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# AEROSPACE MANAGEMENT SYSTEM TOOLS

## Training and Implementation Programmes

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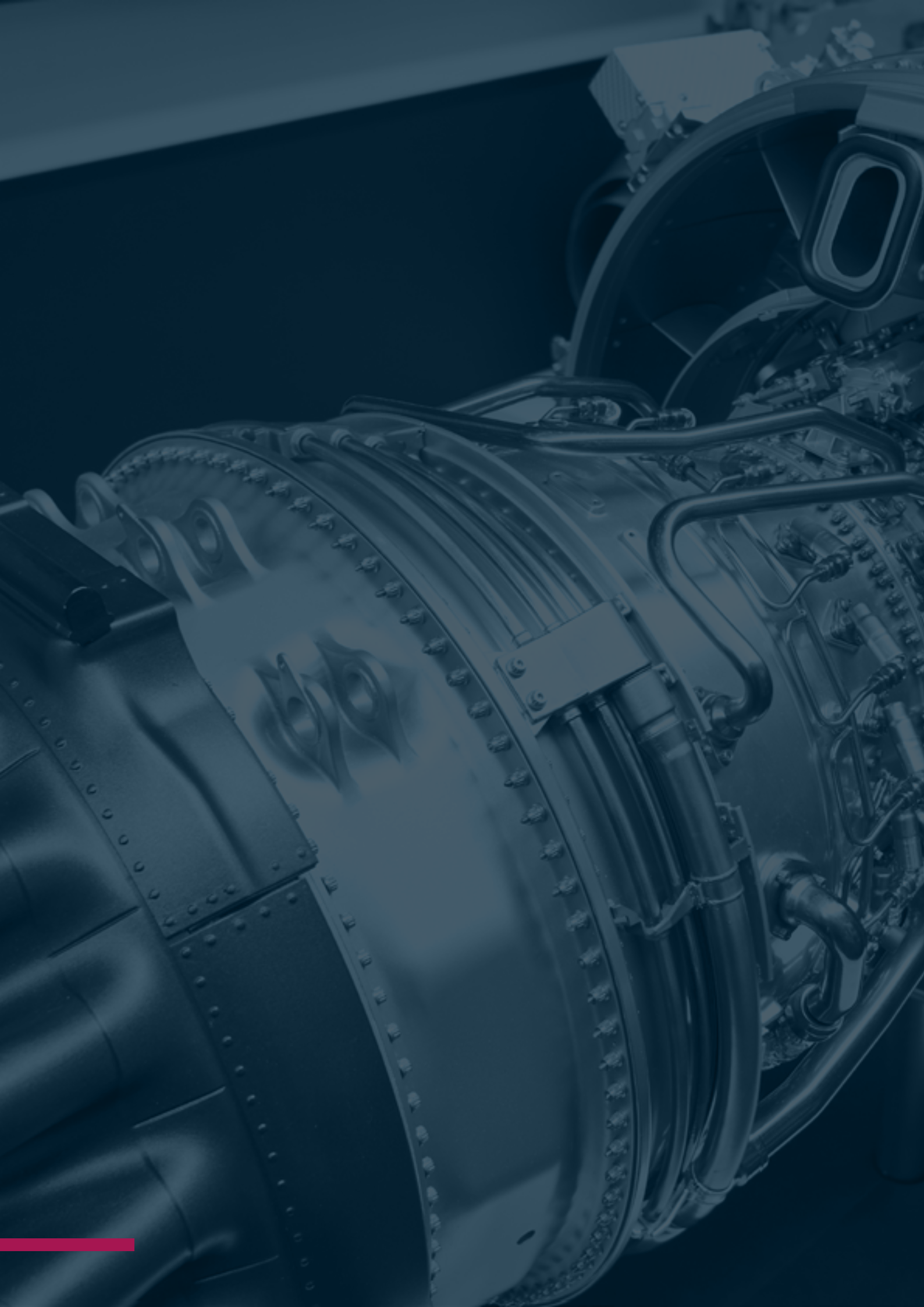

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# Why Choose IF?

Industry Forum helps major global manufacturers understand, optimise and improve both manufacturing capability and business performance.

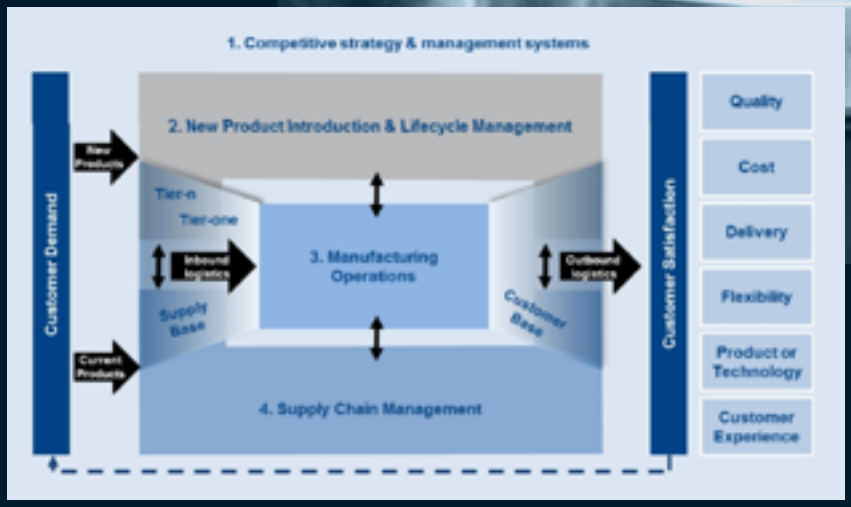
An integrated team of consultants and practitioners – all seasoned expert engineers with multi-sector manufacturing experience – Industry Forum brings together a world- class combination of improvement competency, insight, process and best practice.

