

## MSA (Measurement Systems Analysis)

### Course Description:

This two-day course provides an introduction to Measurement Systems Analysis, an approach used to evaluate the test method, measuring instruments, and the entire process of obtaining measurements to ensure the integrity of data used for analysis and to understand the implications of measurement error for decisions made about a product or process. The nature of measurement systems, and the fundamental analysis used to examine them, will be explored. The course covers the requirements of the AIAG MSA 4<sup>th</sup> edition.

### Learning Objectives:

Through a combination of presentation, discussion and in-class exercises, participants will understand:

- The role of MSA and its part in the APQP and PPAP processes.
- Potential measurement issues.
  - Types of variation
  - Potential sources of variation (standards, data categories, discrimination, etc.)
  - Location variation (bias, linearity, stability)
  - Width variation (repeatability, reproducibility, GRR, consistency)
- Measurement system capability and performance.
- General Concepts for assessing measurement systems.
- How to conduct and analyze variable measurement system studies.
  - Guidelines for determining stability, bias and linearity.
  - Guidelines for determining repeatability and reproducibility.
- How to conduct and analyze an attribute measurement system study.

Participants are encouraged to discuss and explore specific issues that they currently experience in applying MSA techniques.

### Who Should Attend:

Individuals who will be responsible for participating in the inputs of their company's quality management system, such as Engineering and Manufacturing Managers/Coordinators, Quality Directors, Internal Auditors and staff inputting data into the system.

### Location:

On-Site

### Duration:

2 Days (16 hours) - full course outline

1 Day (8 hours) for - higher-level overview of course material, reduced exercises

#### Cancellation Policy

An administration fee will be charged for cancellations less than 14 days prior to the course date. Substitutions will be permitted at any time. Course transfers may be made without penalty. The BRC reserves the right to cancel any seminar and will, in such event, fully refund all registration fees. No liability is assumed by the organizers for changes in seminar dates, content, speakers or venue.