ACMA Northern Region
Automotive Component Manufacturers Association Of India

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*To: All Members in NR*

**1st September 2021**

# E-Certification Program On Measurement Systems Analysis (MSA)

**Thursday, 16th September & Friday, 17th September 2021**
**Time – 10.00 a.m. to 1.00 p.m.**

## Online platform using WebEx

It has been our endeavor to provide valuable services to our members. In an effort to strengthen this further, ACMA (Northern Region) is organizing an **E-Certification Program on Measurement Systems Analysis (MSA)** on **Thursday, 16th September & Friday, 17th September 2021 using Cisco WebEx platform.**

## Introduction and Course Overview

**What is MSA?**

A Measurement Systems Analysis (MSA) is a specially designed experiment that seeks to identify the components of variation in the measurement. It is an experimental and mathematical method of determining how much the variation within the measurement process contributes to overall process variability.

Just as processes that produce a product may vary, the process of obtaining measurements and data may have variation and produce defects. A measurement systems analysis evaluates 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.

## Program Contents-:

- Understanding Purpose of MSA - why MSA
- Measurement System
- Statistical properties of measurement system- sources of variation, effects of measurement variability, effects of decisions
- Purpose of measurement (identify, Measurement )
- Criteria for measurement process
- Types of measurement variation- bias, linearity, stability, repeatability, reproducibility
- Value - true/reference
- Discrimination
- Possible causes for location error
- Measurement uncertainty calculation

- Gauge R&R calculations methods - range method, unit analysis, graphical analysis (examples /case)
- Analysis of GRR studies
- Anova method

**Who should attend:**

Senior and middle management level persons of Production, Production Engineering; Quality Control, Supply Chain; HR; Finance; IT and Marketing.

**PARTICIPATION FEE DETAILS:**

| Category | Amount | GST | Total Amount |
|---|---|---|---|
| Members<br>Non-Members | Rs. 2,500/- per participant<br>Rs. 3,000/- per participant | 18% | Rs. 2,950/-<br>Rs. 3,540/- |

**Note-:** Companies has to pay the full payment in advance to register themselves for the program. No cancellation is acceptable only you can change the name of the participant. Hence invoice will be generated as per the nominations.

**Online Payment Transaction -: https://www.acma.in/payment-online.php**

While making the payment please put 0000 (Zero) in Tax Invoice No. column while processing for the payment. Please mail us the screen shot of the payment to cross check it.

**Faculty: Mr. Ankur Dhir {(B.Tech (Electronic & Communication), Master in Operations)}**

Mr. Ankur Dhir is a dynamic Consultant and Trainer for Management standards and Lead Assessor for ISO Standards such as 9001, 14001, 45001, 27001, 13485, Experience in implementing management standards and Member National Safety Council, ASQ, QCI Social Compliance Initiative (SCI), Approved Trainer for NPC on Industry 4.0 Initiative's for MSME ad ZED by QCI also Empaneled by various Govt PSU, MSME DI for Productivity Improvement.

The Confirmations can be sent-in through the attached "Reply Form". We look forward to the participation of member companies in large numbers.

Sd./-
**Regional Secretary**



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