OIML BULLETIN

VOLUME XLVIII • NUMBER 4
OCTOBER 2007

Quarterly Journal

Organisation Internationale de Métrologie Légale

Third R 60/R 76 CPR Meeting held in Tsukuba, Japan

ISSN 0473-2812

BULLETIN

VOLUME XLVIII • NUMBER 4
OCTOBER 2007

THE OIML BULLETIN IS THE QUARTERLY JOURNAL OF THE ORGANISATION INTERNATIONALE DE MÉTROLOGIE LÉGALE

The Organisation Internationale de Métrologie Légale (OIML), established 12 October 1955, is an intergovernmental organization whose principal aim is to harmonize the regulations and metrological controls applied by the national metrology services of its Members.

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2007 SUBSCRIPTION RATE
60 €

ISSN 0473-2812

PRINTED IN FRANCE

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10300 SAINTE SAVINE

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Editorial

Chris Pulham
Editor, BIML

Close Metre Convention-OIML cooperation results in a Joint Web Portal:

www.metrologyinfo.org

Exactly a year ago, the October 2006 Bulletin Editorial was on the subject of the Joint BIPM-BIML Action Plan.

In the three Bulletin Editorials since then, we have concentrated on two subjects: firstly the OIML Strategic Plan, and secondly international cooperation. Our focus has been on developing ways for the OIML to work even more closely with those organizations with which it is in liaison to achieve the goal of a *Global Legal Metrology System*.

At the 41st CIML Meeting in Cape Town, BIPM Director Andrew Wallard and BIML staff together presented an outline of specific plans concerning the production of a Joint Brochure and a Joint Web Portal, both aiming to explain the importance of legal metrology to the community at large, but especially to non legal metrology specialists. As members of the legal metrology community, we not only have a technical role, but also a "marketing" role to constantly promote legal metrology and its benefits.

Today we are proud to announce that our new Joint Web Portal is now online: www.metrologyinfo.org. In simple language, clearly presented, it explains how legal metrology can reduce disputes and help to eliminate fraud in commercial transactions, how it can contribute to increased safety in travel (the BIML also hosted a Round Table on road safety in Lille during the 13th International Metrology Congress this summer), how it can serve to control and reduce environmental pollution, and how our health often depends on highly accurate measurements made by an ever increasing variety of measuring instruments.

The Joint Web Portal also explains the complementary roles of the two Organizations, including details on the CIPM Mutual Recognition Arrangement (MRA) and the OIML Mutual Acceptance Arrangement (MAA).

We cordially invite you to request your copy of the new, revised Joint Brochure and to take a tour of the Joint Web Portal, and to let us have your feedback. ■

LENGTH MEASUREMENT

Calibration of the comparator for long length measures used for the verification/calibration of tape measures with high accuracy

ELENA DUGHEANU
Length Laboratory, INM, Romania

Abstract

This paper describes the measurement method used for the verification or the calibration of tape measures with a nominal length of between 2 m and 50 m using a longitudinal comparator for long length measures, specially designed for this purpose. It then analyses the sources of errors that affect the comparator and gives the estimation of the measurement uncertainty. This longitudinal comparator is a unique reference standard installation, designed and built by the Length Laboratory of the National Institute of Metrology of Romania.

Key words: tape measures, longitudinal comparator for long length measures, uncertainty budget

Introduction

Measuring the accuracy of tape measures in the range between 2 m and 50 m is a priority of the National Institute of Metrology of Romania. The tape measures form a major component in the chain of traceability for length metrology due to their low acquisition cost for customers and the need for their regular verification or calibration, since in Romania all kinds of tape measures fall under legal metrological control.

In order to ensure traceability over the range of long lengths, the INM designed an installation, in the form of a longitudinal comparator used for the calibration and verification of length measures including all kinds of tape measures.

The calibration or verification of line measures ranging from OIML Accuracy Class III up to Class I is generally carried out by a direct comparison.

Permissible errors of the scale with line marks of the tape measures, when the belt is suspended in the horizontal plane and strained with an appropriate tensile force, are given in Table 1, according to Romanian legislation and to OIML R 35 (1985).

Table 1 Permissive errors of the flexible tapes

Accuracy Class	Permissive errors (mm)
1	$\pm (0.1 + 0.1L)$
2	$\pm (0.3 + 0.2L)$
3	$\pm (0.6 + 0.4L)$

1 Method of calibration

In Romania, calibration of the highest level standard tape measures is carried out using a special comparator for long length measures, designed and built by the Length Laboratory and based on the cinematic method according to the Abbe principle; the tape has to be aligned on the surface of the bench of the comparator along the same longitudinal axis as the laser beam in the measurement direction, with the objective of eliminating first order errors.

The comparator is placed in a special room situated in the basement of the building which has its own air conditioning system and where the temperature varies between 17 °C and 22 °C during the whole year, with a maximum rate of change of 0.1 °C per hour and a maximum spatial variation along the bench of ± 0.1 °C. The relative humidity is (80 ± 10) %.

According to Figure 1, the basic principle of the calibration is that the movement of the carriage fitted with a microscope and a retro-reflector is measured in terms of a laser wavelength. The microscope has a vertical optical axis and is fixed on the carriage with a rigid support, equipped with vertical and transversal adjusters for focusing the line mark from the tape. The frequency stabilized laser interferometer permits the measurement of the displacement of the line by counting the interferential fringes which appear in the Michelson interferometer when the mobile mirror of the

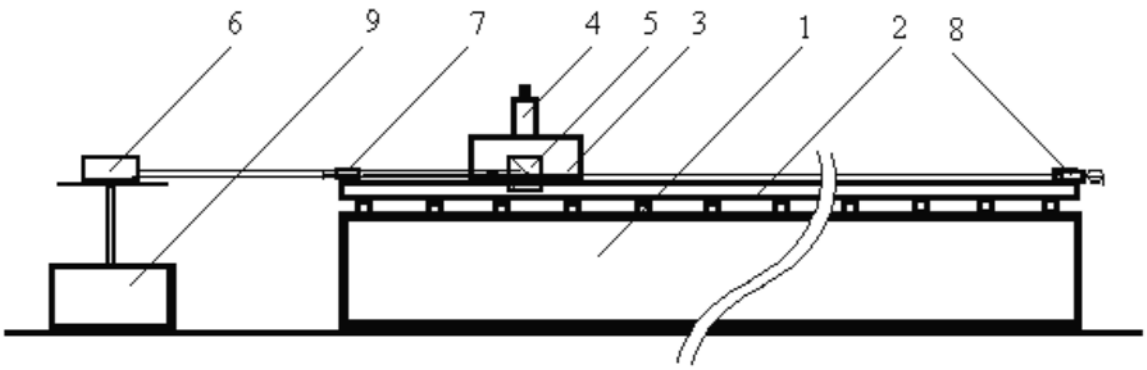

Figure 1 Scheme of comparator for long length measures

1 Base structure made of concrete, with longitude equal to 65 m and cross section dimensions of 0.8 m × 0.55 m, covered in its extremities with a flat steel surface on which the tape is supported and aligned. On the flat surface, along the whole length of the comparator there are steel plates, 25 mm in diameter, with a graduation in mm, positioned at 0.5 m from each other and aligned along the horizontal and vertical planes (see Fig. 2).

2 Rails made from 2 m lengths of center-less ground stainless steel about 50 mm in diameter.

3 Carriage which carries the microscope, spirit level and the optical devices associated with the interferometer.

4 Viewing microscope.

5 Retro-reflector.

6 Hewlett Packard laser interferometer type He-He, stabilized in frequency and placed on a table which is adjustable in height with an electronic control system and a PC-based data acquisition system for the data laser system.

7 Gauge for supporting and rolling the tape.

8 Gauge for stretching and adjusting the position of the tape.

9 Table which is adjustable in height.

interferometer is displaced from the carriage that supports it. The measurement method consists in displacing the carriage with the viewing microscope and the retro-reflector of the interferometer along the whole longitude of the tape. The position of the carriage along the bench is made to correspond with the graduations on the tape by observation of coincidence between a line of the microscope reticule and the defining point on the graduation line which is measured. Before the beginning of the measurement the tape is stretched with an appropriate force.

2 Study of the errors which occur during the measurement process using the comparator for long length measures. Measurement uncertainty

The measurement uncertainty was determined by studying the errors which occur during the measurement process. Systematic errors which cannot be eliminated are:

- errors due to the geometry of the comparator such as the linearity between the guide for the rails and the viewing microscope;
- temperature errors; and
- the laser source.

2.1 Geometrical errors

Geometrical errors are produced by:

a) Deviation from the ideal geometrical model ($\delta l/v$), which supposes that the microscope axis is perpendicular to the mark, which means that the viewing of the marks should be done perpendicular to the surface of the mark over the whole length of the comparator (see Fig. 3).

Experimental errors were determined along the whole 50 m length of the comparator. The maximum value was obtained for a tilt of the viewing axis $\beta = 10'$ from the normal angle and for a focusing height of the image of 3 mm. The maximum error is equal to:

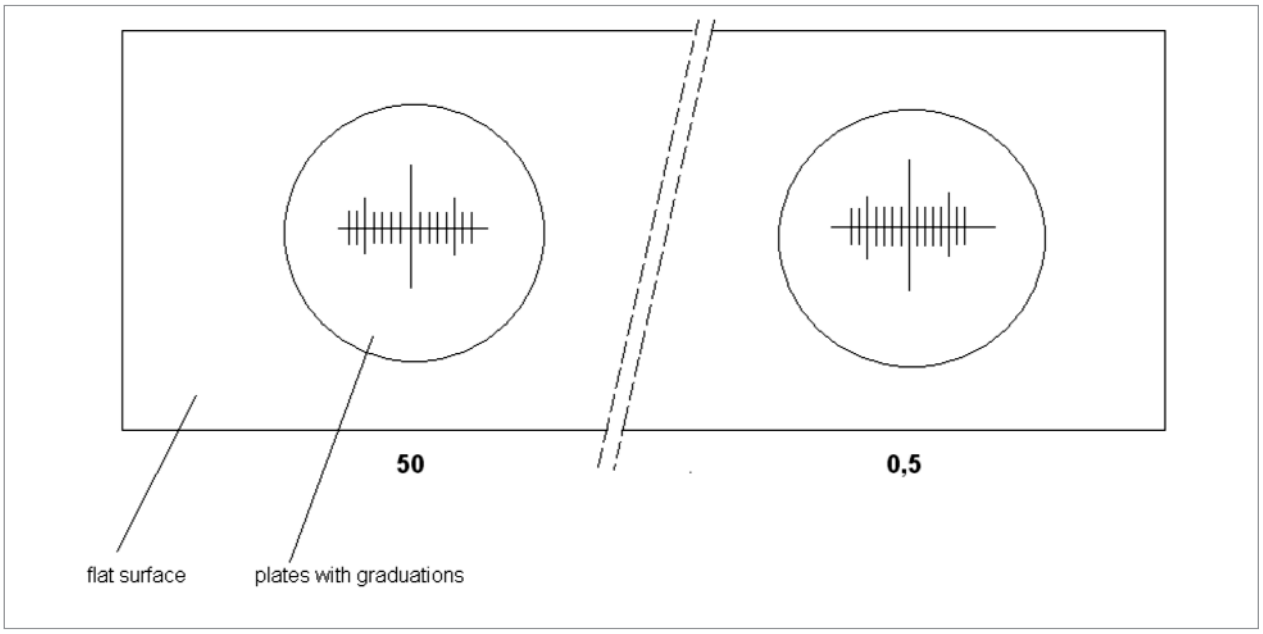

Figure 2

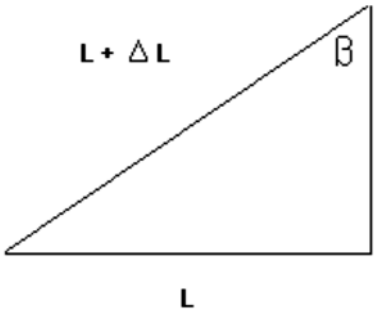

Figure 3

$$L = (L + \Delta L)\sin\beta$$

$$L = 0.009 \text{ mm} \qquad (1)$$

b) Another problem which appeared was due to the parallelism between the position of the rail guide (δlp) on which the carriage with the microscope glides, and the retro-reflector and the flat surface of the comparator which supports the tape. During the experiment, using an autocollimator, a maximum error equal to 0.010 mm was obtained.

c) Error due to the winding of the guide (δlw)

From the experimental evaluations, a maximum winding of 2 mm/50 m introduces a measurement error equal to 0.04 μm which can be ignored.

2.2 Errors due to the temperature

These types of errors come from the calibration of the thermometer, reading errors (resolution of the thermometer) and the non-uniformity of the temperature along the length of the base.

The expanded measurement uncertainty of the thermometer, according to the calibration certificate, is equal to U_t = 0.05 °C. For an extended factor k = 2 and a normal distribution type B, the standard uncertainty is equal to u_t = 0.025 °C.

The measurement uncertainty due to the thermometer's resolution, for a trapezoidal distribution, is equal to u_r = 0.01 °C/√12 = 0.003 °C.