Spanning automotive, aerospace, consumer appliance, electronics and food sectors, for over 20 years Industry Forum has planned and delivered some of the world's most consistent and successful transformations for business-critical manufacturing operations.

Industry Forum provides companies with support across their organisation enabling them to drive improvement across all the capability areas that in combination, deliver the outputs required to satisfy customers and drive competitiveness.

This breadth of knowledge ensures that we are able to guide organisations to integrate the right tools across their operations for business benefit. Our approach provides course delegates and activity team members with

the understanding and confidence to successfully implement their knowledge, working with colleagues for mutual success.




# Industry Forum Experience

Industry Forum has over 15 years of direct experience delivering management systems core tools improvement training and consultancy activities including:

- Responsibility for training 3rd party automotive certification body auditors on behalf of the UK IATF oversight office.
- A leading international provider of management systems training across the automotive, aerospace and wind energy sectors.
- Since 2012 Industry Forum has worked with Rolls-Royce (aerospace) to develop and deliver their Product Part Approval Process training program with global responsibility for training and approving both staff and supplier personnel.

Our trainers are expert practitioners in Aerospace Management Systems with hands-on industrial experience and highly developed communication skills. They have a wealth of technical expertise and often provide on-site advice and coaching. During every course we will encourage collaboration and sharing of practical experiences, ensuring learning can be put into context, empowering delegates to apply their new skills successfully in their workplace, as well as making sustainable improvements.

# Aerospace Standards (AS) Courses Development

The drive to provide standard, consistent approaches to meet quality requirements in the aerospace sector has been led by the Aerospace Engine Supplier Quality (AESQ) strategy group. The AESQ members have led the collaborative development of a combined supplier requirements standard AS13100 and supporting Reference Manuals covering a range of themes associated with driving robust new product and process introduction as well as supporting zero defect manufacture.

The AS9145 Requirements for Advanced Product Quality Planning (APQP) and Production Part Approval Process (PPAP) standard has provided an Aerospace sector wide approach to product development, providing demonstration that manufacturing processes have the capability to produce parts that satisfy customer requirements, at the required rate. Demonstrated alignment of organisational processes to the AS9145 standard is expected to be increasingly mandated in the future. In addition to supporting a robust new product development process, many of the AS9145 required elements are equally applicable in the drive towards zero defect manufacturing in existing production.

Industry Forum has created a series of courses designed to provide Essentials (understanding) or Practitioner (application) levels of capability against Aerospace AS9145, AS13100 and related AESQ Reference Manuals.

Our Essentials courses are designed for leaders who will be responsible for providing resource and direction in the implementation of the tools, as well as staff who will need to have an understanding but will not be responsible for application. One day Essentials courses are available on request for customer on-site courses.

Our Practitioner courses are designed for staff who will be responsible for leading or actively participating in the implementation of the tools. They need to have practical understanding not just of the implementation but how to achieve the right result and the expected depth to which the tool should be applied.

## Delivery Structure

- Each course has been designed to provide delegates with multiple learning styles whilst covering the requirements of AS9145, AS13100 and AESQ related Refence Manuals:

**Essentials Courses**

- Principles are introduced through structured presentations.
- Real world application is reinforced through case study examples.
- Understanding is reinforced through small group discussions with feedback sessions.

**Practitioner Courses**

- Principles are introduced through structured presentations.
- Real world application is reinforced through case study examples.
- Understanding is reinforced through small group discussions with feedback sessions.
- Technical activities and calculations are experienced using a supporting workbook.
- Delegates individually review the documentation currently used by their organisation.
- Thinking is developed through reflective activities.
- Learners are encouraged to share appropriate experiences in discussion.

## Recognition

On completion of Practitioner courses, learners will receive an electronic format, uniquely numbered, certificate of attendance. Industry Forum maintains certificate records enabling future confirmation of training completion if required to support audit processes.

Certificates of attendance will also be provided for Essentials courses on request.

# AESQ Refence Manual aligned courses.

Industry Forum has worked in collaboration with Rolls-Royce and the wider aerospace sector during the development of a number of our courses. These courses were previously endorsed by Rolls-Royce and have now been updated to incorporate the latest best practice from the AESQ Reference Manuals.

These courses are endorsed by Rolls-Royce:

- AS13100_RM13145 PPAP Co-ordinator and CARe training (3 day)
- AS13100_RM13004 – (FMEA and Control Plan) Practitioner for Aerospace (2 day)
- AS13100_RM13003 – MSA Practitioner for Aerospace (2 day)
- AS13100_RM13000 – 8D Problem Solving (2 day)
- AS13100 _RM13006 – Process Control Methods Practitioner for Aerospace (2 day)

The AS13100_RM13000, AS13100_RM13004, AS13100_ RM13006 and AS13100_RM13145 courses include an end of course examination as required by the AESQ Reference Manual course syllabus. Delegates who pass this test will receive a certificate that documents their achievement.

One day Essentials courses which are designed for leaders who will be responsible for providing resource and direction in the implementation of the tools, are available on request for customer on-site courses.

# Aerospace Standards (AS) Courses List

The following standard Industry Forum courses, which also include the latest best practice from the AESQ Reference Manuals are currently available to support organisations:

- AS9145 APQP and PPAP Essentials incorporating RM13145 (2 days)
- AS9145 APQP and PPAP Practitioner incorporating RM13145 best practice (5 days)

Industry Forum is also able to provide bespoke training programs to best match clients' individual needs. These will normally combine standard course content with practical application activities, working with the client's own documentation and developing processes that drive effective implementation.

