

## **New standard for the measurement uncertainty on 3 coordinate measuring machines**

The following activity is done within the EMPIR Project EUCoM: "Standards for the evaluation of the uncertainty of coordinate measurements in industry".

The project aims to deliver two methods for evaluating the uncertainty of coordinate measurements. These methods will be suitable for inclusion in international standards and applicable to common cases in industry. Correct evaluation of uncertainty during inspections is necessary to avoid false decisions such as accepting nonconforming parts. The most popular technique for dimensional inspection in industry is coordinate measurement. Recognized and viable methods for uncertainty evaluation will improve quality assurance and impact positively the European manufacturing sector.

The overall objective of the project is to develop viable methods for evaluating the measurement uncertainty in coordinate measurement in industry to support the competent standardization body (ISO/TC213/WG10) in further development of related standards (in the ISO 15530 series). The specific objectives of the project are:

1. To develop traceable and standardized methods for evaluating the uncertainty of coordinate measurement a posteriori using type A evaluation.
2. To develop a simplified and validated method for predicting the uncertainty of coordinate measurements a priori using type B evaluation (i.e. expert judgement).
3. To demonstrate the validity of existing methods and those from objectives 1 & 2 in industrial conditions and evaluate their consistency and accuracy against the Guide to the Expression of Uncertainty in Measurement (GUM) and its supplements.
4. To contribute to revisions of the EN ISO 15530 and the EN ISO 14253-2 by providing the necessary data, methods, guidelines and recommendations, in a form that can be incorporated into the standards at the earliest opportunity. In addition, to collaborate with the technical committees CEN/TC290 and ISO/TC213/WG10 and the users of the standards they develop to ensure that the outputs of the project are aligned with their needs and recommendations for incorporation of this information into future standards at the earliest opportunity. To promote early dissemination of the developed methods to industry.