MEASUREMENT UNCERTAINTY (MU)

Measurement uncertainty is used to determine how well your measurement, thus in order for us to have adequate confidence in the correctness of decisions made based on measurement results, the measurement uncertainty will be known, and also the measurement results are traceable to higher standard.

Estimation of measurement uncertainty has to consider the error sources that contribute to the measurement, and we have to careful consideration the factors contribute the error whenever makes a measurement.

LEARNING OBJECTIVE
After seriously committed to this course, the trainee should be able to do the following:

- Understand the need for measurement uncertainty
- Learn the effective approach for calculating measurement uncertainty and methods for controlling measurement uncertainty in your measurement processes
- Understand uncertainties and budgets
- Understand and calculate the Measurement Uncertainty to meet the accreditation mandatory requirements of the ISO/IEC 17025 Standard

TARGETED INDUSTRIES
Laboratories, Institutions and the industries involve in calibration or testing or both are part of their activity.

TARGET GROUP
Laboratory management or technical personnel responsible for the review of uncertainties and the calculation of uncertainties, especially organizations seeking or maintaining accreditation to ISO/IEC 17025.It can serve as a refresher for experienced technicians; or it can be used in orientation for new hires.

*Participants must have knowledge in statistics and probability distribution, comfortable using scientific calculator and simple algebra formulas. It is recommended that attendees have had exposure to some uncertainty budgets and have a basic understanding of Microsoft Excel.

METHODOLOGY&LANGUAGE USE
Training slides, Calculation of MU using MS Excel, Review Questions, Exercises, Case Study and Q&A.
Test Before &After Training.
Training Manual – English
Course deliver language – Can be mix of English, Bahasa Malaysia and Chinese

COURSE OUTLINE

- Introduction to Metrology.
- Introduction to Calibration and Testing
- Mathematics and Statistics Use in Measurement Uncertainty
- Measurement Concepts
- The Guidance of Measurement Uncertainty Estimation
- Fundamental of Measurement Uncertainty
- Procedure for Estimation of Measurement Uncertainty
- Worked Examples for Measurement Uncertainty Estimation
- Reporting Measurement Uncertainty by Using Microsoft Excel