The measurement uncertainty due to the non-uniformity of the temperature along the length of the comparator for Δt = 0.2 °C and $\alpha = 11.5 \cdot 10^{-6}$ °C^{-1} and for a rectangular distribution is equal to:

$$u_{tg} = \alpha L \cdot \Delta t/\sqrt{3} = 0.58 \cdot 10^{-6} L/1.73 = 0.33 \cdot 10^{-6} L$$

2.3 Errors due to the variation in the coefficient of thermal expansion

Considering the limits of the variation in the coefficient of thermal expansion ($\Delta\alpha$) equal to $\pm 2 \cdot 10^{-6}$ °C^{-1}, Δt = 0.05 °C and a rectangular distribution, the measurement uncertainty due to this term is equal to:

$$u(\alpha) = \Delta\alpha\Delta t L/\sqrt{3} = 0.06 \cdot 10^{-6} L.$$

2.4 Errors due to the laser interferometer

a) Error due to the influence of environmental parameters on the refractive index

Corrections to the wavelength of the interferometer's radiation are determined by the environmental conditions in which the laser radiation travels, respective of temperature, pressure and environmental humidity, according to the Owens-Edlen formula:

$$(\Delta L)_\lambda = (1 - n/n_N) \cdot L \qquad (2)$$

where:

L Measured length;
n Refractive index of air;
n_N Refractive index of air at t = 20 °C.

Considering that the measurement uncertainty of the wavelength depends on the measurement uncertainty of the pressure and temperature, for the Hewlett Packard laser interferometer this gives the following values: u_p = 1.12 torr; u_t = 0.2 °C; u_u = 0.1 torr.

The wavelength of the laser at t = 20 °C, p = 760 torr and u = 10 torr is λ = 0.6328 μm.

For t = 20.3 °C, p = 762 torr and u = 10 torr, applying the Owens-Edlen formula results in the following value for the wavelength of the laser:

$(\Delta L)_\lambda = 0.022 \cdot 10^{-6} L$ where L is measured in metres.

b) The error due to the flatness deviation of the retroreflector's mirrors is equal to $\lambda/8$ = 0.08 μm, but this factor is insignificant.

c) Cosines error between the incident laser beam and the reflective laser beam (ϕ)

Experimentally, a maximum error was obtained equal to $0.002 \cdot 10^{-6} L$, where L is measured in metres.

3 Uncertainty budget

Considering the following mathematical model, the length (L_x) of the comparator corrected for the reference conditions is given by formula:

$$L_x = \delta l_V + \delta l_p + \delta l_w + \Delta l + \delta l_{\alpha,t} + \delta l_e + \delta l_d \qquad (3)$$

where:

l_V Correction due to the viewing of the microscope on the flat surface;
δl_p Correction due to the parallelism between the position of the rail guides that support the carriage and the flat surface of the comparator which supports the tape;
Δl Difference of the indication at the viewing of the mark with the microscope and the longitude displayed by the electronic block of the laser interferometer;
$\delta l_{\alpha,t}$ Correction due to the variation of the temperature and expanded coefficient along the length of the comparator;
δl_e Correction due to the laser interferometer;
δl_d Correction due to the divergence of the laser beam.

The contributions to the total uncertainty can be classified into mechanical, environmental/thermal and lasers as type B contributions (see 2.1 through 2.4). The type A contribution is given by successive measurements made in the same point of one of the marks of the comparator bench. For a normal distribution type A, this contribution was experimentally obtained equal to 5 μm.

Considering the terms length-dependent and length-independent, the composed uncertainty has the following form:

$$u_c = \sqrt{10^2 + 0.79^2 L^2} \ \mu m \qquad (4)$$

For an extended factor k = 2, the expanded uncertainty is:

$$U = [20;\ 1.6\ L]\ \mu m, \text{ where } L \text{ is in m.} \qquad (5)$$

Conclusions

Calibration of the comparator for long length measures is very important in the chain of traceability. Using this installation the Romanian Length Laboratory can transmit the unit of length with great accuracy to many types of length measures whose construction and errors are in line with the requirements of OIML R 35 *Material measures for general use*.

Examples include all kind of tape measures made from steel, invar or other materials, line standards with marks used for example in the oil industry for measuring the level of liquid in tanks, or geodesic devices, which in Romania fall under legal metrological control.

Analyzing the uncertainty budget obtained for the comparator for long distances, results in the National Institute of Metrology of Romania being able to ensure their traceability to a reasonable degree of uncertainty and hence fulfill customers' requirements. ■

Table 2 Uncertainty budget

Uncertainty source	Uncertainty component	Probability distribution	Sensitivity coefficient	Standard uncertainty μm
Viewing microscope	$u(\delta l_V)$	Rectangular	1	5.2
Parallelism between the position of the rails and the flat surface	$u(\delta l_p)$	Rectangular	1	5.8
Winding of the guide	$u(\delta l_w)$	Rectangular	1	0
Difference of readings	$u(\Delta l)$	Normal type A	-	5
Temperature; -calibration of thermometer	$u(t)$	Normal type B	αL	$0.29L$
-reading error	$u(t_c)$	Trapezoidal	αL	$0.03L$
-non uniformity of temperature along the comparator	$u(t_g)$	Rectangular	αL	$0.66L$
Expansion coefficient	$u(\alpha)$ $\alpha = 11.5 \cdot 10^{-6}$ °C^{-1}	Rectangular	$L\Delta t$ $\Delta t = 0.05$ °C	$0.33L$
Wavelength correction due to the environmental parameters	$u(l_e)$	Normal type B	1	$0.022L$
Cosines angle	$u(\phi)$	Rectangular	1	$0.002L$

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R 137-1 / R 117-1

EUROLOOP: Unique oil and gas calibration facilities

WIM VOLMER,
NMi Certin B.V., The Netherlands

1 Introduction

NMi (Netherlands Measurement institute) is currently building two large calibration and test facilities: one for meters intended for oils and oil products, and one for meters designed for natural gas.

Both installations are designed for calibrations, type approval testing, initial verifications and tests in accordance with well-known international standards. Two key documents which play a role in the design of these installations are OIML R 137-1 *Gas Meters. Part 1: Requirements* (recently published) and the draft of OIML R 117-1 *Dynamic measuring systems for liquids other than water* (to be approved by the CIML at its 42nd Meeting in October 2007).

The combined requirements of the documents on test installations have resulted in a stringent scope of design, in terms of measurement uncertainties over a wide range of operating conditions. This in turn has forced NMi to come up with innovative design features. This applies mainly to the gas facilities' layout, specifically those aspects concerning traceability, and the innovative design of the liquid provers, which includes real-time leak detection.

2 Legislation, Recommendations and Standards

EuroLoop aims to offer services to a wide range of international customers, dealing with various requirements applicable to their specific applications. Therefore, the design of the facilities has to allow for testing in accordance with a number of documents. In some countries national laws may apply, whereas in others reference is in one way or another made to OIML Recommendations and/or (inter)national standards.

For instance, in Europe the Measuring Instruments Directive (MID) came into force in which OIML Recommendations play an important role. Similarly, EN and/or ISO Standards also needed to be taken into consideration. What made this work all the more challenging was that a number of relevant documents were "under revision" or "under development" during the design phase of the project. OIML R 137-1, the draft OIML R 117-1 and ISO 17089 were all still subject to changes when decisions had to be made. Based on these fundamental choices, piping and instrumentation diagrams, isometrics, layouts, etc. were drawn up resulting in a design offering the specifications given in the sections below.

3 HyCal: Calibration facilities for oil and oil products

Overview of specifications

Flow	10 m^3/h – 5000 m^3/h
Line sizes	101.6 mm – 609.6 mm (4" – 24")
Viscosity	1, 10, 100 cSt (1200 cSt)
Piston provers	2 (40 metres long, $U_{k=2} < 0.02$ %)
Master meters	18 ($U_{k=2} < 0.05$ %)
Temperature stability	Better than 0.5 °C
Number of test runs	6 (2 per test liquid, simultaneous operation possible)
Capacity	600 calibrations per year

4 GasCal: Calibration facilities for natural gas

Overview of specifications

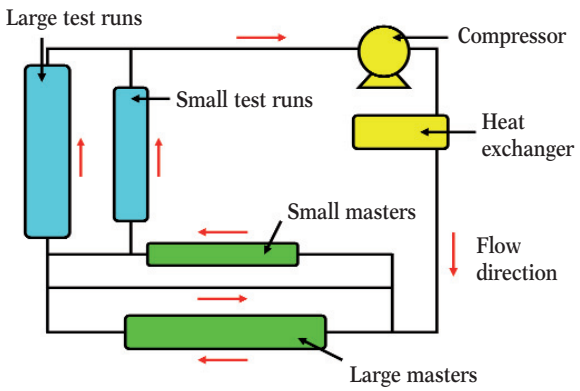
Flow	5 m^3/h – 30 000 m^3/h at working pressure 5 m^3/h – 1 800 000 m^3/h at atmospheric conditions
Line sizes	50.8 mm – 762 mm (2" - 30")
Absolute pressure	1 bar – 65 bar (freely adjustable)
Uncertainty	Better than 0.20 %, 0.15 % typical, 0.10 % possible (k = 2)
Temperature stability	Better than 0.05 °C
Pressure stability	Better than 5 mbar
Number of test runs	5 (simultaneous operation possible for 2 out of 5)
Capacity	800 – 1500 calibrations per year

5 GasCal layout and traceability

The basic principle of the GasCal traceability chain is, in itself, well known. However, by clever choice of master meter flow ranges, in combination with a piping arrangement with crossovers, the traceability chain can be radically shortened, thus decreasing the measurement uncertainty.

Looking at the schematic layout below, one can observe that various meters can be installed in the small or large test runs, thus enabling the large master meters, the small master meters and potentially a third external reference to be tested in series. In addition, the flow ranges of the master meters have been chosen so that the number of steps required to obtain traceability at higher flowrates is reduced. For example, the largest of the small master meters has a maximum capacity of 2500 m^3/h, the large master meters have a maximum flowrate of 6000 m^3/h and NMi has several "external standards" for 2000 m^3/h. These can all be put in series, well within their normal operating ranges.

Another positive factor in shortening the traceability chain is the fact that NMi has a Gas in Oil Piston Prover (GOPP) at its disposal. The GOPP enables NMi to provide traceability via an independent route at any desired pressure.



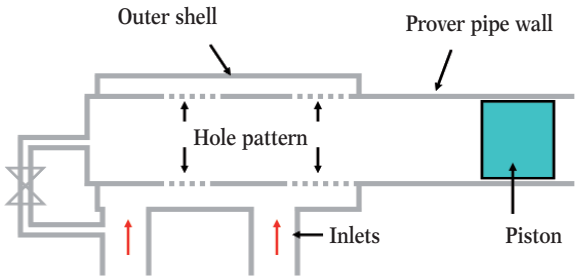
The key to achieving low measurement uncertainty is the process stability, specifically pressure and temperature. The installation will be fitted with a two-stage cooling system allowing the medium to be cooled to temperatures between 5 °C and 10 °C. The biggest benefit of this design is the temperature stability that can be achieved. Even more important than temperature stability, however, is pressure stability. A key contributor to this aspect is the compressor used for circulating the gas through the system. The combination of a large number of blades, high turndown ratio and sophisticated controls take care of this potential problem, as well as positively contributing to the temperature stability.

An additional effect of the choice for a loop system is the fact that the gas composition is constant, thus decreasing the measurement uncertainty on mass measurement in comparison with most other calibration facilities.

6 HyCal piston provers

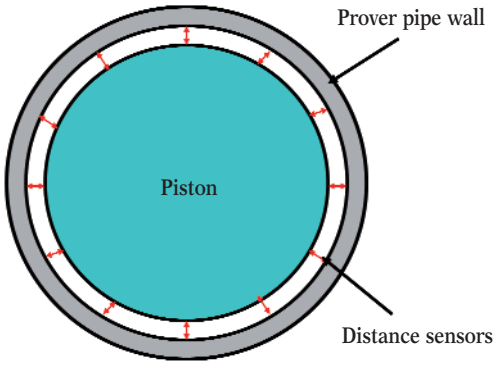
The liquid test facilities will be fitted with two 40 metre long bi-directional piston provers; one roughly 60 cm in diameter and one of 120 cm. The main challenge in the design lies in the way the pistons are to be launched and stopped at the desired position.

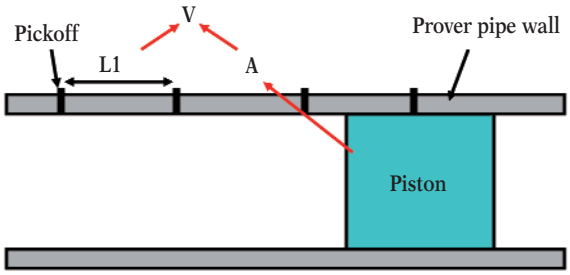
Extensive simulation studies have shown that two inlets and outlets were needed for each of the provers. Furthermore, the hole patterns needed optimization in order to reduce pressure peaks upon piston launch and stop, especially when taking water hammer into account on a prover containing almost 40 t of liquid.



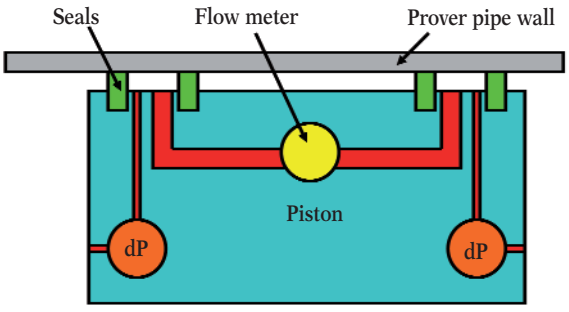
The pistons will be equipped with several types of sensors for various measurements.

