

## WORKSHOP REPORT

### Initiation Workshop for National Metrology Institutes

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Rotterdam (The Netherlands)

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### *Solving practical problems when implementing a Quality System based on ISO/IEC 17025*

#### I The EUROMET Quality System Forum (QS-Forum) and Initiation Project

The CIPM Mutual Recognition Arrangement (MRA) implies for national metrology institutes (NMIs) the participation in key comparisons and an operational quality system (QS). In Europe NMIs have adopted ISO/IEC 17025 as a standard for their quality system.

As a result of the project *Implementation of CIPM's MRA for EUROMET Member Countries* a Quality System Forum was proposed and established providing for discussion and review of QS-implementation in NMIs.

To ensure that there is a common understanding in Europe of the requirements of ISO/IEC 17025 as they apply to NMIs, the 2-year Initiation Project started November 2000 with partial funding from the European Commission. The Initiation Project is facilitating the European program to review quality systems through a process aimed at:

- Discussing how organizations do things, especially in relation to ISO/IEC 17025;
- Sharing and recommending best practice for ISO/IEC 17025 implementation;
- Providing comment and feedback to members and NMIs;
- Providing comment and feedback to regional metrology organizations elsewhere; and

- Presentation (in Euromet's QS-Forum) by European NMIs of their quality systems before the end of 2002.

During the project close bilateral links are established with, for example, non-European countries and organizations to arrive at a global uniform manner of interpreting and implementing the new ISO/IEC 17025.

#### II The Initiation Workshop

The Workshop, preceded by a QS-Forum meeting, was organized by the NMI (The Netherlands) on behalf of the ten members of the Initiation Project: BEV (Austria), CMI (Czech Republic), BNM-LNE (France), OMH (Hungary), IMGC (Italy), JV (Norway), IPQ (Portugal), SMU (Slovakia), MIRS (Slovenia) and NMI VSL (The Netherlands).

The Workshop was attended by some eighty participants from 27 European countries and from six countries of the Asia-Pacific and the SIM region.

After the five plenary lectures (including lectures on the situation of the CIPM MRA, on the status of NMIs Quality Systems in the APMP and in the SIM regions) parallel sessions on the following three sub-themes were organized:

##### a) High level (measurement) standards and ISO/IEC 17025

In addition to mini-lectures on the relation of high level measurement standards and their maintenance to the ISO/IEC standard, mini-lectures on assuring the quality of test and calibration results and development of new methods were presented and discussed.

##### b) Validation

As well as the mini-lectures on validation of calibration methods and software applications, mini-lectures on approaches for the determination of uncertainty were presented and discussed.

##### c) Internal vs. external aspects

In this section, aspects such as consumer needs, preventive actions and value-added effectiveness of internal audits were dealt with.

#### Recommendations and conclusions

During the Workshop closing session conclusions were drawn and some recommendations (e.g. to accreditation bodies and the JCGM) were formulated, such as:

- The CIPM MRA has enhanced the introduction of QMS in NMIs and the implementation of ISO/IEC 17025 and resulted in a rapid development during the last two years;
  - NMIs can choose between third party assessment and self-declaration of their quality system;
  - A clearer understanding and definition of self declaration is necessary;
  - ISO/IEC 17025 is very suitable for standards laboratories if processes are fully described and if they are customer oriented. There is an interest of NMIs for a more flexible scope of the standard;
  - Alignment (but not too many changes or corrections) of ISO/IEC 17025 (1999) to ISO 9001 (2000) is necessary;
  - Validation of calibration methods has to be part of QS and all software applications have to be validated; and
  - JCGM WG 1 is to be encouraged to identify examples where use of the “mainstream GUM” leads to difficulties and to publish supplements to the GUM.
- Based on the presentations and discussions during the Workshop, the following conclusions for the OIML MAA and related activities and for the national legal metrology services of OIML Members can be drawn:
- Introduction of QS in national Legal Metrology Services and proof of competence by accreditation or by other means for (type approval) testing laboratories seems to be inevitable in the near future and the OIML MAA will give an impetus for developments in this direction;
  - It will be necessary to include requirements for validation of (type approval) test methods and uncertainty statement/estimation for the tests in OIML Recommendations;
  - As in the CIPM MRA, in addition to third party accreditation other means of proving competence such as self declaration is to be allowed for in the OIML MAA;
  - It will inevitably be necessary for at least one assessor with special knowledge in the field of legal metrology to be involved in the accreditation of type testing laboratories;
  - Experience gained by the NMIs in implementing ISO 9001 for their Quality Systems and in implementing ISO/IEC 17025 as part of their QS and the EUROMET experience in implementing the CIPM MRA can be used by the OIML in preparing its own procedures for mutual acceptance of (type approval) test results. Thus, duplication of work can be avoided and further connecting elements between different task fields of metrology can be clearly identified. ■

More information can be found at:  
[www.initiation.nl](http://www.initiation.nl) and [www.euromet.ch](http://www.euromet.ch)