# Aerospace Standards (AS) Implementation Support

Industry Forum recognizes that some organizations will already have similar techniques in place, whilst others may require additional support beyond the training phase to implement and embed the approaches. We work with companies to provide bespoke support programs to fully implement the tools in an integrated manner.

These include:

- Gap analysis of current processes vs AS standards, Reference Manual best practice and additional customer requirements
- Integration within and development of gated New Product Introduction processes
- Coaching support to the practitioners responsible for implementation and dissemination

# Aerospace Management System Tools Training and Implementation Programme

Course Breakdown

# AS13100 & RM13000 8D Problem Solving for Aerospace

2 DAY COURSE | ENDORSED COURSE

This course covers the training syllabus requirements of AS13100 and AESQ Reference Manual RM13000 8D Problem Solving. The AESQ Reference Manual RM13000 mandates the use of the Eight Disciplines (8D approach to structured problem solving to provide a repeatable structured approach irrespective of customer. The 8D approach provides organisations with a step by step approach to problem solving activities:

**D0** – Implement Immediate Containment and Prepare for 8D
**D1** – Form the Team
**D2** – Define the Problem
**D3** – Develop Containment Actions
**D4** – Identify and Verify Root Causes
**D5** – Identify Corrective Action
**D6** – Implement Corrective Actions
**D7** – Define and Plan Preventive Action
**D8** – Recognise the Team

Following a robust problem solving approach is critical to ensure that root causes are correctly identified and eliminated to prevent future occurrence of repeat issues. The AESQ RM13000 standard requires that suppliers use the 8D process to respond to a customer request for corrective and preventive action.

# Who Should Attend?

The AESQ RM13000 standard states that **"The correct training of 8D practitioners is key to the successful outcome of the process. Each supplier shall employ or have access to a problem solving practitioner who has been trained by a training provider meeting the requirement of the training syllabus".**

The course is primarily aimed at those who will lead supplier 8D problem solving activities.

# Benefits and Learning Objectives

The 8D problem solving approach can be applied to a wide variety of issues – quality, equipment downtime, process audit failure etc. The robust application of 8D problem solving will support:

- Improved customer performance – quality and delivery
- Reduced costs of non-performance
- Improved process adherence and efficiency

## Core Themes Covered

- AESQ RM13000 introduction and requirements
- Problem solving overview Root causes vs firefighting Problem detection
- Problem solving and standard work
- 8D steps overview Communication and listening
- D0 – Immediate containment, escape points
- D1 – Form the team, effective team-working

  Stakeholder management in problem solving
- D2 – Define the problem

  Data collection and analysis tools
- Is / Is Not analysis, functional analysis
- D3 – Develop containment actions
- D4 – Identify and verify root cause(s)

  Brainstorming, cause and effect analysis, 5 Whys, Fault tree analysis
- D5 – Identify corrective actions

  Human factors and mistake proofing

  Visual management and standard work
- D6 – Implement corrective actions

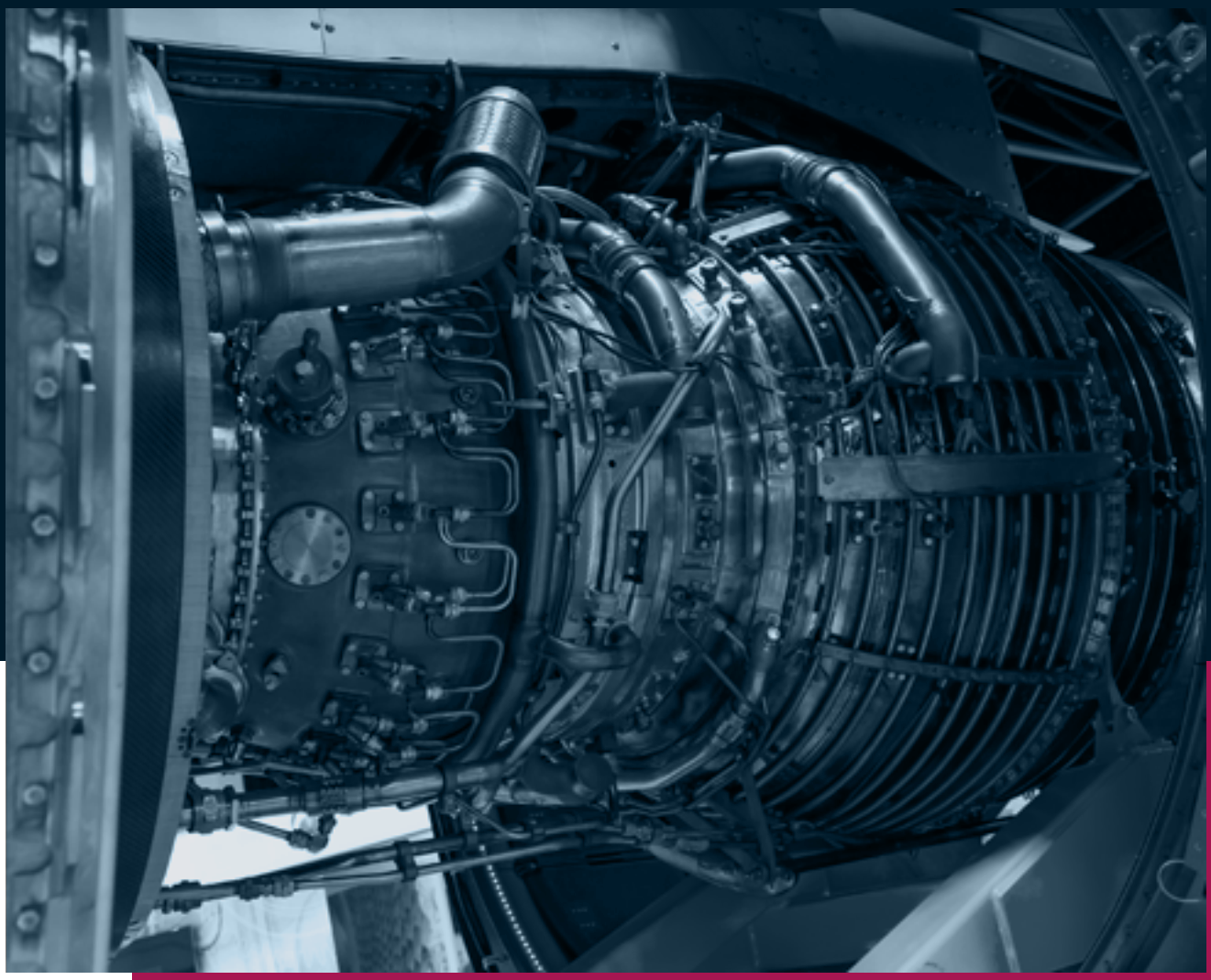
  Management of change overview principles

