MAWA EVENTS

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

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

DESIGN FOR MANUFACTURING & ASSEMBLY

"Bridging engineering and production through smarter, cost-effective design strategies."

Schedule

Date	Venue	Fees (Face-to-Face)
14 – 18 Sep 2026	London, UK	USD 3495 per delegate

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

Introduction

Design for Manufacturing & Assembly (DFMA) is a proven engineering approach focused on designing products for ease of fabrication and efficient assembly. It emphasizes reducing part count, simplifying processes, and ensuring designs are optimized for production capabilities, thereby reducing costs, improving quality, and accelerating time-to-market.

This intensive 5-day course introduces participants to DFMA principles, tools, and best practices. Through case studies, interactive workshops, and real-world applications, attendees will learn how to develop products that are functionally robust, economically viable, and operationally efficient.

Objectives

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

- Apply DFMA principles to simplify product designs
- Reduce manufacturing and assembly costs through design
- Optimize parts for standardization and ease of handling
- Evaluate existing designs for DFMA improvements
- Utilize tools to analyze part functions and assembly sequences
- Collaborate effectively with cross-functional teams (engineering, production, quality)

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Why Attend

- Gain critical insights into lean product development
- Eliminate costly design inefficiencies early in the product lifecycle
- Enhance collaboration between design and production teams
- Improve product quality, reliability, and manufacturability
- Learn industry-proven methods that reduce waste and increase profitability

Target Audience

This program is designed for:

- Design and product development engineers
- Mechanical and manufacturing engineers
- Production and process engineers
- R&D and innovation specialists
- Quality assurance professionals
- Engineering managers and team leads

Individual Benefits

Key competencies that will be developed include:

- Design simplification and part consolidation
- Design evaluation for manufacturability and assembly
- Cross-functional teamwork and communication
- Use of DFMA software tools and scoring systems
- Improved awareness of cost drivers in design

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Reduced product development and production costs
- Faster design iterations and time-to-market
- Lower defect rates and quality rework
- Streamlined assembly processes and fewer components
- Stronger collaboration across design and production functions

Instructional Methodology

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

- Strategy Briefings – DFMA concepts, metrics, and frameworks
- Case Studies – Real-world applications from automotive, electronics, and consumer goods industries
- Workshops – Redesign exercises and DFMA cost scoring
- Peer Exchange – Group critique and collaborative evaluation of sample designs
- Tools – Checklists, DFMA analysis templates, and component cost estimators

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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: Introduction to DFMA Principles

- Module 1: Fundamentals of DFMA (07:30 – 09:30)
- History, objectives, and key benefits
- The impact of design decisions on cost and quality
- Module 2: Design for Manufacturing (DFM) Overview
- Manufacturing processes and material selection
- Minimizing tolerance issues and tooling complexity
- Module 3: DFM Case Study – Cost Reduction Through Redesign

Day 2: Design for Assembly (DFA) Fundamentals

- Module 1: DFA Rules and Metrics
- Part count reduction, ease of handling and insertion
- Module 2: Evaluating Assembly Sequences
- Assembly time analysis, design scorecards
- Module 3: DFA Workshop – Evaluating a Product for Assembly Complexity

Day 3: Applying DFMA Tools

- Module 1: DFMA Software & Costing Techniques
- Introduction to tools like Boothroyd-Dewhurst DFMA
- Calculating assembly difficulty and manufacturing cost
- Module 2: Design Reviews and Product Evaluation
- Conducting cross-functional DFMA reviews
- Module 3: Part Consolidation and Modular Design

Day 4: Advanced Applications and Optimization

- Module 1: DFMA in Lean and Agile Product Development
- Aligning DFMA with lean engineering principles
- Module 2: Failure Mode and Effects Analysis (FMEA) Integration
- Reducing risk through design
- Module 3: Real-World Case Study: Automotive or Aerospace DFMA Success

Day 5: Simulation, Reporting & Action Planning

- Module 1: Group Simulation – Redesign for DFMA
- Analyze a product and create a DFMA-improved version
- Module 2: Reporting DFMA Results to Management
- Visual tools, ROI analysis, stakeholder communication
- Module 3: Final Presentations and Implementation Planning
- Team presentations and instructor feedback

Certification

Participants will receive a Certificate of Completion in Design for Manufacturing & Assembly, verifying their proficiency in applying DFMA methodologies to reduce cost, improve manufacturability, and streamline assembly in product development.

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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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