To name a few, sensors measuring the distance to the pipe wall will be fitted to the pistons. In doing so, the cross section of the pipe is determined in real time. Knowing the distance between pick-offs, thus the reference volume is calculated. For calibration of the distance sensors, the prover will be fitted with an Invar ring of known proportions in which the piston rests in non-operational mode. As such, these volumetric standards will be derived from the metre, rather than from the kilogram as is more often the case.

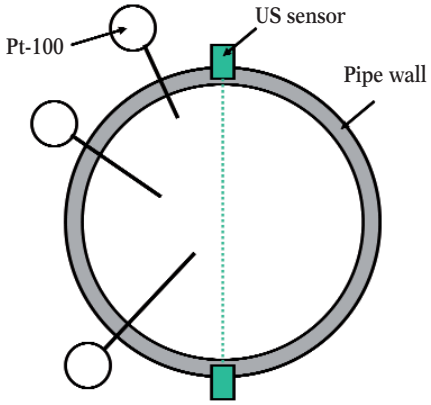




The pistons will be fitted with four seals. Across the two middle seals a bypass with a bi-directional flow meter will be fitted, giving a more or less quantifiable indication of the amount of leakage. Across the first and last seals differential pressure transmitters are installed, enabling a qualitative judgment of the tightness of these seals. Both these types of measurement allow dynamic leakage determination, a major advantage over conventional techniques.



The prover itself will be fitted with novel ultrasonic temperature measurements enabling correction for linepack effects. The speed of sound in a medium is largely determined by the medium's composition and its temperature (or density). Since EuroLoop is a loop system, the composition of the medium is constant. By determining the relation between the speed of sound and the temperature in one spot, the temperature can be derived from the speed of sound at other spots. An additional advantage of this method is the fact that it measures over a complete cross-section of the pipe, and is thus less likely to determine a temperature at an awkward spot. At this moment NMi is thinking about the position of the sensor pairs, in order to be able to detect potential air or gas bubbles in the liquid.



In addition, the piston will also be fitted with an accelerometer, battery checks, wireless communication and its own temperature measurements. The seals are picked for their inherent low friction, while at the same time being capable of sliding over holes in the piping used for the entry of liquid into the prover section.

7 Schedule

Second quarter 2008: HyCal in operation.
Fourth quarter 2008: GasCal in operation.

8 Conclusion

In 2008 the possibilities for testing and calibrating gas and liquid meters will be enhanced by two unique facilities. Applications serviced will include both legal metrological ones as well as process-related applications. In addition, it will house training facilities offering oil and gas related courses. Please visit www.nmi.nl for more information about EuroLoop and the NMi Metrology College (the NMi training program). ■

INTERNATIONAL COOPERATION

Technical cooperation between India and Germany in the field of legal metrology

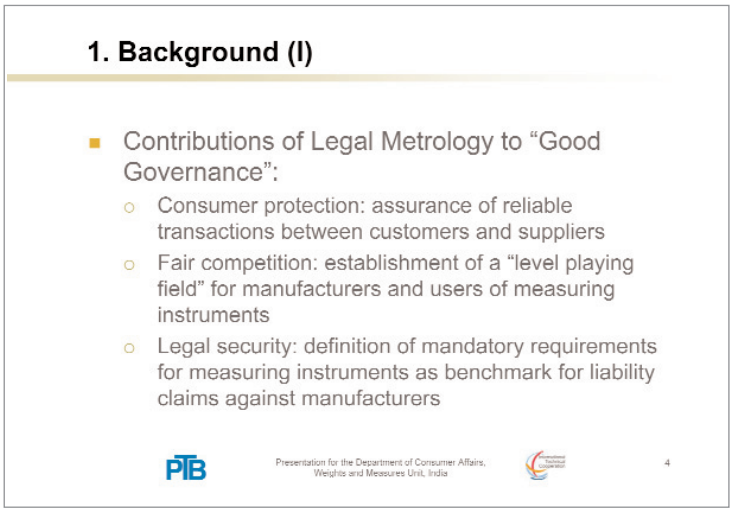
MANFRED KOCHSIEK, Former PTB Vice-President

1 Background

What is the motivation behind the trend to transfer legal metrology tasks to the private sector?

Legal metrology is a vital part of a country's regulatory framework and affects commercial transactions as well as people's everyday life. From a public administration's point of view, legal metrology is also intrinsically tied to the issue of "**good governance**", by ensuring:

- Consumer protection: assurance of reliable transactions between customers and suppliers;
- Fair competition: establishment of a "level playing field" for manufacturers and users of measuring instruments;
- Legal security: definition of mandatory requirements for measuring instruments as a benchmark for liability claims against manufacturers.



Regarding the institutional set-up, legal metrology was and (partly) still is in most countries an entirely public task. However, several **reasons** led to the discussion of transferring verification and testing tasks to the private sector:

1 A large number of measuring instruments have to be regulated and placed on the market, but public bodies have only limited resources to ensure the comprehensive administration of legal metrology services.

2 The pace of technological progress is constantly increasing, e.g. in software development. This calls for a more active involvement of the private sector as the main driver of technological change.

3 Manufacturers and users of measurement instruments increasingly have quality management systems in place which could be integrated into verification tasks to achieve a more effective and cost-efficient declaration of conformity.

4 There is a political trend to concentrate government activities on public core functions and to encourage the private sector to take over (potentially) commercially viable activities.

However, the increasing involvement of the private sector does not mean that legal metrology becomes a purely private business. On the contrary: The necessity to have a national legal metrology system under the authority and responsibility of the government is not put into question!

Transfer of metrological verification tasks to the private sector – Concepts, objectives & practices prevailing in the European Union

2 Basic concept

On what principles is the "privatization" of verification services built? What could the division of tasks look like?

The idea to "privatize" verification services is based on a number of **key principles** which are widely accepted as cornerstones of international good practice in this field:

1 Principle of subsidiarity

The public sector should refrain from tasks that could also – possibly in an even more efficient way – be carried out by the private sector.

2 Compliance with good regulatory practices

The administrative framework in legal metrology should be transparent and the involvement of private companies based on clearly defined criteria.

3 Need for surveillance

The overall responsibility to ensure reliable legal metrology services remains at government level.

Regarding possible entry points for private bodies in the field of legal metrology and an adequate **division of tasks** between the public and the private sector, the following model has emerged:

1 Duties which are regarded as public "core" tasks:

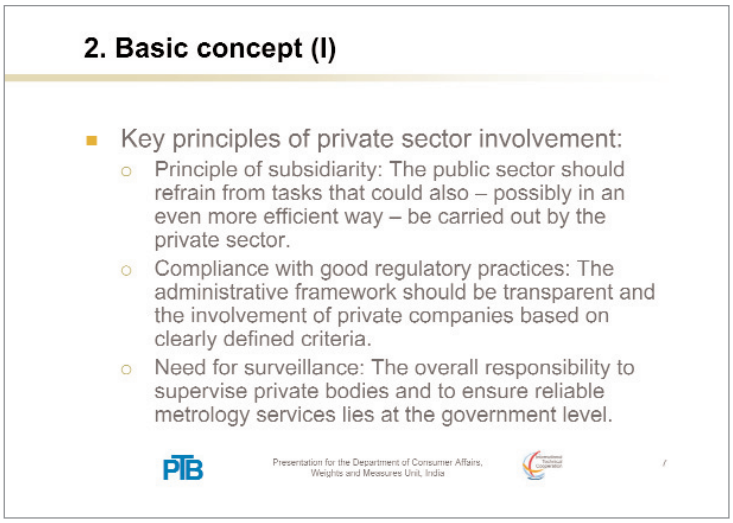
- Elaboration of a Law on metrology;
- Adoption of technical regulations and standards;
- Definition of the organizational framework;
- Market surveillance, i.e. check of measuring instruments already placed on the market.

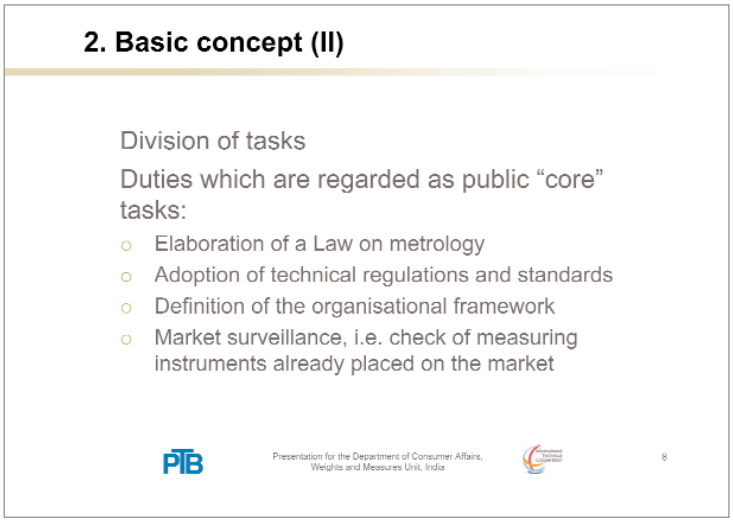
2 Tasks with a potential for private sector involvement:

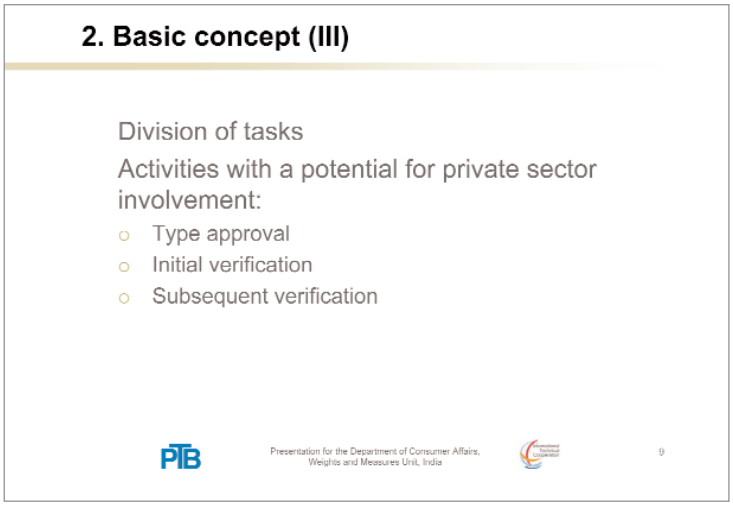
- Type approval;
- Initial verification;
- Subsequent verification.

Furthermore, the following aspects should be taken into account:

- Private sector involvement requires an effective surveillance of the verification bodies;
- For international recognition, the guidelines of the respective standard-setting organizations need to be respected (OIML, ILAC, Metre Convention).





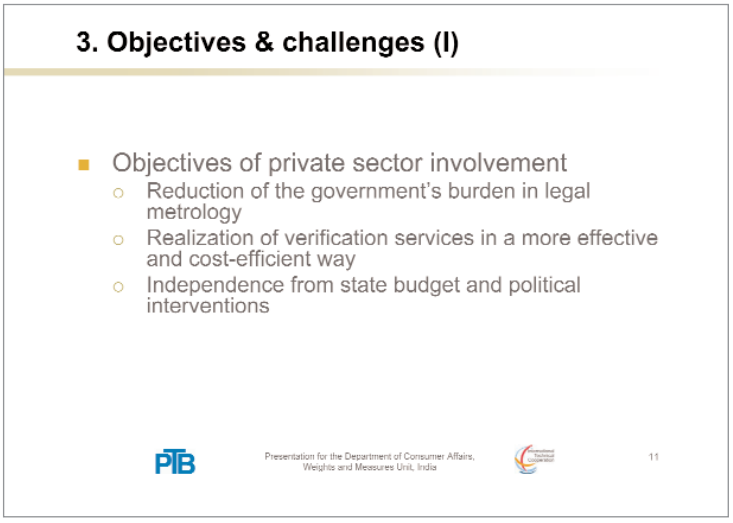


3 Objectives and challenges

What aims are pursued with the "privatization" of verification services? What kind of challenges is the public sector facing in this regard?

A "privatization" of verification services that takes into account the key principles mentioned, offers the following potential **advantages**:

- Reduction of the government's burden in legal metrology;
- Realization of verification services in a more effective and cost-efficient way;
- Independence from state budget and political interventions.

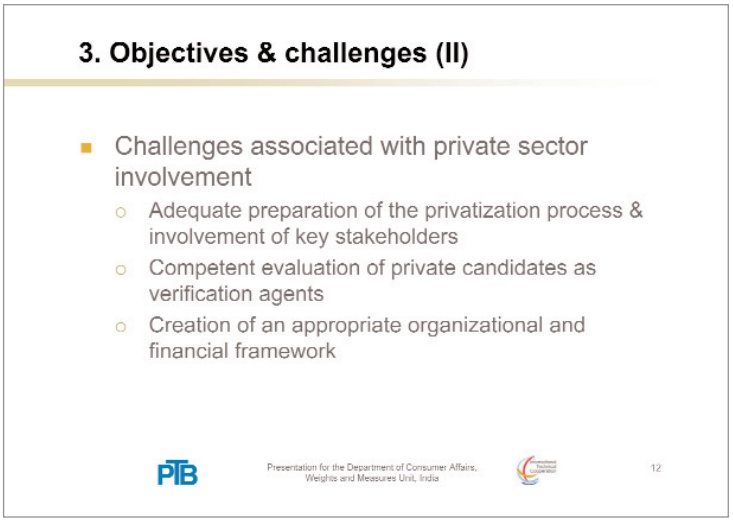


In order to realize these objectives, the public sector faces a number of **challenges**:

1 The privatization process needs to be properly prepared and actively communicated:
   - Analysis of possible resistance and transition problems, e.g. by drafting a transition scenario;
   - Involvement of all concerned stakeholders at an early stage, e.g. by information and consultation campaigns.