  Verification techniques and control plan linkage
- D7 – Define and plan preventative actions

  Problem solving and FMEA alignment
- D8 – Recognise the team

  Documentation for problem solving
- End of course examination

# AS13100 & RM13004 Defect Prevention Methods (FMEA and Control Plan) Practitioner For Aerospace



2 DAY COURSE | ENDORSED COURSE

This course covers FMEA and Control Plan requirements for AS13100 and AESQ Reference Manual RM13004 – Defect Prevention Quality Tools to support APQP and PPAP. This course outlines the competitive advantages of effective Design and Process FMEA's along with the benefits of value-added controls within the control plan.

FMEA is an analytical method to ensure potential problems have been considered, assessed for risk and actioned as part of product and process design. It provides a record of an organisation's collective knowledge about its products and processes. The intent of the control plan is to document and provide value added controls in support of the PFMEA process. Implementation of an effective DFMEA, PFMEA and control plan form key foundation activities in support of the zero-defect goal.

# Who Should Attend?

This course is designed for Process Design Practitioners, Process Improvement Teams, Implementation Teams, Internal Auditors and others involved in the implementation or auditing of Process Failure Modes and Effects Analysis and Control Plans.

# Benefits and Learning Objectives

FMEA is used to support the introduction of new products and processes as well as supporting changes to existing products and processes. It supports the goal of zero defects, defect prevention and the reduction of variation and waste. Companies that apply DFMEA, PFMEA and Control Plans well see improved product conformity, better delivery performance and reduced cost of non-quality.

Delegates will become competent in understanding the requirements of DFMEA and creating and analysing Process FMEA's / Control Plans at 'Practitioner' level and will develop the capability to apply the methods to implement Failure Mode and Effects Analysis and Control Plans within their organisation.

# Core Themes Covered

**FMEA General**

- System of defect prevention tools
- Purpose and history of FMEA
- Introduction to, scope of AESQ RM13004
- Risk and types of risk management
- FMEA considerations and application
- Cross functional teams
- Define the customer FMEA steps and recommended actions
- FMEA pitfalls
- FMEA types

**Design FMEA**

- Purpose and history of FMEA
- Design FMEA thinking
- Start points – boundary diagram
- Function, failure modes, effects
- Classification, causes and prevention
- Key and critical characteristics
- Severity, occurrence, detection and RPN
- Detection and mistake proofing
- Recommended actions and review

**Process FMEA**

- AESQ RM13004 Requirements for PFMEA
- Process FMEA start points
- Process flow diagram scope and levels of detail
- PFMEA essentials
- PFMEA operation, function, failure mode and effect
- Causes, prevention, value added prevention
- Process mistake proofing
- PFMEA severity, occurrence, detection & RPN
- Recommended actions and review
- Different PFMEA types – e.g. assembly
- Different approaches to creating and maintaining PFMEA
- Part specific PFMEA
- PFMEA and data duplication
- Creating a reference PFMEA
- Creating a part specific PFMEA – finite failure modes
- PFMEA review

**Control Plan**

- Purpose, overview, AESQ RM13004 requirements
- Control plan phases and linkages
- Process flow diagram and the control plan
- PFMEA prevention and detection overview and controls
- Control Plan structure and depth
- Control Plan development approach
- Product and process characteristics
- Classification, requirements, evaluation and sample size
- Reaction planning and control plan review
- End of course examination

# AS13100_RM13003 MSA Practitioner For Aerospace

2 DAY COURSE | ENDORSED COURSE

This course covers the requirements for AS13100 and AESQ Reference Manual RM13003 - Measurement System Analysis. This course outlines the competitive advantages of an effective Measurement System Analysis (MSA) process along with the benefits of reduced costs due to poor measurement.

MSA provides a method enabling organisations to understand the variation present in their measuring systems. This variation can impact both variable and attribute measurement systems. A high level of confidence is required for the measurement of product and process characteristics. Implementation of an effective MSA process forms one of the key foundation activities in support of this goal.

# Who Should Attend?

This course is designed for Process Design Practitioners, Process Improvement Teams, Implementation Teams, Internal Auditors and others involved in the implementation or auditing of Measurement Systems Analysis.

# Benefits and Learning Objectives

MSA is used when an understanding of measurement system variability is required. MSA studies will decompose measurement system variability into equipment, operator and part variation. It is often mandated by aerospace and other engineering primary manufacturers as a specific requirement on their suppliers to give them confidence in the measurements that are being taken and reported by the supplier.

