

Measurement System Analysis (MSA) Date: 4 to 5 December, 2023 Venue: IMTMA Technology Centre, Pune

#### 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**

- What is Measurement System
- · Basic concepts and definitions of MSA
- Concept of Uncertainty of Measurement
- Planning MSA Study
- WHY MSA Studies
- Concept of Accuracy and precision in Measurement system
- Bias Study
- Bias Exercise
- · Stability study
- · Linearity study
- · Repeatability and Reproducibility study
  - o Range method
  - Analysis on X bar and R Charts
  - ANOVA Method
- Case studies
- Improvements in Measurement System
- Attribute MSA
- Attribute Kappa study
- Case study on Attribute MSA
- Conducting and analyzing MSA Study on Minitab

### **KEY TAKE AWAYS**

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

- Understand the basics of Measurement and Measurement system
- Understand different studies under Measurement Systems Analysis
- Understand the basic steps in conducting, analyzing and concluding MSA studies
- Understand the basic steps in ensuring improvements in measurement system

#### **PARTICIPATION FEE**

Rs. 9500/-

+18% GST

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

**USD 380/-Overseas Participants** 

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

## PARTICIPANT PROFILE

Managers, Executives, Engineers from Quality Assurance, QC, QMS, Production,

Product Development, Process Engineering, Vendor Development, R & D etc.

## **FACULTY**

This programme will be conducted by Mr. Charudatta Atre.

Mr. Charudatta Atre is a Qualified Mechanical Engineer and industry expert with more than 30 years of experience the field of Quality, Lean Management, Six Sigma, Lean Six Sigma etc. He is qualified Master Black Belt in Lean Six Sigma. He has conducted several training programs, work shops in topics related to Lean Management, Six Sigma, Lean Six Sigma etc. He is former Associate Vice President of Quality with Kalyani Maxion Wheels Pvt Ltd. He has also served in TUV SUD South Asia, Saint Gobain Sekurit Ltd.

# 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