

Trust METrology – A label to acknowledge good practices in metrology

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The CFM (Collège Français de Metrologie) is a french organization gathering more than 700 members from about 450 organizations in industry and in accredited laboratories, mostly in France and french speaking countries. The CFM was founded in 2002 by three members : LNE, CETIAT (NMI-DI) and the industrial group PSA, now STELLANTIS. The primary mission of CFM is to communicate about good practices in metrology. In order to address its mission, CFM organizes the CIM (Congrès International de Métrologie), the International Congress of Metrology, technical days, does some co-editing of technical guides with AFNOR the french normalization body, is the animator of a working group (Creative Metrology) to anticipate the needs of industry in metrology and in particular with topics like digitalization.

In 2020, the CFM decided to launch a new initiative dedicated only to industry (and not accredited laboratories) : a label of good practices in metrology, called « Trust Metrology ». The goal was to answer the following question:

- How a company can bridge the gap between the ISO 9001 and the ISO 17025 ?

The first question is related to the observation that ISO9001 is rather limited about what it says about metrology. The paragraph 7.1.5 (Monitoring and measuring ressources) claims mainly that metrological traceability should be insured. Little is said about the organization of metrology within the company, the processing of measurement datas, nothing about the management of uncertainties. On the other hand, in ISO17025 the accreditation norm, dedicated to calibration and test laboratories, these topics are very detailed and other topics are described extensively like for instance impartiality. Some of them are not very adapted or with a level of exigence that is beyond what an industrial company can address with its field of constraints. This is actually why, many companies, in particular SMEs do not go to accreditation and decide to sub-contract partially or totally their metrology, losing sometimes the knowledge and the internal skills.

Measurements are key in monitoring and mastering the process of manufacturing and production, and metrology is the insurance to manage correctly the measuring process. That is why, a referential for good practices in metrology is needed, with a pragmatic approach, taking into account the economical, resources and time constraints of an industrial company and in particular SMEs.

ISO1012, the norm for Measurement systems management is under revision since 2021 and should be published not before the end of 2023. We do not see it as a competitive but complementary. In particular, a label may be less constraintful when addressing critical topics like measurement uncertainty management. In addition, the label should not be applied in case of accredited laboratories and concerns only industrial companies that use metrology to control their products and their processes.

The methodology that was chosen to build this label was first to gather metrology experts within the CFM network, with various backgrounds, from industry, from calibration laboratories, and consultants.

This experts committee has then created an analysis grid, with 42 questions in 8 categories : measurement requirements, management/organization, instruments management, methods, metrological traceability, Influencing factors, uncertainties management and measurement datas management.

The process of labellisation is the following : an expert from the expert committee spends one day at the company premises with the metrology manager of the person in charge and evaluates the metrology of the company with the help of the evaluation grid. A system of grades is defined for each question and average grades are calculated for each category. Some minimal grades are mandatory depending on the category.

The evaluator reports his evaluation to the experts committee, which makes the final decision. The decision can be one out of three possibilities :

- 1- The label is given without any conditions
- 2- Few critical points have been identified and the company should address these points and proves that they have done so ; if so, the experts committee validates the labellisation
- 3- Too many critical points have been identified and the label is not given ; the company should address the critical points and come back later for a new evaluation.

In the three cases, the evaluation identifies improvement axes and the company can implement them in order to improve its measurement process.

Since its launch, a dozen of companies have been evaluated and have of them received the label Trust METrology.

We believe that trust is the most important and difficult thing to create with customers and partners and that it can be easily deconstructed. This trust should rely on solid and real things : mainly the trust in products, which relies directly on trust on measurements a company makes on its products.

CFM as a trust partner is here to promote the label Trust METrology, in its network. The presentation of the label to an international community, like the one present at SMSI is of great interest.