MSA will support understanding measurement system performance and allow any performance limitations to be actioned appropriately by the organisation. Delegates will become competent in implementing, undertaking and auditing MSA, including studies for variable and attribute data.

Implementation of MSA will support improved customer satisfaction, reduced cost of quality and improved problem solving robustness.

## Core Themes Covered

- System for defect prevention
- Purpose of Measurement System Analysis (MSA)
- Requirements from AS13100 and RM13003
- Linkages to zero defects
- Data types
- Choosing measurement system analysis types
- Calibration vs MSA
- Understanding variation and resolution
- Sample selection, sample numbers
- Within part variation
- Fixtures and flexible components
- Appraiser selection
- Accuracy, bias, linearity, stability and precision
- Repeatability and reproducibility
- Study approaches – Variable and Range
- Factors driving measurement
- Average and range study (tolerance study)
- Acceptance criteria (TOL study)
- Mitigation for poor results
- Gauge study relationships
- Resolution and accuracy acceptance criteria
- Number of distinct categories (NDC)
- When MSA should be applied and pre-requisites
- Study planning and training
- Environmental impacts
- Average and range study (total
- Study approaches – Variable and Range
- Factors driving measurement
- Average and range study (tolerance study)
- Acceptance criteria (TOL study)
- Mitigation for poor results
- Gauge study relationships
- Resolution and accuracy acceptance criteria
- Number of distinct categories (NDC)
- When MSA should be applied and pre-requisites
- Study planning and training
- Environmental impacts
- Average and range study (total variation)
- Understanding variation sources (EV, AV and PV)
- Analysis of results and mitigation strategies
- Acceptance criteria (TV study)
- Gauge study relationships
- ANOVA study
- Limitations of measurement
- Statistical software
- Benefits of graphical representation
- Nested studies (destructive testing – non repeatable)
- MSA read across
- Gauge R&R for coordinate measuring machines (CMM)
- CMM programme verification
- Attribute studies
- Visual inspection
- Attribute Agreement Analysis – Kappa study
- Acceptance criteria (Kappa study)
- Gauge performance curves

# AS13100_RM13006 Process Control Methods Practitioner For Aerospace

2 DAY COURSE | ENDORSED COURSE

This course covers the Process Control requirements for AS13100 and AESQ Reference Manual RM13006 – Process Control Methods. This course outlines the competitive advantages of effective process control

strategies along with the benefits of value-added controls within the control plan. It supports the goal of zero defects, defect prevention and the reduction of variation and waste.

Process control concerns the mechanisms by which the output of a specific process is maintained within a desired range to ensure the resultant characteristic meets the requirements. This course introduces Statistical Process Control (SPC) from the basics, creating charts by hand, before then using more advanced methods to monitor and improve process control.

The use of statistical techniques and other proven methods will result in improved quality and manufacturing maturity. The AESQ Reference Manual RM13006 helps organisations to select the appropriate control strategies when developing Control Plans and to demonstrate their effectiveness through statistical analysis. It supports the goal of zero defects, defect prevention and the reduction of variation and waste.

# Who Should Attend?

This course is designed for Process Design Practitioners, Process Improvement Teams, Implementation Teams, Internal Auditors and others involved in the implementation or auditing of Process Control strategies and techniques. Familiarity with basic statistical concepts would be beneficial.

# Benefits and Learning Objectives

Delegates will understand the importance of process control and the nine control methods. Delegates will also be able to perform statistic analysis on data and interpret the outputs for continuous and attribute data. How to calculate and interpret the results of capability studies, whilst identifying potential issues. Delegates will also understand the linkage of the process controls with other quality tools: Process Failure Mode Effects Analysis, Control Plans, and Measurement System Analysis.

# Core Themes Covered

**The Importance of Process Control**

- Examples and discussion on process control failures
- Reputational impact
- Effect on the Aerospace industry
- Benefits of achieving design nominal
- Closed loop control system
- Effectiveness of in process control over end of line inspection

**Process Control in Context of Quality Planning**

- Linkage to PFMEA and Control Plans
- Purpose and content of Control Plan

**Selection of Process Control Methods**

- Basic overview and explanation of the various control methods

**Data Collection**

- Importance of time sequence
- Importance of reliable measurement systems
- Importance of non-biased data and operational definition for data collection
- Sample size considerations

**Process Capability Analysis**

- Basic statistical terms
- Process stability assessment using control charts
- Tests for Special Causes
- Process Capability assessment (Cp, Cpk, Pp, Ppk), Incorrect assumptions about Cpk
- Process Capability prerequisites
- Handling non-normal data Statistical software

**Basic Root Cause Analysis and Process Improvement**

- Appropriate reaction to special causes of variation vs common cause variation
- Options for confirmation of change effectiveness

