Measurement System Analysis
aligned with AS13100
3x 4-hour sessions

Smallpeice Enterprises
business improvement training

Open enrolment classes

- **September 21 – 23 2026**
  (1pm – 5pm BST each day /
  12pm – 4pm UTC each day)

Fees:

The cost per participant is £395+VAT, which includes comprehensive reference materials.

To book places:

- Please email Smallpeice via train@smallpeice.com with your requirements.
- Our experienced booking team will then send you a booking form.

In-Company Training:

This programme is available for cost effective 'in-company' group training. For more information on the options, please email train@smallpeice.com.

Overview

Measurement Systems Analysis (MSA) is an experimental technique used in the workplace to support improvement by evaluating and determining how much error there is within a measurement system. The AS13003 standard stipulates the requirements to establish an acceptable measurement system for use on aerospace parts and assemblies. MSA is critical to ensuring process control and quality, and is an essential foundation for process improvement. This practical workshop demonstrates how to assess the performance of new and existing measurement systems and highlights how to introduce improvements when necessary. Participants will learn how to ensure that measurement systems deliver on the key requirements to ensure reliable process control data, and reliably distinguish good parts from bad parts.

Objectives

- Demonstrate the importance of MSA within a Zero Defects improvement programme
- Understand how to conduct a Measurement System Analysis for Continuous and Attribute data
- Show how to interpret the results of measurement studies to make improvements
- Discuss the organisational challenges in performing measurement studies and how to overcome

Training Content

Introduction to Measurement Systems Analysis (MSA)
- What MSA is and why it is important to Zero Defects?
- Types of measurement studies available
- Organisational and competence requirements studies

Elements to Consider When Conducting an MSA
- Pre-requisites for conducting the study
- Considerations for planning the study
- Linking MSA to additional quality tool (FMEA, Control Plans, Process Control, 8D)

Measurement Variation / Continuous Data Studies
- Types of data and statistical Concepts of MSA
- Checking the equipment resolution / Accuracy ratio

Continuous Data Studies – Gauge R&R
- Objectives of the study
- Definition of repeatability and reproducibility
- Running the Gauge R&R study
- Actions for improvement

Continuous Data Studies – Type 1 Studies
- Objectives of the study / Running the study
- How to interpret the results and actions for improvement

Continuous Data Studies – Additional Studies
- Linearity Studies; Stability studies; Determining Bias

Continuous Data Studies – Co-Ordinate Measuring Machines
- Special requirements for CMM measurements
- Running the study and interpreting the results

Destructive Measurement Systems
Attribute Data studies
- Introduction to attribute MSA
- Human factors influencing attribute
- Uses for attribute studies
- Setting up the study
- Interpreting the results
- Case studies & examples

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