

Metrology's Impact on Small and Medium Enterprises. A Study of International Practices and a Proposal for Mexico

Speaker/Author: Mahdha Flores-Campos

CENAM

Queretaro, Qrl., Mexico

mflores@cenam.mx

Co-Authors: Carlos Benito Valgañon-Argueta; Salvador Echeverría-Villagómez;
Ma. Elena Lugo-Pérez

Abstract

Most governments recognize the importance of the Small and Medium Enterprises (SMEs) for their economies and wellbeing of society. Mexico is not an exception, since SMEs in the manufacturing sector are 4% of the total number of enterprises and Micro Enterprises are 95.7%. To promote the competitiveness of these enterprises, the Mexican government has a number of programs to provide assistance and technical support to them. However, no specific program for metrology exists. With the aim to create one, an effort has been made in CENAM, the National Metrology Institute of Mexico, to study the programs of other countries to promote SMEs, to learn from the specific metrology content of these programs and to propose one ad hoc for the national conditions.

The key features of the metrological systems that are analyzed according to another source of knowledge as MESURA® Program and their situation in most SMEs are:

- A. Standards and measurement equipment: Most SMEs don't have measurement standards. Some times only sensorial inspection is done. When measurement equipment exists, it hardly has proper traceability or a metrological assurance program.
- B. Personnel: Most times the personnel are trained "in house" about the use of the equipments.
- C. Procedures: Generally there are not documented calibration, measurement of testing procedures.

Since the situation and specific problems of micro enterprises are very complex, and many do not even have standardized processes, a number of selection criteria have been established to define an objective set in different industrial sectors, according to the SME state of development.

In the present paper we describe a strategy that is being developed. First of all the selection of the most significant industrial sector for the GDI. Secondly the selection of the representative process an unit operations for each to the selected industrial sectors. Then the development of the best practices of metrology in the selected sets of SMEs. Some of the key elements of this strategy are the development of self assessing material, a library of best measurement practices by sector, a collection of other support material, the training of a number of SME metrology consultants like field engineers and industrial technology advisors and the alliance with a number of intermediate organizations that hold the consultants and act as multiplying entities for the whole strategy.