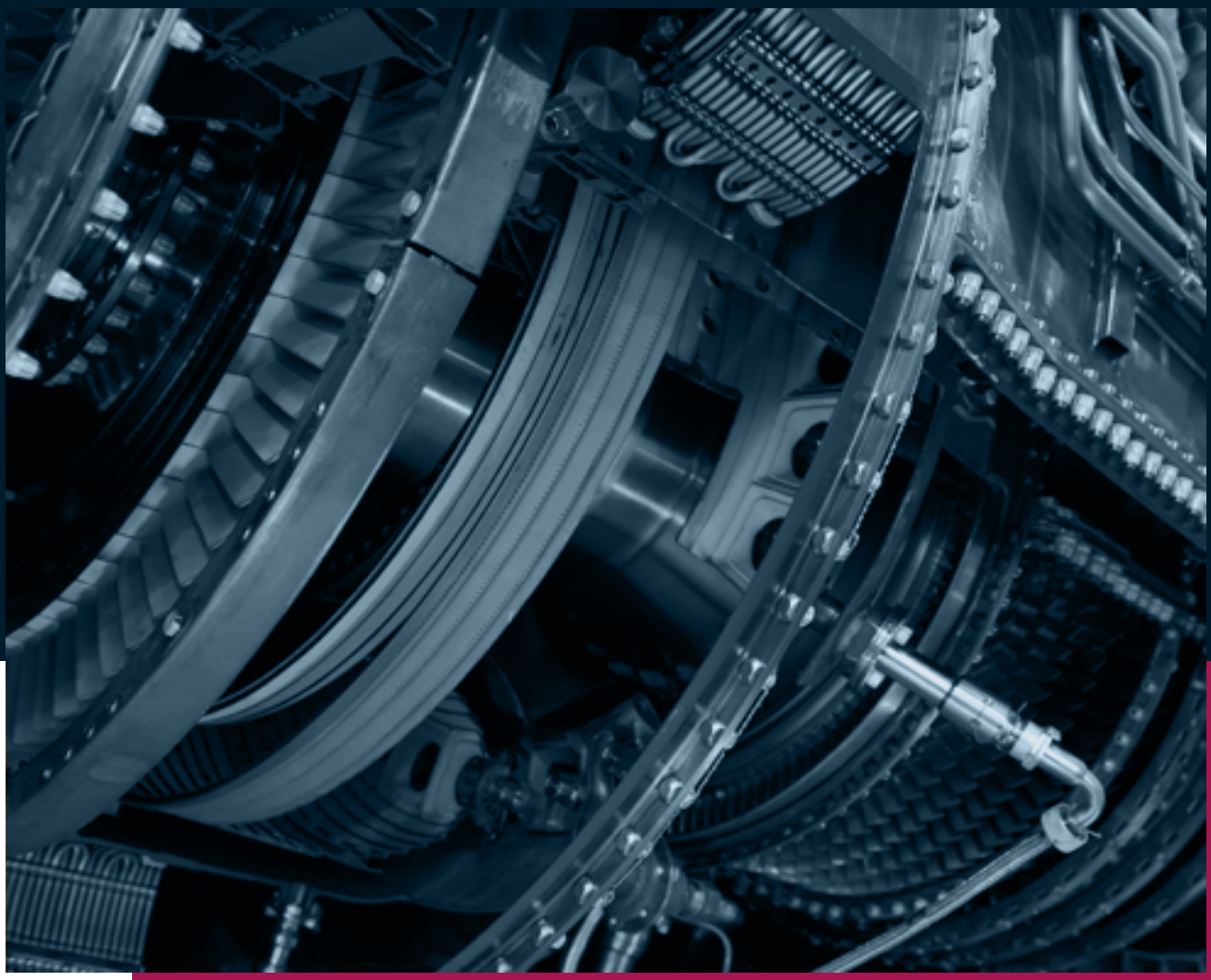
**Application of Control Charts**

- I-MR
- X-Bar / & R Chart
- I-MR-R/S – Between / within (3 way chart)
- Attribute Charts (P, C, NP & U) Charts for rare events

**Error Proofing**

- Error proofing principles
- End of course examination

# AS9145, AS13100 & RM13145 APQP and PPAP Essentials for Aerospace



2 DAY COURSE

This 2 day AS9145 APQP and PPAP Essentials course will provide all attendees with an awareness of the AS9145 standard, the engine specific AS13100 (QMS for aero engine design and production organisations) and the associated Reference Manual RM13145 which provides the framework for the introduction of new products across the Aerospace and Defence sectors. Note, for non-engine manufactures RM13145 provides industry best practise. The standard and Reference Manual aims to embed APQP and PPAP best practice within an organisation's New Product Introduction process.

# Who Should Attend?

- Senior Managers,
- Management Representatives,
- Implementation Teams,
- Internal Auditors,
- and others who are need to understand the approach to Advanced Product Quality Planning (APQP) activities, but who will not be directly involved in implementation.

# Benefits and Learning Objectives

Advanced Product Quality Planning (APQP) is used to support the introduction of new products and processes, as well as managing changes to existing products and processes. Companies that apply Advanced Product Quality Planning gain improved efficiencies and reduced costs in new product and new process introductions, with lower product defects and better on time delivery performance.

Companies that apply Production Part Approval Process (PPAP) as the culmination of Advanced Product Quality Planning (APQP), gain greater customer confidence in their ability to introduce new products and processes or make changes to existing products and processes.

This course will provide all delegates with an awareness of the advantages and expected benefits of using the APQP and PPAP processes from planning, product design and development through to process design, validation and on-going production.

## Core Themes Covered

- Understand the Aerospace Advanced Product Quality Planning Process (APQP)
- Understand the 5 phases of APQP
- Understand the concept of Customer Specific Requirements
- Understand the Aerospace Production Part Approval Process (PPAP)
- Understand the PPAP Approval form
- Understand PPAP disposition and resulting actions
- Leadership mentoring and development of their internal audit approach to ensure effectiveness

# AS9145, AS13100 & RM13145 APQP and PPAP Practitioner for Aerospace

5 DAY COURSE

This 5 day AS9145 Practitioner course will provide all delegates with an in-depth understanding at practitioner level of the AS9145 standard, and the associated standards which provides the framework for the introduction of new products across the Aerospace and Defence sectors. The standard aims to embed APQP and PPAP best practice within an organisation's New Product Introduction process.

