SNAGG MANAGEMENT

COURSE INFORMATION SHEET

Measurement System Analysis (MSA)
AIAG MSA 4th Edition for Practitioners

Objective

The objective of this course is to provide participants with a practical understanding of Measurement System Analysis (MSA) principles aligned with the AIAG MSA 4th Edition. Participants will learn how to evaluate the suitability and capability of measurement systems used in manufacturing and quality control.

The training focuses on identifying and quantifying sources of measurement variation, conducting structured MSA studies, and interpreting results to determine measurement system effectiveness. Key topics include Gage Repeatability & Reproducibility (Gage R&R), bias, linearity, and stability to ensure reliable measurement data for process control and quality decision-making.

Content

- Introduction to Measurement System Analysis (MSA) and its role in reliable quality data
- Understanding measurement variation and sources of measurement error
- Planning and preparation of MSA studies for effective measurement evaluation
- Variable measurement system studies – Gage Repeatability & Reproducibility (Gage R&R)
- Measurement accuracy analysis – bias, linearity, and stability studies
- Attribute measurement system analysis for visual and judgement-based inspection systems
- Interpretation of MSA study results and application of industry acceptance guidelines
- Integration of MSA within process control and capability analysis
- Applying MSA results to support problem solving and measurement system improvement

Duration

2 Days

Assessment

Participants will complete:

- A knowledge assessment
- Practical exercises involving analysis and interpretation of MSA study results

Successful candidates will receive a Certificate of Competence.

Pre-requisites

Participants should have a basic understanding of manufacturing processes and quality management concepts. Familiarity with statistical concepts or quality tools such as SPC is advantageous but not mandatory.

Target Audience

- Engineers & Quality professionals
- Production and manufacturing personnel
- Process improvement specialists

Training Methodology

The course uses a combination of:

- Instructor-led presentations
- Interactive discussions and technical clarification
- Practical group-based exercises reinforcing MSA application and interpretation

TRAINING@SNAGG.ORG