2 Private enterprises that are candidates as verification agents need to be properly evaluated, especially regarding:
   - Technical competence;
   - Independence;
   - Impartiality;
   - Staff qualification;
   - …

3 The organizational framework needs to be appropriately designed:
   - How can a private monopoly be avoided and competition initiated?
   - Are the financial incentives sufficient to ensure sustainability?
   - How can the surveillance of transferred tasks be assured by the state?



4 Case study: Good practices in Germany and the European Union

How has the privatization of verification tasks been realized in the EU / Germany and what experiences have been gained?

There has been long-term experience involving private bodies as special verification agents in **Germany** with the concept of so-called "state approved test centers", introduced around 100 years ago. These are independent private enterprises which are charged with a function in the public interest.

The **scope** of "state approved test centers" comprises:

- Initial and subsequent re-verifications of measuring instruments for gas, electricity, water and heat;
- Legal marking of the verified measuring instruments;
- Confirmation that – with the period fixed – the measuring instruments provide correct measuring results in compliance with the maximum permissible errors in service.

Furthermore, state approved test centers are:

- approved by the competent (public) verification authorities in collaboration with the National Metrology Institute (PTB);
- subject to supervision by the verification authorities according to the requirements stipulated in the legal regulations.

Requirements for being approved as a test center include:

- Technical competence such as appropriate premises and testing facilities;
- Use of standards which are traceable to national standards;
- Organizational independence from the manufacturer of measuring instruments;
- A competent and reliable staff;
- Operation with highest reliability and independence from any interference.

The state approval corresponds to an accreditation procedure according to ISO 17025, but it is not formally required for tasks regarding the Verification Act. In the event of negligence, the approval of the test center as well as the assignment of staff can be withdrawn at any time.

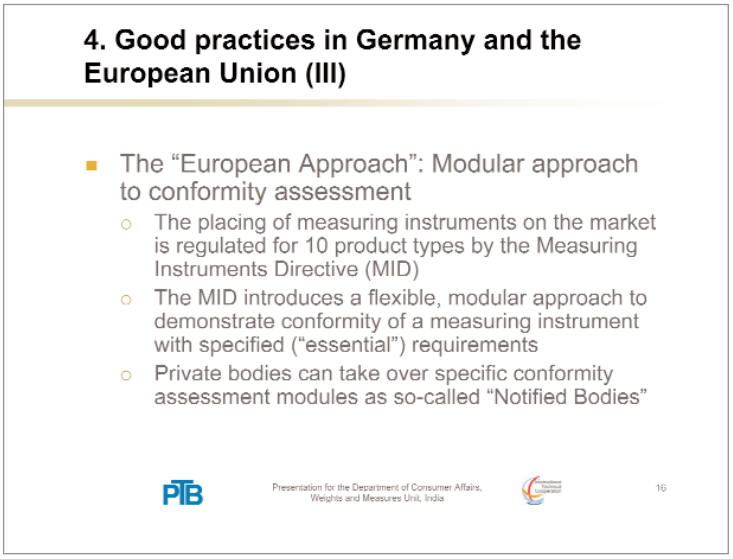
Note: Against the background of the introduction of the EU Measuring Instruments Directive (MID), the German system of state approved test centers is currently under revision!

At **EU level**, the placing of measuring instruments on the market is regulated for 10 types of products (water, gas, heat and electrical energy meters, taximeters, automatic weighing machines, etc.) by the Measuring Instruments Directive (MID), published in 2004.

The **MID** introduces a flexible, modular approach to demonstrate conformity of a measuring instrument with specified ("essential") requirements. The modular approach offers alternative, instrument specific conformity assessment procedures in order to place the measuring device on the market. In the EU concept, the term "verification" is – to put it simply – replaced by the broader term "conformity assessment". The latter includes any activity concerned with determining directly or indirectly that the relevant requirements are fulfilled.

For instance, in the case of water, gas, heat and electrical energy meters, one of the following combinations of **conformity assessment procedures** needs to be fulfilled:

- Type examination + assessment & surveillance of the quality management system; OR:
- Type examination + product verification; OR:
- Assessment and surveillance of the full quality assurance + design examination.

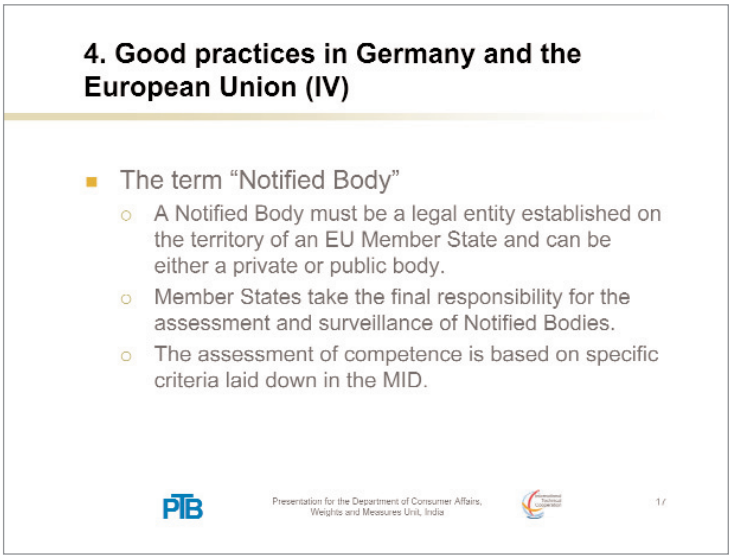


In the above cases, each procedure has to be carried out by a so-called **Notified Body (NB)**.

Notified Bodies:

- must be a legal entity established on the territory of an EU Member State;
- can be either a private or public body;
- are assessed against specific criteria laid down in the MID.

The decision about the actual degree of private sector involvement in conformity assessment (respectively verification) tasks is taken on the level of the individual EU Member State. Similarly, the final responsibility for the competence of Notified Bodies lies with the Member State.



Criteria to be satisfied by Notified Bodies (NB) include:

- Organizational independence

The NB (…) shall not be the designer, manufacturer, supplier, installer or user of the measuring instruments that they inspect, nor the authorized representative of any of them (…).

- Financial independence

The NB (…) shall be free from all pressures and inducements, in particular financial inducements, that might influence their judgment or the results of their conformity assessment (…).

- Professional integrity

The conformity assessment shall be carried out with the highest degree of professional integrity and requisite competence in the field of metrology (…).

- Technical competence

The NB shall have at its disposal the necessary staff and shall have access to the necessary facilities for carrying out in a proper manner the technical and administrative tasks entailed in conformity assessment.

- Staff qualification

The NB's staff shall have:

- sound technical and vocational training (…);
- satisfactory knowledge of the rules governing the tasks which it carries out (..);
- the requisite ability to draw up the certificates, records and report demonstrating that the tasks have been carried out.

- Impartiality

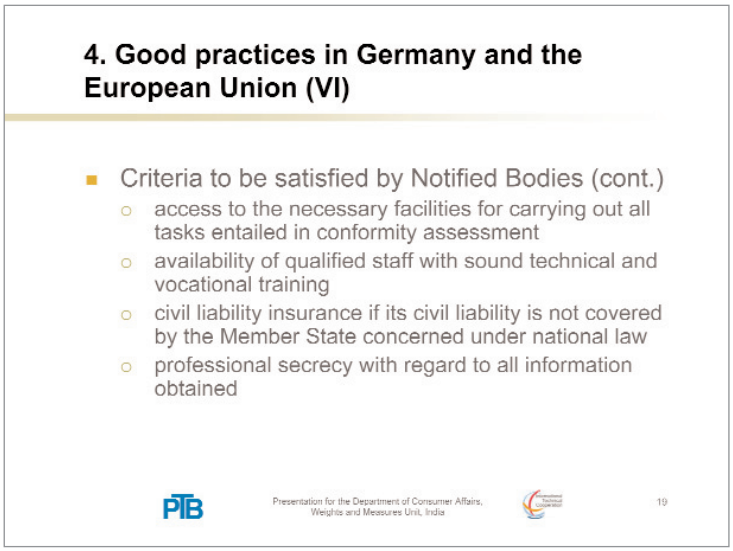
The remuneration of the body shall not depend on the results of the tasks it carries out (…).

- Insurance cover

The NB shall take out civil liability insurance if its civil liability is not covered by the Member State concerned under national law.

- Professional secrecy

The NB's director and staff shall be bound to observe professional secrecy with regard to all information obtained (…), except vis-à-vis the authority of the Member State which has designated it.



The **evaluation and surveillance** of Notified Bodies is regulated on the Member State level. For Germany, the responsibility is currently shared:

- for private NB: Evaluation & Surveillance by the German Accreditation Body DKD (German Calibration Service) and individual State Ministries;
- for public NB: Evaluation & Surveillance by the Ministry of Economics & Technology.

Regarding the role of **accreditation**, there is a provision at EU level saying that as a general rule, an accreditation procedure should be applied for the approval of notified bodies.

In the case of Germany, a corresponding national law is currently under preparation. This law follows the EU guideline according to which an accreditation procedure should be the basis for notification.

5. Lessons learned and recommendations

What experiences have been gained with the privatization of verification tasks in the EU / Germany?

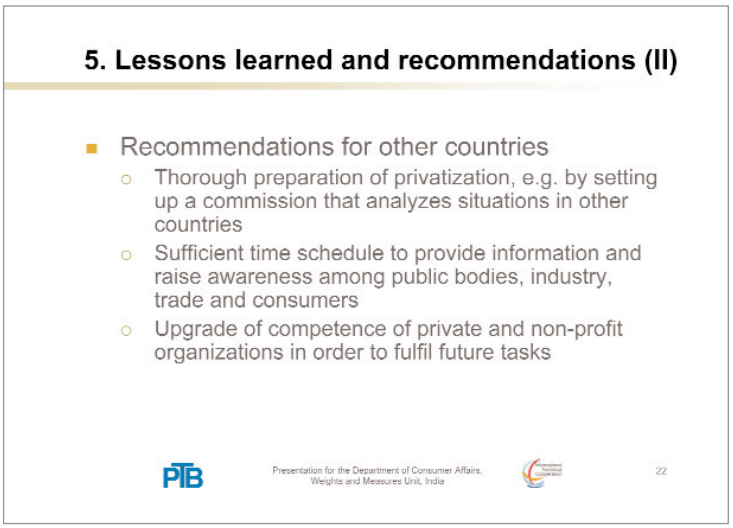
100 years of **experience in Germany** with the state approved test centers with more than 20 million verifications per year have brought about positive results:

- efficient execution of verification tasks by the private sector;
- effective surveillance by state verification authorities, based on qualified staff and technical competence;
- continued assurance of consumer protection and fair competition in the field of legal metrology.

Regarding the MID, experiences with the practical implementation of this specific Directive are up to now limited, as the MID entered into force only recently.

Recommendations for other countries considering the transfer of verification tasks to the private sector can be summarized as follows:

- Thorough preparation of the privatization process, e.g. by setting up a commission that analyzes the situation in other countries;
- Active involvement of stakeholders and provision of information to raise awareness among public bodies, industry, trade and consumers;
- Upgrade of the competence of private and non-profit organizations in order to fulfill future tasks.



- Elaboration of sound criteria to be met by (private) candidates for future verification tasks;
- Provision of sufficient financial incentives for private verification agencies (competition);
- Market surveillance should remain as an exclusive task of government bodies.

INFRASTRUCTURES

Improvement of legal metrology in India

MANFRED KOCHSIEK, Former PTB Vice-President

India, with its 1.1 billion inhabitants, is not only the second most populous country in the world, it also belongs to the circle of the ten greatest national economies. In a number of fields it has attained the highest level internationally. Within the framework of globalization, it is adjusting from considering only its domestic market to the context of world trade.

Therefore, the Indian government would like to further develop legal metrology over the next few years and adapt it to international practice.

Currently, the scope of legal metrology in India encompasses weighing and measuring instruments used in trade and transactions, in industrial production and for the protection or well being of humans, animals, or any commodity or object. Whereas the Department of Consumer Affairs of the Ministry of Consumer Affairs, Food and Pubic Distribution is responsible for laying down the standards for weighing and measuring instruments, both Central Government and the federal states share the task of implementing the laws on Weights and Measures.

In June 2007, two Regional Conferences for Legal Metrology Controllers were held: on 11/12 June 2007 at Hyderabad for the States in the southern and western regions, and on 13/14 June 2007 at Lucknow for the States in the northern, eastern and north-eastern regions. In addition, representatives of the Verification School at Ranchi, the Regional Reference Standards Laboratories (RRSL) and representatives from industry also took part.

A report on these two conferences is given here because in addition to the usual agenda items of a typical conference on weights and measures, this event highlighted specific aspects of the verification system in India:

1. Mr. K.V. Krishna Reddy, Minister for Consumer Affairs, Food and Civil Supplies, Govt. of Andhra Pradesh and Mrs. Alka Sirohi, Additional Secretary, Department of Consumer Affairs, Govt. of India, took part.

2. In front of the conference complex in Hyderabad, verification vehicles and petrol pumps were set up. An exhibition of weighing scales, weights, and taximeters was also held, and there was photo documentation on verification activities.

