TRAINING TITLE
MEASUREMENT TRACEABILITY AND TESTING AND DATA VALIDATION

Training Duration
5 day

Training Venue and Dates

Ref. NO. LM138	Measurement Traceability and Testing and Data Validation	5	12-16 May 2025	$5,500	DUBAI, UAE

In any of the 4 or 5-star hotels. The exact venue will be informed later.

Training Fees
- **$5,500 per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Lunch**

Training Certificate
Define Management Consultants Certificate of course completion will be issued to all attendees.

TRAINING DESCRIPTION

The course will cover topics such as establishing measurement traceability, understanding the significance of calibration and testing, and implementing effective data validation processes in real-world environments. Through practical examples and case studies, participants will learn how to manage and assess measurement systems, interpret validation reports, and maintain data integrity in different industries, including manufacturing, laboratory settings, and engineering environments.

TRAINING OBJECTIVES
By end of course participants will be able to understand
- Understand the concept of measurement traceability and its importance in ensuring accurate measurements.
- Interpret and apply international standards for measurement traceability and calibration (e.g., ISO/IEC 17025, ISO 9001, OIML).
- Implement effective measurement and calibration procedures for various instruments and systems.
- Conduct regular testing and validation of measurement systems to maintain consistency and reliability.

DMCT/OL/9/18(Rev3Dt:23/9/18)

P.O BOX 45304
ABU DHABI, U.A.E
T +971 2 6264455
F +971 2 6275344
www.definetraining.com
1

- Recognize sources of measurement uncertainty and learn methods for reducing or managing it.
- Analyze and validate data to ensure integrity and compliance with regulatory standards.
- Understand the role of calibration certificates and test reports in ensuring data quality.
- Develop data validation strategies for quality assurance in measurement-based processes.

WHO SHOULD ATTEND?
- Quality Control Managers and Technicians
- Laboratory Technicians and Scientists
- Engineers
- Compliance Officers
- Manufacturing and Production Supervisors
- Regulatory and Auditing Professionals
- Instrument Engineers

COURSE PROGRAM

Day 1: Introduction to Measurement Traceability

- Overview of measurement traceability and its significance in various industries.
- The measurement chain: Understanding how measurements are linked to international standards.
- The role of primary, secondary, and working standards in ensuring traceability.
- International standards for traceability (ISO/IEC 17025, ISO 9001).
- Calibration: Definition, process, and documentation requirements.
- Understanding calibration certificates and their importance.

Day 2: Calibration and Testing Procedures

- The calibration process: Steps, best practices, and methods.
- Types of calibration: Instrumental, system, and periodic calibrations.
- Selection of calibration standards and reference materials.
- Testing of measurement equipment: Functional checks and performance validation.
- Managing calibration schedules and procedures.
- Calibration intervals and factors influencing calibration frequency.

Day 3: Measurement Uncertainty and Sources of Error

o Understanding measurement uncertainty: Definition, types, and sources.
o Calculating uncertainty and its impact on measurement results.
o Methods for reducing and controlling uncertainty in measurement systems.
o Identifying common errors in measurements: Instrumental, environmental, and human factors.

Day 4: Data Validation and Quality Assurance

o Data validation: Importance of accurate and reliable data in decision-making.
o Key concepts in data validation: Consistency, completeness, and accuracy.
o Tools and techniques for validating measurement data.
o Developing data validation strategies for different industries (manufacturing, R&D, etc.).
o The role of software and automated systems in data validation.
o Validating calibration results and interpreting test reports.

Day 5: Practical Applications, Case Studies, and Review

o Industry case studies: Successful implementation of traceability and data validation practices.
o Common challenges in maintaining traceability and data integrity.
o Reviewing key regulations: ISO/IEC 17025, OIML, and others.
o Review and discussion of course content.
o Q&A session and course wrap-up.

NOTE:
Pre-& Post Tests will be conducted.
Case Studies, Group Exercises, Group Discussions, Last Day reviews, and assessments will be carried out.

………………………………………………………..

DMCT/OL/9/18(Rev3Dt:23/9/18)