# Who Should Attend?

This course is for

- Senior Managers,
- Management Representatives,
- Implementation Teams,
- Internal Auditors,
- and others who are involved in the auditing or implementation of Advanced Product Quality Planning (APQP) activities, including Control Plans.

# Benefits and Learning Objectives

Advanced Product Quality Planning (APQP) is used to support the introduction of new products and processes, as well as managing changes to existing products and processes. Companies that apply Advanced Product Quality Planning (APQP) gain improved efficiencies and reduced costs in new product and new process introductions, with lower product defects and better on time delivery performance.

Companies that apply Production Part Approval Process (PPAP) as the culmination of Advanced Product Quality Planning (APQP), gain greater customer confidence in their ability to introduce new products and processes or make changes to existing products and processes. This course will provide all delegates with an in-depth understanding of the advantages and expected benefits of using the APQP and PPAP processes from planning, product design and development through to process design, validation and on- going production.

## Core Themes Covered

- Understand the Aerospace Advanced Product Quality Planning Process (APQP)
- Understand at Practitioner level the 5 phases of APQP
- Product Design and Development
- Process Design and Development
- Product and Process Validation
- On-going Production, Use and Post-delivery service
- Understand the requirements and implementation of the Key APQP outputs
- Design Records
- Design Risk Analysis (Design Failure Modes and
- Effects Analysis DFMEA)
- Process Flow Diagram
- Process Failure Modes and Effects Analysis (PFMEA)
- Control Plan
- Measurement Systems Analysis (MSA)
- Initial Process Capability Studies
- Packaging, Preservation and labelling Approvals
- First Article Inspection
- Customer PPAP Requirements
- PPAP Approval form
- Understand the Aerospace Production Part Approval Process (PPAP)
- Understand the correct use of the PPAP Approval Form
- Understand PPAP disposition and resulting actions
- End of course exam underwritten by the SMMT IATF Oversight Office
- End of course examination

# AS13100 Aligned RM13145 PPAP Co-ordinator and CARe Training

3 DAY COURSE | ENDORSED COURSE

This course fully covers the syllabus and qualification requirements for PPAP Co-ordinators or Customer Authorised Representative's (CARe) as defined by AESQ Reference Manual RM13145. The course draws from AS13100 sections B and C and follows the APQP/PPAP model as defined within AS9145 and AESQ RM13145. The course includes the APQP/PPAP requirements from each of the 5 APQP phases. The course reviews the requirements of the PPAP file elements including common AESQ member Customer Specific Requirements. The course encompasses Background to AS13100 and AESQ Reference Manual RM13145, Essentials of PPAP Process Management, APQP/PPAP Process Flow, Evaluation of the PPAP file, Preparation and Evaluation of the PPAP submission and Disposition of the PPAP submission. The course includes reference and review of a PPAP Case Study and concludes with a 90-minute qualification exam.

# Who Should Attend?

This course is designed to meet the qualification requirements of AESQ RM13145. Attending this training course and passing the end of course exam qualifies delegates in the role of PPAP Coordinator or CARe as required by the AESQ. Attendance would also benefit those persons tasked with auditing of the organisations APQP/PPAP process.

# Benefits and Learning Objectives

PPAP is used when an organisation needs to evidence effective implementation of the APQP process, and that the organisations product design process can design products that meet the customer and their own business specifications and that the manufacturing process has the potential to delivery good quality product at the required rate.

An effective APQP and PPAP process will ensure smoother transition for product development into production, more effective changes to existing products and processes, greater confidence in source changes and finally a quicker less troublesome customer approval process.

A deeper understanding of the AESQ APQP/PPAP process will enable organisations to take advantage of the process model detailed in AESQ RM13145 and gain competitive advantage by having a more focused and efficient process for managing the introduction of new products, changes to existing products and process and source changes.

Delegates will become competent in understanding and implementing activities aligned to the requirements of AESQ RM13145 resulting in an effective PPAP submission meeting all customer defined requirements on time.

## Core Themes Covered

- Essentials of PPAP Process Management
- Understand the fundamentals of APQP and relationship between APQP and PPAP
- Appreciate the role of PPAP in various situations
- Navigate the APQP and PPAP Process Flow diagram and understand how this applies to PPAP
- Understand the how the PPAP Coordinator and CARe conduct their accountabilities and their responsibilities
- Explain the fundamentals of APQP
- Understand the difference between an APQP Package, PPAP File and PPAP Submission
- Explain the steps of the Process Flow that manage
- PPAP and examples of the types of activities that take place
- Explain the purpose of PPAP Customer Specific
- Requirements, use and suitable decision-making practices
- Evaluating the PPAP File
- Explain the expected standard of each PPAP Element and association with AS13100 and associated Reference Manuals
- Provide examples of the expected standard of each PPAP Element
- Confirm the difference between the PPAP File and PPAP Submission
- Preparing and evaluating the PPAP Submission
- Appreciated the meaning and use of Submission Levels
- Understand how to prepare and provide a PPAP Submission
- Explain the steps taken when preparing & evaluating PPAP Submission
- Provide examples of the types of activities that take place when completing these steps
- Disposition of the PPAP Submission and Approval Form
- Be capable of conducting a disposition of the PPAP Submission
- Judge a PPAP Submission as Approved, Interim Approval or Reject
- Explain the use of the Approval Form and AESQ member companies' differences informs
- End of course examination

# Course Formats and Locations

Industry Forum is able to deliver AS aligned courses around the world through our permanent delivery team and longstanding expert associate network.