3. While the inaugural ceremony of the Hyderabad conference was attended by 500 participants (verification officials, industrial and economic associations, representatives from industry as well as manufacturers of measuring instruments), the actual Conference of Weights and Measures was attended by 200 delegates in Hyderabad and 60 in Lucknow, respectively.

4. Fifteen TV stations and many press officials covered the event.

5. The consumer help line dedicated to complaints relating to weights and measures was launched by the Commissioner and ex-officio Secretary, Dept. of Food & Civil Supplies, Government of Andhra Pradesh. In his address, the Commissioner underlined the various steps taken by the Government of Andhra Pradesh to protect consumers' interests.

6. The web site of the Legal Metrology Department of the Federal State of Andhra Pradesh was launched by Mrs. Alka Sirohi, Additional Secretary to the Government of India. In her address, she outlined how standards play a key role in every walk of life and how they are even more relevant in the present day context of rapid technological advancements. She underlined the need for posting technically qualified personnel as well as for modernizing legal metrology laboratories. She informed delegates that at the current rate of economic growth the need for accurate and reliable measurements is felt more than ever before, and stated that consumer protection is the main area on which the Government is concentrating. In this context, she elucidated the various steps taken by the Department, namely introducing comprehensive legislation in place of the existing double legislation on Weights & Measures, the amendment to the Packaged Commodities Rules, the infrastructure development of the States Legal Metrology Department with a view to retaining consumer confidence in the functioning of the Department, as well as ensuring a level playing field for trade and commerce and the adoption of best international practices. She stated that the Department could play a more effective role

by ensuring the prevention of various offences related to weights and measures, which would definitely benefit the consumer.

The Additional Secretary, Government of India, further added that independent third party verification/certification is now a well recognized practice aimed at improving industry, while re-enforcing consumer confidence. She stated that there appear to be fears within the enforcement staff of the State Government vis-à-vis the proposed Special Verification Agency; however, these were misplaced. She cited instances of similar doubts expressed in other areas of technology, which were subsequently found to be unfounded. She stated that Government regulations and third party verifications can go hand in hand, as the two are mutually complementary and not mutually exclusive.

7. The fuel analyzer for checking adulteration in petroleum products was commissioned by Sri K.V. Krishna Reddy, Honorable Minister, Consumer Affairs, Food, Civil Supplies and Legal Metrology, Government of Andhra Pradesh. Delivering the inaugural address, the Honorable Minister underlined the need to raise consumers' awareness so that the latter's rights can better be protected. He stated that the Department has the challenging task of protecting consumers in a large number of transactions and underlined the need to produce a strategy that would effectively take care of future requirements in line with technology changes.

An agenda item of particular interest was the discussion on the international trend in legal metrology - particularly in Europe - to assign technical testing to private companies. Mr. Manfred Kochsiek, former CIML Vice-President and Acting President, reported on experiences in Germany with the state-approved testing bodies as well as on initial verification/conformity assessment carried out by manufacturers of weighing instruments.

Since these thoughts are new for Indian verification officials, further discussion is required. The Additional Secretary, Govt. of India has, however, ruled out the possibility of doubling the number of verification officials in order to adapt to the internationally customary ratio of about 20 verification officials per one million inhabitants. Therefore, the positive experiences in Europe regarding the implementation of the Measuring Instruments Directive (MID) shall be incorporated. Moreover, questions concerning training and further education were discussed. On the basis of OIML D 14, the training parts of relevance for India have to be worked out and implemented. Also new tasks such as public relations (see consumer helpline) as well as new areas (LPG, software testing) must be tackled. The new CIML Member, Mr. R. Mathurbootham, Director, Department of Legal Metrology, has good qualifications, not only for the Indian verification system, but also to assume a greater role internationally. ■

Mrs. Tejdeep Kaur Menon, Controller of Legal Metrology, Federal State of Andhra Pradesh, demonstrates the verification vehicle used for testing road vehicle weighbridges to Mr. K. V. Krishna Reddy, Honorable Minister for Consumer Affairs, Food, Civil Supplies and Legal Metrology, Govt. of Andhra Pradesh.

OIML Certificate System:
Certificates registered 2007.05–2007.07
Up to date information (including B 3): www.oiml.org

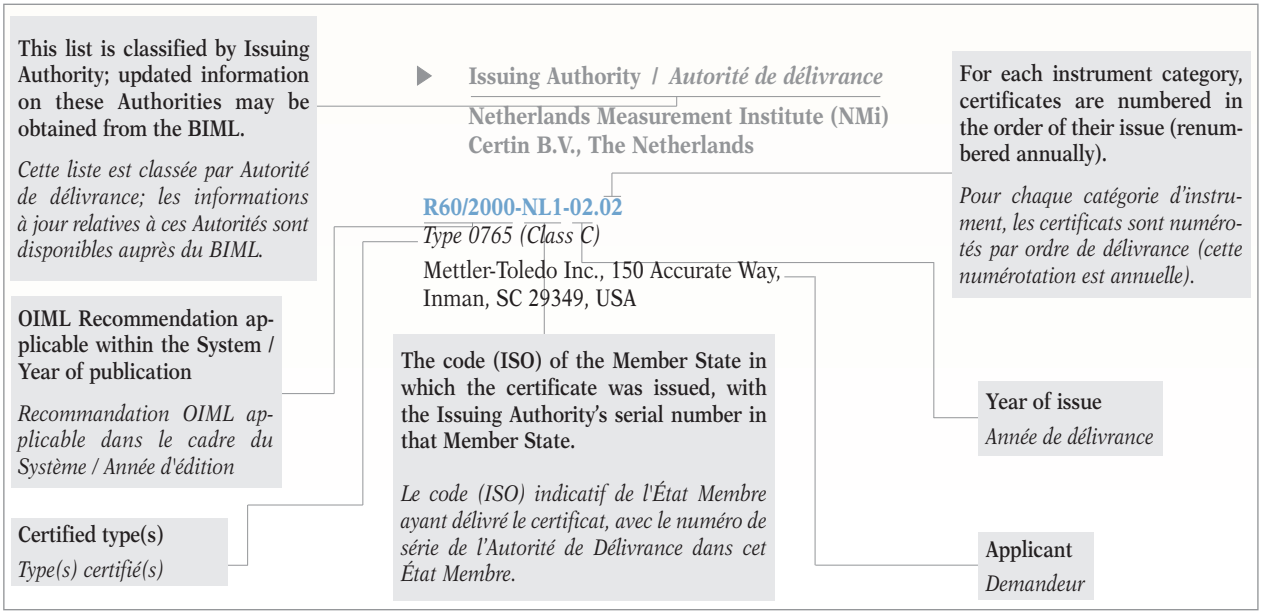
The *OIML Certificate System for Measuring Instruments* was introduced in 1991 to facilitate administrative procedures and lower costs associated with the international trade of measuring instruments subject to legal requirements.

The System provides the possibility for a manufacturer to obtain an OIML Certificate and a test report indicating that a given instrument type complies with the requirements of relevant OIML International Recommendations.

Certificates are delivered by OIML Member States that have established one or several Issuing Authorities responsible for processing applications by manufacturers wishing to have their instrument types certified.

The rules and conditions for the application, issuing and use of OIML Certificates are included in the 2003 edition of OIML B 3 *OIML Certificate System for Measuring Instruments*.

OIML Certificates are accepted by national metrology services on a voluntary basis, and as the climate for mutual confidence and recognition of test results develops between OIML Members, the OIML Certificate System serves to simplify the type approval process for manufacturers and metrology authorities by eliminating costly duplication of application and test procedures. ■



Système de Certificats OIML:
Certificats enregistrés 2007.05–2007.07
Informations à jour (y compris le B 3): www.oiml.org

Le *Système de Certificats OIML pour les Instruments de Mesure* a été introduit en 1991 afin de faciliter les procédures administratives et d'abaisser les coûts liés au commerce international des instruments de mesure soumis aux exigences légales.

Le Système permet à un constructeur d'obtenir un certificat OIML et un rapport d'essai indiquant qu'un type d'instrument satisfait aux exigences des Recommandations OIML applicables.

Les certificats sont délivrés par les États Membres de l'OIML, qui ont établi une ou plusieurs autorités de délivrance responsables du traitement des demandes présentées par des constructeurs souhaitant voir certifier leurs types d'instruments.

Les règles et conditions pour la demande, la délivrance et l'utilisation de Certificats OIML sont définies dans l'édition 2003 de la Publication B 3 *Système de Certificats OIML pour les Instruments de Mesure*.

Les services nationaux de métrologie légale peuvent accepter les certificats sur une base volontaire; avec le développement entre Membres OIML d'un climat de confiance mutuelle et de reconnaissance des résultats d'essais, le Système simplifie les processus d'approbation de type pour les constructeurs et les autorités métrologiques par l'élimination des répétitions coûteuses dans les procédures de demande et d'essai. ■

INSTRUMENT CATEGORY
CATÉGORIE D'INSTRUMENT

Diaphragm gas meters
Compteurs de gaz à parois déformables

R 31 (1995)

▶ **Issuing Authority / *Autorité de délivrance***

Netherlands Measurement Institute (NMi) Certin B.V., The Netherlands

R031/1995-NL1-2006.01

Diaphragm gas meter

Zhejiang Chint Instrument and Meter Co. Ltd., Wenzhou Bridge, Industrial Zone Yueqing, CN-325603 Wenzhou Zhejiang, P.R. China

INSTRUMENT CATEGORY
CATÉGORIE D'INSTRUMENT

Water meters intended for the metering of cold potable water
Compteurs d'eau destinés au mesurage de l'eau potable froide

R 49 (2003)

▶ **Issuing Authority / *Autorité de délivrance***

Physikalisch-Technische Bundesanstalt (PTB), Germany

R049/2003-DE1-2007.02

Water meter intended for the metering of cold potable water (mechanical, complete). Type: Model 620

Sensus Metering Systems GmbH Ludwigshafen, Industriestr. 16, D-67063 Ludwigshafen am Rhein, Germany

INSTRUMENT CATEGORY
CATÉGORIE D'INSTRUMENT

Automatic catchweighing instruments
Instruments de pesage trieurs-étiqueteurs à fonctionnement automatique

R 51 (1996)

▶ **Issuing Authority / *Autorité de délivrance***

National Weights and Measures Laboratory (NWML), United Kingdom

R051/1996-GB1-2007.01

Loadrite Pro LR918 Legal for Trade System - Accuracy class: Y(b)

Loadrite Ltd, 8 Walls Road, Penrose, Auckland, New Zealand

▶ **Issuing Authority / *Autorité de délivrance***

Physikalisch-Technische Bundesanstalt (PTB), Germany

R051/2006-DE1-2007.02

Automatic catchweigher. Type: ST-A, ST-EPW, ST-WSF

Bizerba GmbH & Co. KG, Wilhelm-Kraut-Straße 65, D-72336 Balingen, Germany

INSTRUMENT CATEGORY
CATÉGORIE D'INSTRUMENT

Metrological regulation for load cells (applicable to analog and/or digital load cells)
Réglementation métrologique des cellules de pesée (applicable aux cellules de pesée à affichage analogique et/ou numérique)

R 60 (2000)

▶ **Issuing Authority / *Autorité de délivrance***

National Weights and Measures Laboratory (NWML), United Kingdom

R060/2000-GB1-2007.01

Stainless steel single ended shear beam (bending) strain gauge load cell

Applied Weighing International Ltd., Unit 5, Southview Park, Marsack Street, Caversham, Reading RG4 5AF, Berkshire, United Kingdom

R060/2000-GB1-2007.02

Stainless steel single ended shear beam (bending) strain gauge load cell

Vehicle Weighing Solutions Ltd., Hyde Road, Off Foxdenton Lane, Chadderton M24 1QG, Oldham, United Kingdom

▶ **Issuing Authority / *Autorité de délivrance***

Netherlands Measurement Institute (NMi) Certin B.V., The Netherlands

R060/2000-NL1-2007.06

A bending beam load cell - Type: 0765

Mettler-Toledo Inc., 1150 Dearborn Drive, 43085-6712 Ohio, Worthington, Ohio, United States

R060/2000-NL1-2007.07

A bending beam load cell - Type: PWS / PWSM

Hottinger Baldwin Messtechnik GmbH, Im Tiefen See 45, D-64293 Darmstadt, Germany

R060/2000-NL1-2007.08

A single point load cell - Type: PW12...

Hottinger Baldwin Messtechnik GmbH, Im Tiefen See 45, D-64293 Darmstadt, Germany

R060/2000-NL1-2007.09

A shear beam load cell - Type ESX

ADOS S.r.l., Via Lazlo, 25, I-20090 Buccinasco, Milan, Italy

INSTRUMENT CATEGORY
CATÉGORIE D'INSTRUMENT

Automatic gravimetric filling instruments
Doseuses pondérales à fonctionnement automatique

R 61 (1996)

▶ **Issuing Authority / *Autorité de délivrance***

Physikalisch-Technische Bundesanstalt (PTB), Germany

R061/1996-DE1-2004.05 Rev. 1

Automatic Gravimetric Filling Instrument - Type: SpeedAC NXT

Premier Tech, 1 avenue Premier, G5R 6C1 Rivière-du-Loup, Canada

INSTRUMENT CATEGORY
CATÉGORIE D'INSTRUMENT

Nonautomatic weighing instruments
Instruments de pesage à fonctionnement non automatique

R 76-1 (1992), R 76-2 (1993)

▶ **Issuing Authority / *Autorité de délivrance***

Netherlands Measurement Institute (NMi) Certin B.V., The Netherlands

R076/1992-NL1-2007.04

Non-automatic weighing instrument - Type: PC-300

Acom Inc., #679-1, Yugyo-ri, Gunnae-Myun, Pocheon-Gun, 487-872 Kyunggi-Do, Korea (R.)

