

## INTRODUCTION

**Measurement System Analysis (MSA)**, a critical core tool, guides you in the selection of appropriate measurement equipment in order to meet product quality requirements.

Measurement Systems Analysis (MSA) originated with the automotive industry is eventually becoming the defacto standard of the manufacturing industry. Just as processes that produce a product may vary, the process of obtaining accurate measurements and data may also have variations and can produce defects. MSA is a holistic approach to ensure the integrity of data used for analysis and evaluates the entire process of obtaining measurements, i.e test methods, measuring instruments, operations, procedures, software and personnel that affect the assignment of a value to measurement and to understand the implications of the measurement error. MSA is an important element of the Six Sigma methodology and other quality management systems.

Keeping this in view, IMTMA is organizing an online training programme on **Measurement Systems Analysis**.

## FOCUS AREAS

### Measurement System Analysis (MSA)

- Review of basic terms - Accuracy, Precision, Bias, Measurement Uncertainty, etc.
- Difference between calibration and MSA components of a measurement system
- Study of R&R - Range method and ANOVA method
- Relation between MSA and SPC methods
- Gauge performance for attribute measurements
- Measurement study preparation
- Acceptance criteria
- Case studies and examples of MSA for specific components
- Sample exercises for calculations of R&R and plotting SPC charts

## KEY TAKE AWAYS

- Describe the purpose of MSA and its benefits to manufacturing organisations
- Understand the 5 elements of MSA and their evaluation methods
- Learn how to conduct MSA study in manufacturing units
- Understand acceptance criteria of Gauges used in the production shop

## FEE PER PARTICIPANT (PER LOGIN)

**Rs. 6000/-**

+18% GST

**IMTMA Members/ Micro Companies/ Individuals/  
Educational Institutions / Students/ IMTMA Non  
Members/ Others**

**USD 220/-**

**Overseas Participants**

**Group Concession : 20% for 3 to 5 and 30% for 6 and more delegates being nominated from the same company**

## PARTICIPANT PROFILE

This course is ideal for those who are responsible for product development, operations management, quality control, and engineering including department managers, supervisors, quality representatives, engineers and administrative staff who have a focus on business improvement, performance and profitability.

## FACULTY

This programme will be conducted by **Mr. M. C. Ramakrishnan**, Former Vice President -Quality, Bosch Limited.

Mr. M. C. Ramakrishnan 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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