For example, Industry Forum has recent experience delivering aerospace management systems training in the UK, France, Spain, Italy, Germany, USA, Mexico, China, India, Japan, Singapore and Malaysia. The course content and materials are provided as standard in English language.

Industry Forum operates a programme of 'open' courses on pre-set dates for delegates from multiple companies. These are based at our Birmingham UK office and at a US location. Each open course seats up to 15 delegates and places can be booked through our website: https://www.industryforum.co.uk/training/aerospace

Additional 'open' courses can be set up in any country where appropriate demand requirement is identified, either through the leading customers or by known interest level from suppliers. To express interest in attending a course at a location in your region, please email enquiries@industryforum.co.uk. Interested companies will be contacted when sufficient demand is in place to set up a local course in order to agree suitable dates and venue.

Organisations who would like to hold a course for their own personnel only should also email enquiries@industryforum.co.uk.

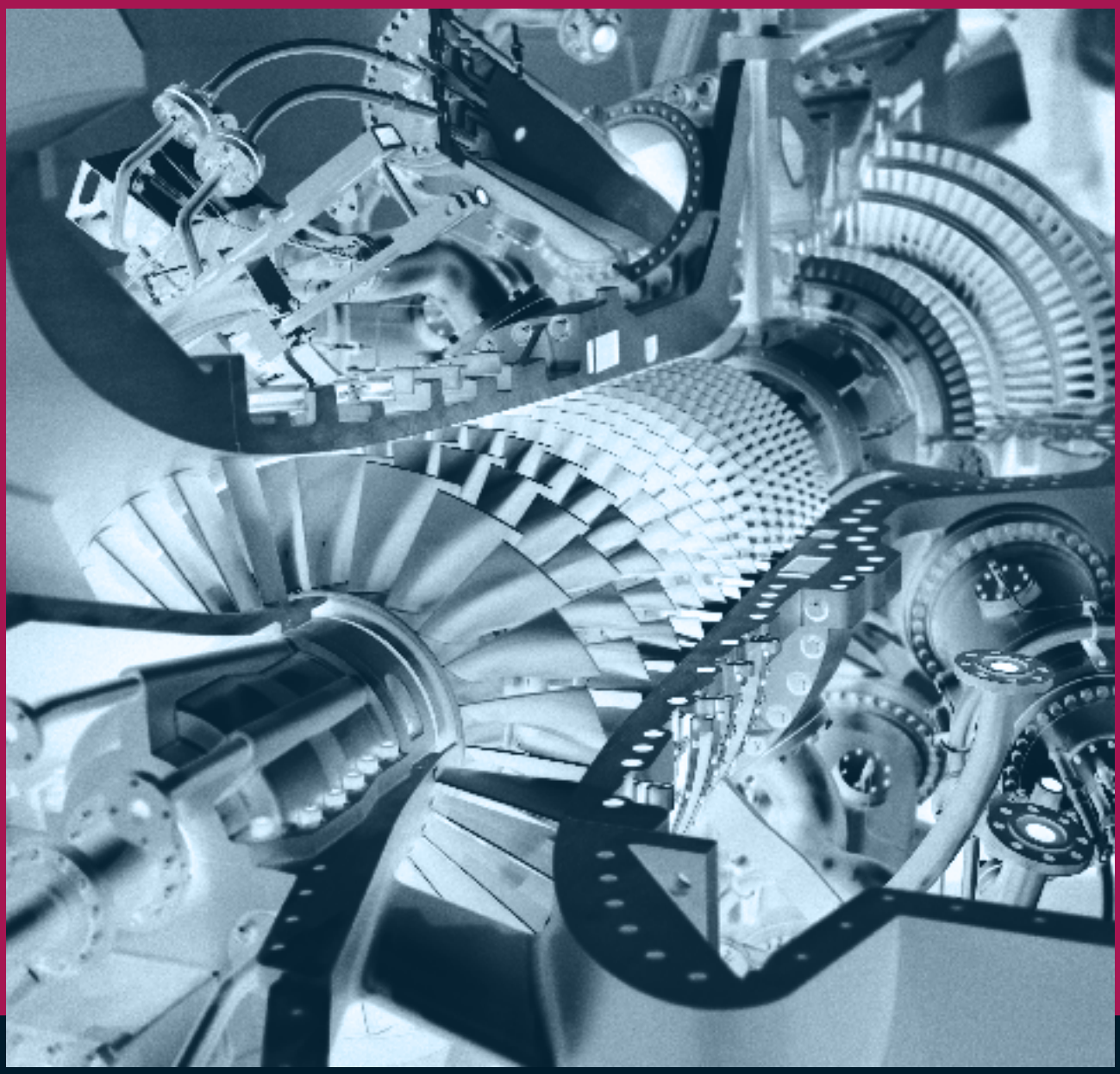
Our team will respond to understand your requirements in more detail and prepare a bespoke proposal. It is typically more cost effective for organisations to undertake training in this format where there are several delegates requiring training.

# Other Training Available from Industry Forum

Industry Forum is able to provide training and consultancy to support multiple capability areas of an organisation including:

- Strategy development, business planning and policy deployment
- Operational leadership development programmes and cultural change
- Value stream mapping and manufacturing facility transformation
- 'Lean' continuous process improvement application
- Six sigma training, certification and project implementation
- Total Productive Maintenance programmes (JIPM aligned)
- New product introduction process development
- Project management
- Certified APICS supply chain qualifications (CPIM, CSCP, CLTD)
- APICS principles based supply chain training and implementation activity

For more details please visit www.industryforum.co.uk or email enquiries@industryforum.co.uk



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# IMPROVING MANUFACTURING COMPETITIVENESS