Manufacturing Technology Training
An IMTMA initiative

Measurement System Analysis (MSA)
Date : 17 to 18 September, 2026
Venue : IMTMA Technology Centre, Bengaluru

INTRODUCTION

Measurement System Analysis (MSA) is a critical first step that should precede any data-based decision making. MSA is an experimental and mathematical method of determining how much the variation within the measurement process contributes to overall process variability. The purpose of MSA is to qualify a measurement system for use by quantifying its accuracy, precision, and stability. This training program envelops the most essential spectrum of quality and measurement fundamentals and encompasses the supporting quality and Lean Tools used currently in the industries. This is followed with contemporary practices in MSA in industries.

FOCUS AREAS

- Introduction to Lean and Quality aspects
- Descriptive Statistics, Inferential Statistics (Dispersion- Standard Deviation, Variance.
- Frequency distributions, Normal Distribution) calculations and applications.
- Variance for assembly
- Sources of Variation & Need for MSA
- Measurement concepts- Accuracy, Precision, Bias, Linearity, Stability- Evaluation & Use
- Gauge Repeatability and Reproducibility (Gauge R &R) concepts and Calculations
- Introduction to Advanced Product Quality Planning (APQP) and Production Part Approval Process (PPAP) approach and MSA need
- Process Capability measurements - Cp, Cpk - & its relation with MSA
- Concept of Statistical Process Control (SPC)- X bar, R, P and C
- Stastical Tools- Inferential stastics- t test, z test, Regression
- MSA for attribute gauge
- Use of Minitab for MSA
- Case Situations, Problems

Participants can bring their real life problems and the relevant data during the workshop. The discussions will be held on this during the 2nd day of the workshop

KEY TAKE AWAYS

After undergoing the programme, the participants will be able to:-

- Empower with fundamental Statistical literacy
- Accumulate, organize the data and analyze for identifying the problem and getting the solution to the problem
- Evaluate the variation and variability through Gauge R & R
- Streamline the production procedures and methodologies
- Define the process capabilities
- Familiarise to the Process control charts and its concepts

PARTICIPATION FEE

Rs. 4999/-	Rs. 2500/-	Rs. 999/-	USD 200/-
+18% GST	+18% GST	+18% GST	Overseas Participants
IMTMA Members/ Micro Companies/ Individuals/ IMTMA Non Members/ Others	Professors	Student	

Group Concession : 10% for 3 to 5 and 20% for 6 and more delegates being nominated from the same company

PARTICIPANT PROFILE

The personnel in Design, Production, Quality, Testing labs, Observatories, Assembly and Service departments- The Managers, General Managers, Vice Presidents, Engineering & Science Faculties, Research Fellows, Students.

FACULTY

This programme will be conducted by, IMTMA Subject Matter Expert.

He is an industry expert with over 40 years of experience in the field of quality tools like Six Sigma, SPC, MSA, Poka - Yoke, etc. He is a trained ISO 9001 and TS 16949 auditor, trained six sigma black belt as well as an FMEA moderator. He has championed a number of Quality Improvement projects at Bosch. He was associated with Bosch's campaign and pursuit for 5S, Poka Yoke, SPC, MSA & TPM initiatives

For Registration Contact

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REGISTRATION : Prior registration for participation is necessary. Number of participants is limited and will be accepted on 'First Come First Serve' basis. A Certificate of participation will be issued to participants.
Important Information : Participation fee includes, course material, working lunch and tea / coffee. Interested companies are requested to register online by clicking on 'REGISTER' button and by filling up the nomination authority and participant's details in specified form.