R076/1992-NL1-2007.12 Rev. 1

Non-automatic weighing instrument - Family of type: IND220/ IND221/ IND226/ IND226x

Mettler-Toledo (Changzhou) Measurement Technology Ltd., No. 10 Kunlan Road, ChangZhou XinBei District, 213125 Jiangsu, P.R. China

R076/1992-NL1-2007.13

Non-automatic weighing instrument - Type: CUB II (RWXX.., XRWXX.., BPA224)

Mettler-Toledo (Changzhou) Measurement Technology Ltd., No. 10 Kunlan Road, ChangZhou XinBei District, 213125 Jiangsu, P.R. China

R076/1992-NL1-2007.15

Non-automatic weighing instrument - Type: 8434...(RN00)

Mettler-Toledo (Changzhou) Measurement Technology Ltd., No. 10 Kunlan Road, ChangZhou XinBei District, 213125 Jiangsu, P.R. China

R076/1992-NL1-2007.16

Non-automatic weighing instrument - Type: RN10...(Tiger II)

Mettler-Toledo (Changzhou) Measurement Technology Ltd., No. 10 Kunlan Road, ChangZhou XinBei District, 213125 Jiangsu, P.R. China

R076/1992-NL1-2007.17

Non-automatic weighing instrument - Type: 8442 (Tiger P)

Mettler-Toledo (Changzhou) Measurement Technology Ltd., No. 10 Kunlan Road, ChangZhou XinBei District, 213125 Jiangsu, P.R. China

R076/1992-NL1-2007.18

Non-automatic weighing instrument - Type: Valor 3000 series

Ohaus Corporation, 19A Chapin Road, NJ 07058 New Jersey, Pine Brook, New Jersey, United States

R076/1992-NL1-2007.19

Non-automatic weighing instrument - Type: K-Series

Dibal S.A., Astinze Kalea, 24 Pol. Ind. Neinver, E-48160 Derio (Bilbao-Vizcaya), Spain

R076/1992-NL1-2007.20

Non-automatic weighing instrument - Type: RN20../Viva..

Mettler-Toledo (Changzhou) Measurement Technology Ltd., No. 10 Kunlan Road, ChangZhou XinBei District, 213125 Jiangsu, P.R. China

R076/1992-NL1-2007.21

Non-automatic weighing instrument - Type: Trooper

Ohaus Corporation, 19A Chapin Road, NJ 07058 New Jersey, Pine Brook, New Jersey, United States

R076/1992-NL1-2007.22

Non-automatic weighing instrument - Type: Trooper count scale

Ohaus Corporation, 19A Chapin Road, NJ 07058 New Jersey, Pine Brook, New Jersey, United States

R076/1992-NL1-2007.23

Non-automatic weighing instrument - Type: Diva

Mettler-Toledo Inc., 1150 Dearborn Drive, 43085-6712 Ohio, Worthington, Ohio, United States

▶ **Issuing Authority / *Autorité de délivrance***

Physikalisch-Technische Bundesanstalt (PTB), Germany

R076/1992-DE1-2005.04 Rev. 1

Non-automatic electromechanical baby weighing instrument - Types: M375x1/ M376x1 and M376x2

SECA GmBH & Co. kg., Hammer Steindamm 9-25, D-22089 Hamburg, Germany

R076/1992-DE1-2006.01 Rev. 2

Nonautomatic electromechanical weighing instrument - Type: BD ED 100, BD ED 200

Sartorius A.G., Weender Landstraße 94-108, D-37075 Göttingen, Germany

R076/1992-DE1-2007.03

Non-automatic electromechanical weighing instrument with or without lever works. Type: DISOMAT Opus

Schenk Process GmbH, Landwehrstraße 55, D-64293 Darmstadt, Germany

R076/1992-DE1-2007.04

Non-automatic electromechanical weighing instrument with or without lever works. Type: Classic SG-A

Mettler-Toledo GmbH, Im Langacher, CH-8606 Greifensee, Switzerland

R076/1992-DE1-2007.05

Nonautomatic electromechanical weighing instrument - Type: CE II...

Bizerba GmbH & Co. KG, Wilhelm-Kraut-Straße 65, D-72336 Balingen, Germany

INSTRUMENT CATEGORY
CATÉGORIE D'INSTRUMENT

Automatic level gauges for measuring the level of liquid in fixed storage tanks
Jaugeurs automatiques pour le mesurage des niveaux de liquide dans les réservoirs de stockage fixes

R 85 (1998)

▶ **Issuing Authority / *Autorité de délivrance***

Netherlands Measurement Institute (NMi) Certin B.V., The Netherlands

R085/1998-NL1-2007.01

Automatic level gauge for measuring the level of liquid in storage tanks, model FMR 53X with antennas type FMR 530 DN 150, 200, 250, type FMR 531 teflon 1,5" (Rod), type FMR 533 DN 450 (Parabolic), type FMR 532 DN 150, 200, 250,

Endress + Hauser GmbH + Co., KG, Haupstraße 1, D-79689 Maulburg, Germany

INSTRUMENT CATEGORY
CATÉGORIE D'INSTRUMENT

Fuel dispensers for motor vehicles
Distributeurs de carburant pour véhicules à moteur

R 117 (1995) + R 118 (1995)

▶ **Issuing Authority / *Autorité de délivrance***

Russian Research Institute for Metrological Service (VNIIMS)

R117/1995-RU1-2005.01 Rev. 2

Kaizen Fuel Dispensing Pump SPIRIT series / ROVER series / OPPERTUNITY series Tokheim-Kaizen Fuel Measuring Systems Quantium QX30

Tokheim Kaizen Private Limited, A-174,
TTC Industrial Area, MIDC, Village Khairane,
400709 Navi Mumbai, India

R117/1995-RU1-2005.01 Rev. 3

Fuel Dispensing Pump series SPIRIT/ROVER/OPPORTUNITY/QUANTIUM XXX

Tokheim Kaizen Private Limited, A-174,
TTC Industrial Area, MIDC, Village Khairane,
400709 Navi Mumbai, India

OIML CERTIFICATE SYSTEM

List of OIML Issuing Authorities (by Country)

*The list of OIML Issuing Authorities is published in each issue of the OIML Bulletin. For more details, please refer to our web site: www.oiml.org/certificates. The one change since the July 2007 issue of the Bulletin is marked in **red**.*

AUSTRALIA

AU1 - National Measurement Institute	**R 49**	R 50	R 51	R 60	R 76	R 85
	R 106	R 107	R 117/118	R 126	R 129	

AUSTRIA

AT1 - Bundesamt für Eich- und Vermessungswesen	R 50	R 51	R 58	R 61	R 76	R 85
	R 88	R 97	R 98	R 102	R 104	R 106
	R 107	R 110	R 114	R 115	R 117/118	

BELGIUM

BE1 - Metrology Division	R 76	R 97	R 98

BRAZIL

BR1 - Instituto Nacional de Metrologia, Normalização e Qualidade Industrial	R 76

BULGARIA

BG1 - State Agency for Metrology and Technical Surveillance	R 76	R 98

CHINA

CN1 - State General Administration for Quality Supervision and Inspection and Quarantine	R 60	R 76	R 97	R 98

CZECH REPUBLIC

CZ1 - Czech Metrology Institute	R 49	R 76	R 81	R 85	R 105	R 117/118

DENMARK

DK1 - The Danish Accreditation and Metrology Fund	R 50	R 51	R 60	R 61	R 76	R 98
	R 105	R 106	R 107	R 117/118	R 129	
DK2 - FORCE Technology, FORCE-Dantest CERT	R 49					

FINLAND

FI1 - Inspecta Oy	R 50	R 51	R 60	R 61	R 76	R 85
	R 106	R 107	R 117/118			

FRANCE

FR1 - Bureau de la Métrologie	*All activities and responsibilities were transferred to FR2 in 2003*
FR2 - Laboratoire National de Métrologie et d'Essais	R 31 R 49 R 50 R 51 R 58 R 60 R 61 R 76 R 85 R 88 R 97 R 98 R 102 R 105 R 106 R 107 R 110 R 114 R 115 R 117/118 R 126 R 129

GERMANY

DE1 - Physikalisch-Technische Bundesanstalt (PTB)	R 16 R 31 R 49 R 50 R 51 R 58 R 60 R 61 R 76 R 88 R 97 R 98 R 102 R 104 R 105 R 106 R 107 R 110 R 114 R 115 R 117/118 R 128 R 129 R 133

HUNGARY

HU1 - Országos Mérésügyi Hivatal	R 76

JAPAN

JP1 - National Metrology Institute of Japan	R 60 R 76 R 115 R 117/118

KOREA (R.)

KR1 - Korean Agency for Technology and Standards	R 76

THE NETHERLANDS

NL1 - NMi Certin B.V.	R 31 R 49 R 50 R 51 R 60 R 61 R 76 R 81 R 85 R 97 R 105 R 106 R 107 R 117/118 R 126 R 129 R 134

NEW ZEALAND

NZ1 - Ministry of Consumer Affairs, Measurement and Product Safety Service	R 76

NORWAY

NO1 - Norwegian Metrology Service	R 50 R 51 R 61 R 76 R 105 R 106 R 107 R 117/118 R 129

POLAND

PL1 - Central Office of Measures	R 76 R 98 R 102

ROMANIA

RO1 - Romanian Bureau of Legal Metrology	R 97 R 98 R 110 R 114 R 115

RUSSIAN FEDERATION

RU1 - Russian Research Institute for Metrological Service	R 31	R 50	R 51	R 58	R 60
	R 61	R 76	R 85	R 88	R 93
	R 97	R 98	R 102	R 104	R 105
	R 106	R 107	R 110	R 112	R 113
	R 114	R 115	R 117/118	R 122	R 126
	R 128	R 129	R 133		

SLOVAKIA

SK1 - Slovak Legal Metrology (Banska Bystrica)	**R 49**	R 76	R 117/118		

SLOVENIA

SI1 - Metrology Institute of the Republic of Slovenia	R 76				

SPAIN

ES1 - Centro Español de Metrología	R 51	R 60	R 61	R 76	R 97
	R 98	R 126			

SWEDEN

SE1 - Swedish National Testing and Research Institute AB	R 50	R 51	R 60	R 61	R 76
	R 85	R 98	R 106	R 107	R 117/118

SWITZERLAND

CH1 - Swiss Federal Office of Metrology and Accreditation	R 16	R 31	**R 49**	R 50	R 51
	R 60	R 61	R 76	R 97	R 98
	R 105	R 106	R 107	R 117/118	

UNITED KINGDOM

GB1 - National Weights and Measures Laboratory	R 49	R 50	R 51	R 60	R 61
	R 76	R 85	R 98	R 105	R 106
	R 107	R 117/118	R 129	R 134	
GB2 - National Physical Laboratory	R 97				

UNITED STATES

US1 - NCWM, Inc.	R 60	R 76			

VIETNAM

VN1 - Directorate for Standards and Quality (STAMEQ)	R 76				

MAA IMPLEMENTATION

R 60 and R 76 Declarations of Mutual Confidence (DoMC)

Third R 60/R 76 CPR Meeting

Tsukuba, Japan

6–7 June 2007

RÉGINE GAUCHER, MAA Project Leader, BIML

The R 60/R 76 Committee on Participation Review (CPR) held its third meeting on 6-7 June 2007 in Tsukuba, Japan.

Nineteen CPR Members attended, including the provisional representatives from new potential participating countries.

The main purpose of the meeting was to examine the new candidacies received for participating in the first two DoMCs and in particular:

- the application files submitted;
- the accreditation assessment reports; and
- any additional national requirements requested to be included in the DoMCs.

Several additional issues were discussed, in particular:

- the revision of the scope of the R 76 DoMC in view of the recent approval of OIML R 76-1 (2006);
- the examination of the candidacies received for new technical and metrological experts who, if selected, may participate in the peer assessments and accreditation assessments where testing according to OIML R 60 and R 76 is covered by the accreditation scope;
- the possibility to take manufacturers' test results into account when issuing OIML Certificates;
- the requirements for issuing OIML MAA Certificates before the respective DoMC is signed or before a new Participant is included in a revised DoMC; and
- the DoMC maintenance process.

1 Examination of new candidacies for participation

The CPR reviewed the application files of those countries wishing to sign the R 60 and/or R 76 DoMCs as Issuing Participants and, based on this review, decided on the peer assessments to be conducted. For reasons of confidentiality, none of the new potential Issuing Participants can be identified by name outside of the CPR until formally accepted by the other Participants.

CPR Members' proposals for new Participants were recorded in two reports (R 60 CPR Report/R 76 CPR Report) which will be circulated among all the Participants in the relevant DoMCs for final acceptance.

Considering the timetable necessary for completing this formal acceptance, it is expected that the R 60 and R 76 DoMCs will be revised before the end of 2007 to include the new Participants.

Some of the new potential Participants had submitted additional national requirements to be included in the scope of the DoMCs; the CPR examined the testing procedures they had provided, and the requirements – which were accepted – will be included in the revised DoMCs.

2 Revision of the R 76 DoMC scope

The third CPR meeting gave CPR Members the opportunity to discuss the revision of the scope of the R 76 DoMC in view of the approval by the CIML of the revised OIML R 76-1 in October 2006.

