- Module 8: Case Study – Safety and Maintenance Data Insights (02:00 – 03:30) • Real-world case: identifying safety issues through data

Day 3: Aviation Performance and Predictive Analytics

- Module 9: Key Metrics and KPIs in Aviation (07:30 – 09:30) • On-time performance, load factors, turnaround time, etc. • Flight delay causes and performance tracking • Airport and airline benchmarks
- Module 10: Predictive Techniques Overview (09:45 – 11:15) • Intro to forecasting methods (trend, seasonality, regression) • Applications in maintenance, fuel planning, and staffing
- Module 11: Workshop – Forecasting Passenger Demand (11:30 – 01:00) • Basic forecasting using historical data
- Module 12: Peer Review – Predictive Scenarios (02:00 – 03:30) • Group work on potential predictive use cases in aviation

Day 4: Data Storytelling and Communication

- Module 13: Building the Narrative (07:30 – 09:30) • Transforming data into insights and stories • Choosing the right charts for aviation data types • Data ethics and avoiding misinterpretation
- Module 14: Dashboard Design Principles (09:45 – 11:15) • Layout, interactivity, and user experience for aviation dashboards • Designing for stakeholders – operational vs. executive views
- Module 15: Workshop – Executive Dashboard Project (11:30 – 01:00) • Design a summary dashboard for airline performance reporting
- Module 16: Peer Exchange – Presenting Insights (02:00 – 03:30) • Mock presentations and peer feedback

Day 5: Final Project, Case Study, and Review

- Module 17: Group Case Study – Flight Operations Optimization (07:30 – 09:30) • Analyze and visualize a full aviation dataset • Identify inefficiencies and recommend data-driven solutions
- Module 18: Final Presentations and Review (09:45 – 11:15) • Group dashboards and insights presentation • Trainer-led debrief and improvement suggestions
- Module 19: Tools and Templates for Continued Use (11:30 – 01:00) • Downloadable templates, Power BI samples, and Excel dashboards
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Module 20: Wrap-Up and Closing (02:00 – 03:30) • Course recap, feedback, and certificate distribution

Certification

Participants will receive a Certificate of Completion in Data Analysis and Visualization for the Aviation Industry, demonstrating their proficiency in applying data tools and techniques to optimize aviation operations and decision-making.

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**