

EDUCATION & TRAINING: COLLABORATION ON NEEDS ASSESSMENTS AND SOLUTIONS

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ABSTRACT

From the days of silk and spice traders, accuracy and traceability of measurement results and equivalence of measurement results have been foundational requirements in a global marketplace. Availability of suitable standards for comparison has been one key factor in ensuring accuracy and traceability. Knowledge of the proper care, handling, use and dissemination of those standards is another concern. Education and training (E&T) in measurement sciences (metrology) can help ensure that these requirements are met.

For an international measurement system to work well, measurement knowledge must be readily available to each party and at each level in the system in the most flexible, cost-effective, and efficient way. Even with abundant resources readily available on the Internet, the primary solution to ensuring that essential knowledge is available and used correctly at each level of the measurement system is education and training. Measurement E&T is needed at all levels of the system: from high-level manager who needs a basic understanding of the risks and impact of measurement errors to a metrology engineer designing new measuring equipment or running a calibration laboratory, to a technician on a production floor who simply needs to know that the parts he/she is manufacturing must fit into other parts within a given tolerance.

Knowledge of measurement sciences historically has been an integral part of enforcing uniformity in commerce. It is also becoming more and more important in traditionally non-metrology scientific and multidisciplinary professions such as chemistry or biology where traceability and uncertainty in analytical measurements are now key concerns.

Yet, efficiently and effectively identifying and ensuring that education and training needs are met at each level, for each audience, is a formidable task. There are few organizations in a position of being able to coordinate an assessment of measurement E&T needs across many disciplines. Collaboration among people and organizations can be used to identify E&T needs and to provide solutions in the most cost-effective and efficient way.