The new scope of the R 76 DoMC was defined, and its ensuing revision will be implemented as soon as OIML R 76-2 is approved and published.

All the new requirements which are included in R 76-1 (2006) will also be included in the scope of the revised R 76 DoMC (e.g. type evaluation of families, modules, and software). This revision is expected at the beginning of 2008 and will consequently be a second revision of the R 76 DoMC, the first being expected before the end of 2007 and which will include new Participants (see above).

3 Examination of new candidacies for technical and metrological experts

The CPR examined six new candidacies for technical and metrological experts that were submitted either by participating countries, or by non participating countries. It was decided to extend the possibility to submit candidacies to non participating countries in view of the excellent cooperation with ILAC (International Laboratory Accreditation Cooperation).

In addition to being involved in peer assessments, it was decided that these experts should also participate in the accreditation assessments conducted by National Accreditation bodies, which are ILAC Full Members, as soon as type testing according to the relevant OIML Recommendation is included in the scope of the testing laboratory accreditation.

4 Test results from manufacturers

This issue is not only related to the implementation of the MAA, but is a general issue related to the implementation of the OIML Certificate System.

OIML B 3 *OIML Certificate System for Measuring Instruments* does not specify that taking into account manufacturers' test results to issue an OIML Certificate is not allowed. In most European countries, taking manufacturers' test results into account is common practice to issue national or regional type approvals. Nevertheless, certain strict conditions are defined such as:

- accreditation of the manufacturer's testing laboratory on the basis of ISO/IEC 17025 for the relevant scope;
- periodic peer assessments of the manufacturer's testing laboratory on the basis of ISO/IEC 17025 conducted by the Issuing Authority including specific guidelines for traceability, staff training, use of procedures and formats developed by the Issuing Authority;
- manufacturer's testing laboratory requested to participate in intercomparisons, in particular for the initial designation as a subcontractor; and
- some tests may be repeated by the Issuing Authority.

Under the MAA, in addition to the criteria of impartiality and independence, consistency in the requirements defined for the evaluation of third party testing laboratories should also be considered.

Considering the discussions within the CPR, it was decided that (at least for the time being) tests performed by manufacturers would remain outside the scope of the R 60 and R 76 DoMCs.

Several countries and manufacturers wish to continue to issue Certificates based on manufacturers' test results. It may be envisaged to keep the OIML Basic Certificate System in parallel to the DoMCs, so as to cover such cases and also to allow newly appointed Issuing Authorities to issue Certificates before entering into DoMCs.

This will be considered by OIML TC 3/SC 5 in the revision of B 3 and B 10. OIML TC 3/SC 5 intends to hold a meeting in May or June 2008 in order to start discussions on the revision of these two OIML Publications.

5 Timing for issuing OIML MAA Certificates

Several Issuing Participants in a DoMC have requested authorization to issue OIML MAA Certificates for applications received before a DoMC is signed, or before the DoMC is revised to include the relevant new Participants.

The BIML drew up a working paper on this issue which was discussed and adopted at the third R 60/R 76 CPR Meeting.

This document is now available on the OIML web site under the headings "MAA", "Documentation" and "General" (reference OIML MAA 06: August 2007).

6 Maintenance of the DoMCs

The next step to be implemented for the R 60 and R 76 DoMCs is the intermediate documentary assessment, which it is planned to complete by 29 September 2008. This intermediate assessment will include:

- the examination of an internal audit report for peer assessed laboratories; and
- the examination of the most recent accreditation assessment report for accredited laboratories.

In order to have a similar procedure for both categories of laboratories, the CPR agreed that accredited laboratories are not requested to provide an assessment report issued by an assessment team with a technical and metrological expert included, but are still required to provide an assessment report.

In order to facilitate the examination of the assessment reports, the CPR requested the possibility to develop a technical assessment format to be used by National Accreditation Bodies when assessing in the field of legal metrology. This will be difficult, since ILAC is only developing guidance for National Accreditation

Bodies. Each Accreditation Body is responsible for developing its own operating procedures. Nevertheless, it could be envisaged (in particular when developing the joint ILAC/OIML assessment procedure) to draw up a specific non-conformity sheet for assessments in the field of legal metrology. This should be used either for accreditation assessments or for peer assessments.

Finally, the CPR indicated that for each renewal of the DoMCs, the peer assessments and the accreditation assessments should be conducted by an assessment team that includes a technical and metrological expert from the list validated by the CPR. This will be applicable from the first renewal which should be completed by 29 September 2010.

The BIML would like to express its thanks to all the meeting participants for their enthusiasm, and to our Japanese hosts for their kind hospitality and perfect organization of the CPR meeting.

It is not planned to hold a further R 60/R 76 CPR Meeting in 2008, but work will continue by e-mail. ■

R 60/R 76 CPR Members attending the third R 60/R 76 CPR meeting in Tsukuba

13e CONGRÈS INTERNATIONAL DE MÉTROLOGIE
13th INTERNATIONAL METROLOGY CONGRESS
Innovation and knowledge transfer / Innovation et transfert de connaissances

Development of mutual recognitions within the OIML

June 2007, Lille (France)

RÉGINE GAUCHER
JEAN-FRANÇOIS MAGAÑA
BIML

Abstract

The effects of economic globalization are also omnipresent in metrology, and the development of a Global Metrology System is therefore vital to respond to the needs of international trade, industry and the general public.

Cooperation between the various international metrology organizations is essential in building up such a Global System. And to achieve this objective, they have established tools in the form of Mutual Recognition Arrangements, which serve especially to reinforce the international coherence of measurements.

Introduction

At international level, metrology is subjected to the effects of globalization, as is any economy. Metrology must therefore respond to the questions raised by:

- developing the international trade of goods and raw materials, reducing production and transport costs and rendering food safety requirements more stringent;
- developing the international trade of industrial products and establishing quality control requirements which must be evaluated for each of the various markets;
- producing components and sub-assemblies when the latter are manufactured in different countries and combined to make the final product;
- collecting and analyzing international data related to environmental safety, exhaust gas emissions, waste rejection, global warming of the planet, pollution of the oceans, etc.

The international consistency of measurements and (notably) their traceability is essential both for the global economy and for national economies. In addition, the mutual recognition of national measurement standards and measurements is necessary to guarantee the quality of products and consumer confidence.

Considering these international needs, some form of "heavy-duty" metrological means becomes necessary, in particular to guarantee traceability under extreme conditions (e.g. the measurement of high pressure gas or cryogenic liquids). Such solutions cannot be implemented in each country and therefore multilateral cooperation is desirable.

To this end, metrology is being structured internationally to arrive at a *Global Metrology System* to support the national systems.

The Global Metrology System

Traceability requirements may be used to give a concrete example of the stakes of a *Global Metrology System*. So long as the international equivalency of national measurement standards is not established, measurement consistency is demonstrated through traceability only to the national measurement standards of the relevant country.

Nowadays, the relevant requirement is traceability to the International System of Units (SI). This difference may be considered as a wording issue; however, it has major legal and economic consequences.

As long as the standards and regulations in a country require traceability to national measurement standards, any certification issued in another country and/or any measurement results traceable to the national measurement standards of another country cannot be taken into account to demonstrate the conformity of a product to national measurement standards and/or regulations. The product conformity shall therefore be assessed again by each national testing laboratory. Of course, taking into account the equivalency of national measurement standards and the reference to the SI does not automatically lead to testing and measurement results being accepted. Nevertheless, this is an essential condition.

Two Intergovernmental Organizations, set up by two international treaties, work in close cooperation to structure metrology at international level: the Metre

Convention and the International Organization of Legal Metrology.

The Metre Convention and its Bureau, the *Bureau International des Poids et Mesures*, defines the basis of metrology. Its principal activities are:

- the definition, adaptation and dissemination of the International System of Units (SI);
- the management of and participation in the development of new standards and primary methods in metrology;
- the consistency of national standards and the development of mutual confidence and recognition; and
- the promotion of metrology.

The goal of the OIML is to promote consistency in and efficiency of national legal requirements related to measurements and to measuring instruments. The principal activities of the OIML are:

- the development of mutual information within legal metrology authorities and institutes in the various countries;
- the drawing up of guidance documents for the organization of legal metrology at national level and of documents to harmonize national regulations in the field of legal metrology;
- the development and promotion of mutual confidence among the various countries and the setting up of systems for mutual recognition and, if appropriate, international systems for certification to be used in national certification schemes in the field of legal metrology; and
- the promotion of metrology.

In addition to these actions implemented by the two Organizations, accreditation activities (federated at international level by ILAC, International Laboratory Accreditation Cooperation) establish confidence in measurement traceability at every level.

Each of the three Organizations (Metre Convention, OIML, ILAC) have set up a Mutual Acceptance or Recognition Arrangement (MAA or MRA). These three arrangements are consistent and complementary, and allow the acceptance of measurements, test results and product conformity assessment among participating countries as long as national regulations authorize such recognitions. The arrangements are as below:

- the CIPM Mutual Recognition Arrangement (CIPM MRA) of national measurement standards and of calibration and measurement certificates issued by national metrology institutes;
- the ILAC Mutual Recognition Arrangement which sets up (in particular) the equivalency of accreditations of calibration and testing laboratories delivered by ILAC Full Members, MRA signatories;
- the OIML Mutual Acceptance Arrangement (OIML MAA) which sets up the recognition of type evaluation test results of measuring instruments performed by appropriate national authorities which are evaluated on the basis of OIML ad-hoc procedures.

The OIML Certificate System of Conformity and the OIML Mutual Acceptance Arrangement (MAA)

The OIML Certificate System was set up in 1991 and today covers 41 categories of measuring instruments. It is described in OIML Basic Publication B 3 [1].

The System allows OIML Issuing Authorities to deliver OIML Certificates of Conformity for the relevant types of measuring instrument, families, or sub-assemblies of measuring instruments. Such Certificates are issued on the basis of an evaluation of the measuring instrument. This evaluation is performed according to metrological and technical requirements defined in the relevant OIML Recommendations.

The aim of the System is to facilitate and harmonize the work of national and regional bodies in charge of type approval of measuring instruments. It is also a tool for manufacturers of measuring instruments who intend to apply for type approval in various countries. The OIML Certificate of Conformity allows the manufacturer to demonstrate conformity of the measuring instrument he produces to the requirements of the relevant OIML Recommendations.

The OIML Certificate of Conformity is associated with an Evaluation Report which is drawn up according to a format defined in the relevant OIML Recommendation. The OIML Recommendations applicable to categories of measuring instruments covered by the Certificate System are structured in three parts:

- the first part defines the technical and metrological requirements applicable to the relevant category of measuring instruments;

- the second part defines the testing procedures for the type approval of the relevant category of measuring instruments; and
- the third part defines the Evaluation Report format.

Such a structure leads to harmonization of the practices of those testing laboratories that are responsible for type approval testing of measuring instruments.

However, the Certificate System does not prescribe any criteria for the evaluation of the appropriate testing laboratories, and it minimizes the use of evaluation results in countries whose national requirements are not aligned with those of the relevant OIML Recommendations. Consequently, in order to increase confidence and minimize the disadvantages of the System, the OIML has established an additional tool, the OIML Mutual Acceptance Arrangement (MAA) .

The MAA allows OIML Member States and Corresponding Members to declare that they will accept and use test results issued on the basis of specific requirements, to deliver their national or regional type approvals.

The OIML MAA is a voluntary system, as is the original OIML Certificate System. Member States are free to participate or not, and they may also choose the status of their participation.

The implementation of the MAA for a certain category of measuring instruments leads to the signature of a Declaration of Mutual Confidence (DoMC), in which two kinds of participants are defined:

- "Issuing Participants", which are OIML Issuing Authorities and which will deliver MAA Evaluation Reports and OIML MAA Certificates of Conformity;
- "Utilizing Participants", which are national type approval bodies which will use the Evaluation Reports issued by the "Issuing Participants".

In order to establish confidence in test results, the implementation of the MAA includes an evaluation of the quality management system and of the competence of the testing laboratories which are subcontractors of the "Issuing Participants". This evaluation is performed on the basis of ISO/IEC 17025 [2].

Conformity to these requirements may be demonstrated:

- either by an accreditation of the appropriate testing laboratory, provided that type approval testing according to the appropriate OIML Recommendation is included within the scope of the accreditation;
- or through a peer assessment of the appropriate testing laboratory. In this case, the evaluation of the testing laboratory is managed by the OIML.

To this end, the OIML has reinforced its cooperation with ILAC in order to harmonize the evaluation procedures of the two above-mentioned options. The development of this cooperation led to the signature of a Memorandum of Understanding between the two Organizations in November 2006.

OIML Corresponding Members may participate in a DoMC as "Utilizing Participants"; this is an interesting tool in particular for those countries which do not have their own testing facilities.

In addition, the OIML MAA provides the opportunity for additional national requirements to be included within the scope of a DoMC in cases where participating countries' national regulations are not fully aligned with OIML requirements. This possibility also constitutes a tool for Utilizing Participants, which can request overseas testing laboratories to perform tests defined in their national regulations.

The MAA is a precious tool for manufacturers, who can anticipate tests to be performed depending on those countries in which they intend to apply for type approvals in order to avoid any duplication of tests and to guarantee that any Evaluation Reports they provide will be taken into account.

The first two DoMCs were signed on 29 September 2006 and are related to type approval testing of Load cells according to OIML R 60 [3] and Nonautomatic weighing instruments according to OIML R 76 [4] [5]. These DoMCs include seventeen participating countries, among which eight have applied to be Issuing Participants.

A third DoMC has been launched for the recognition of type approval tests for Water meters on the basis of OIML R 49 [6] [7] [8]. Currently, eight countries have applied for participation, among which three have applied to be Issuing Participants.

Consequently, the OIML MAA contributes to the *Global Metrology System* together with the other arrangements cited above (CIPM MRA and ILAC MRA) and the IAF (International Accreditation Forum) Multilateral Recognition Arrangement which is related in particular to the equivalency of accreditations of product certification bodies.

Conclusion and perspectives

There is still some way to go before we arrive at a truly *Global Metrology System*. Concerning legal metrology, the framework for the mutual acceptance of test and evaluation results is now defined and in place. Nevertheless, it is necessary that we find ways to further increase participation which means that the number of participating countries should increase and that the scope of the MAA should be extended to cover additional categories of measuring instruments – we are well on

the way to broadening this scope and hence to achieving our objectives.

In addition to the acceptance of evaluation results, confidence in the conformity of manufactured measuring instruments to the approved type should be developed. This is a second step towards an efficient international legal metrology system.

Lastly, it is also necessary to deal with the acceptance of measurement results established for instance in international trade of products and raw materials: loading and unloading product quantities, quality of agricultural products (food safety, humidity, protein content, etc.).

The OIML is working in close cooperation with the Metre Convention and with ILAC, IAF, IEC and ISO. It is essential for all the actors concerned to continue to develop such sharing of resources and networking in order to provide the market with the appropriate tools which are only partially present today. ■

References

[1] OIML B 3, *OIML Certificate System for Measuring Instruments*: OIML, 2003.

[2] ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*: 2005.

[3] OIML R 60, *Metrological regulation for load cells*: OIML, 2000.

[4] OIML R 76-1, *Non-automatic weighing instruments. Part 1: Metrological and technical requirements - Tests*: OIML, 1992 and 1994 (Amendment no. 1).

[5] OIML R 76-2, *Nonautomatic weighing instruments. Part 2: Pattern evaluation report*: OIML, 1993 and 1995 (Amendment no. 1).

[6] OIML R 49-1, *Water meters for the metering of cold potable water and hot water. Part 1: Metrological and technical requirements*: OIML, 2006.

[7] OIML R 49-2, *Water meters for the metering of cold potable water and hot water. Part 2: Test methods*: OIML, 2006.

[8] OIML R 49-3, *Water meters for the metering of cold potable water and hot water. Part 3: Test report format*: OIML, 2006.

NCWM

92nd Annual Meeting

8-12 July 2007

Salt Lake City, USA

RÉGINE GAUCHER, MAA Project Leader, BIML

The 92nd Annual NCWM Meeting took place in Salt Lake City, USA, from 8-12 July 2007 and brought together government officials and representatives from business, industry, and trade organizations for the purpose of hearing and discussing subjects related to weights and measures technology and administration.

During the annual NCWM Meetings, representatives of the States vote on the recommendations of the NCWM Committees for amending the relevant NCWM Publications. The Meetings are composed of several sessions, among which:

- an *Open Hearings* session which allows each NCWM Committee to present its interim Report drawn up after the interim meeting held in January, and which allows every participant in the meeting to address comments and proposals to the NCWM Committees;
- *Committee Work* sessions during which each NCWM Committee prepares its final recommendations to be submitted for voting, taking into account the comments and proposals made during the open hearings session; and
- a *general voting* session during which each NCWM Committee presents its recommendations which are at the same time submitted for approval to the representatives of the States.

The NCWM Annual Meetings also include technical sessions and this year a very interesting technical session was organized on 10 July 2007 to present critical issues related to measurement results for testing fuel dispensers:

- Variations in test results for retail fuel dispensers were presented by Steve Malone from the Nebraska Division of Weights and Measures, and by Henry Opperman from Weight & Measures Consulting;
- Temperature compensation was presented by Ross Andersen from the New York Bureau of Weights and Measures, and by Henry Opperman.

The Nebraska Division of Weights and Measures tested five retail fuel dispensers over a period of more than one year from November 2004 to February 2006. The fuel dispensers were installed at three different locations and were verified once a week using 5-gallon, open-neck, and bottom-drain volume standards. The objective was to collect test results and examine their variability for several consecutive test drafts under different test conditions (ambient temperature, fuel temperature at metering conditions, fuel temperature in storage tanks, etc.).

Concerning the second issue, the accuracy of the indicated volume on the fuel dispensers is not being challenged. Rather, the fact that the delivered quantity is changing according to the metering conditions is questioned by the consumer. Temperature compensation would be an appropriate tool to invoice at any time a volume under the same reference conditions (e.g. 15 °C). However, this approach would have a strong impact and requests preliminary information of all the interested parties. It is not only a metrological and technical issue but also a political one. The debate is just starting.

Concerning the implementation of the OIML MAA, the United States signed the R 60 Declaration of Mutual Confidence (DoMC) as a Utilizing Participant with additional national requirements. The NTEP Director gave the updates concerning this participation and highlighted the critical issue which is currently under discussion within the OIML concerning the possibility to take into account test results from manufacturers to issue OIML Certificates of Conformity either outside or under the MAA. He reiterated that NCWM/NTEP is opposed to this concept under the MAA framework. This issue of accepting test results from manufacturers was discussed at the last R 60/R 76 CPR Meeting and will be considered by OIML TC 3/SC 5 when starting the revision of OIML B 3 *OIML Certificate System for Measuring Instruments* and OIML B 10-1 *Framework for a Mutual Acceptance Arrangement on OIML Type Evaluations*.

The NCWM Meeting also gives the opportunity to the National Institute of Standards and Technology (NIST) to present its action plan. During this meeting, NIST highlighted in particular the following actions:

- the improvement of the standards development process;
- the development of training for testing and calibration laboratories;
- the implementation of an evaluation of State Laboratories;

- the improvement of communication;
- the supporting of the implementation of the metric system;
- the development of the cooperation with Standardization and Accreditation Organizations.

NIST also indicated the setting up of a specific technical group to deal with hydrogen measurement. It is responsible for developing requirements and testing procedures. Such work should be considered for the revision of OIML R 81 *Dynamic measuring devices and systems for cryogenic liquids*. It should also have an impact on the requirements defined in the Draft Recommendation *Compressed gaseous fuel measuring systems for vehicles* to be submitted for approval by the CIML at its 42nd Meeting. ■

The 92nd NCWM Annual Meeting was held at the Snowbird Resort, Salt Lake City, Utah

RLMO NEWS

23rd WELMEC Committee Meeting

Sinaia, Romania

3-4 May 2007

GABRIELE WESSELY, WELMEC Secretary

The 23rd WELMEC Committee Meeting, which took place in Sinai, Romania, was opened by the Adviser to the Romanian Minister of Economy and Finances, Mr. Aurelian Boqheanu. The host, Professor Iacobescu, gave a presentation about legal metrology in Romania.

Mr. Freistetter presented the Chairman's Report including information concerning the comparison documents for the Measuring Instruments Directive (MID); he listed the publications of the previous year and gave an overview of the representation of WELMEC in other organizations.

He also presented the minutes of the Convenors' meeting with the Chairman's Group in Vienna in February 2007, and went on to announce that the representatives of Bulgaria and Romania had declared their willingness to sign the WELMEC Memorandum of Understanding.

Mrs Lagauterie was unanimously re-elected as Vice-chairperson.

Mr. Freistetter then welcomed Ms. Dakai, the new representative of the European Commission. Ms. Dakai gave a short overview of her previous activities and her recent participation in the WG 5 and WG 8 meetings. She also introduced the new Head of Unit, Mr. Reinhard Klein.

Further points of discussion included:

- publication of a standard on gas meters;
- mandate for automatic weighing instruments for CEN/CENELEC under preparation;
- European developments in pre-packages;
- revision of the New Approach: There are currently two papers, one for when accreditation replaces current legislation and the other for the revision of sectoral legislation. The New Approach legislation has to be harmonized, and the Council and the Parliament still have to decide. The links on the EC web site should be available soon.
- Mr. Schulz wanted to know if the mandate for CEN/CENELEC would include a provision that they will have to include OIML Recommendations. The EC had no direct answer, so Mr. Freistetter suggested requesting his colleagues to include a respective paragraph. Ms. van Spronssen suggested that the Normative Documents should be included in the Commission Papers as a basic element. Ms. Dakai explained that the documents concerning the presumption of conformity were already in the Council Working Group and the Parliament, and if there were any suggestions for changes, those should be placed with the representatives of the member states.

Discussion on the MID ensued. OIML R 137-1 had been adopted by the CIML in October 2006 but had only just been published, so the corresponding table defining presumption of conformity to the MID was not yet ready. Mr. Magana said that the BIML would endeavour to publish the table as soon as possible.

Very important was the question of the simplification of the remaining Old Approach Directives. Eight Old Approach Directives had to be updated, and the Commission had launched an inquiry in April. It had already received comments from certain member countries. The discussion was still open and Mr. Hanekuyk would be grateful for any further comments. Mr. Freistetter suggested drawing up a draft proposal on how to handle the preparation work. It was agreed that WELMEC Committee members would take over the work.

Concerning the EU New Approach Revision (Modules) information was given that amendments to the Modules and the New Approach were Decision Documents and served as guidance documents. Any questions concerning these papers would have to be handled via the national representatives. Ms. Dakai stated that as the MID was quite modern and coherent there would be only harmonization but no revision. Any new instruments would be dealt with by creating annexes to the MID.

Documents concerning accreditation and market surveillance, and Commission proposals in the non-harmonized sector, were sent out for information. Mr. Freistetter said that the document was very interesting and was also currently the most discussed paper; as a regulation it would directly replace national law. Any comments should be passed on via the national representatives.

Ms. Dakai gave information that the public consultations concerning the Units of Measurement Directive were finished. The comments had been published and in July Mr. Hanekuyk would give a report. This change would also affect the issue of the double labelling of products.

Next, reports were given on the WELMEC Working Groups.

Working Group 2

The Chairman of WG 2 Mr. Koch delivered his report and stated that it was intended to reduce the number of participants per country and that new TOR and a working program would be discussed during the next meeting of the WG in October. Mr. Freistetter thanked Mike Koch and Richard Hackney for their work in WG 2. The revised version of Guide 2.2 was accepted by the Committee; it was now easier to read and granted more flexibility to manufacturers. Mr. Freistetter reminded the Committee of the need to find a new convenor for WG 2.

Working Group 4

Mr. Lindlov, Convenor of WG 4, reported. He told the Committee that the Guide on Uncertainty in Legal Metrology would soon be ready for e-mail vote.

Working Group 5

Mr. Turner, Co-Convenor of WG 5, presented his report as well as the Draft Guide on Market Surveillance. Guide 5.2 was approved with some minor changes.

Additionally, he presented a proposal for an enforcement seminar in 2008, organized by WG 5. It was agreed that the invitations would go out via the Secretariat and that 70 participants (2 per country) would be sponsored by WELMEC. Mr. Magana requested that the relevant OIML Working Group also be invited.

Working Group 6

The WG 6 report was presented by Mr. Burnett. The web site address for the spreadsheets, as requested during the meeting, is:

http://www.somerset.gov.uk/media/BB6/6F/CheckWeigherControlsCalc.xls

http://www.somerset.gov.uk/media/BB6/79/QuantityControlsCalc.xls

now live on:

http://www.somerset.gov.uk/somerset/ete/communityprotection/ts/tsbroadcast/business/weights/

Guide 6.0 was approved by the Committee and Guide 6.7 would be sent out for e-mail voting.

Working Group 7

Mr. Schulz gave the report for WG 7.

WG 11 proposed two amendments to Guide 7.2: Mr. Kramer explained that they concerned the software identification on the name plate and the Committee was informed that there would be an e-mail voting on the proposal, since WG 7 had not taken it into account before. In general the amendment to the Guide was accepted, the e-mail procedure only affecting the new proposal concerning the name plate.

Working Group 8

Mr. Lagauterie gave the WG 8 report. He presented the working program and the list of Guides ready for approval by the Committee; Guide 8.0 was adopted with minor changes.

It was agreed to accept Draft Guide 8.3 Module B, Draft Guide 8.4 Module D and Draft Guide EN 45 011 after a reference to Guide 8.0 was included in the table with an asterisk.

As for Draft Guide D or H 1 and QM ISO 9001/2000, it was agreed to accept the guide as WELMEC Guide 8.6 with the same modifications, taking into account the 50 Dutch comments. Based on the discussion of the Guides, a revision of Guides 5.2 and 8.6 and an exploration of alternative routes concerning the use of ISO 17020 were agreed upon. The Chairman thanked Mr. Lagauterie for his work and confirmed Eric Devin as the new convenor.

Working Group 10

Ms. van Spronssen gave the report. Mrs Lagauterie asked about the status of the modification of the national type approval, and Ms. van Spronssen replied that a questionnaire was under preparation.

Working Group 11

Mr. Kramer presented the WG report. Mrs Vukovics asked about the possibility of automatic meter reading, to which Mr. Kramer replied that remote reading was acceptable if it was not used for billing. Mr. Klenovsky asked for a definition of light industry and was informed

by Mr. Kramer and Mr. Schulz that there was no common view and that a flexible approach was considered most appropriate.

On the list of topics of WG 11 was the "Same Sign Rule". The discussion made it clear that there were slight differences between the French and German translations in comparison with the English text. Nevertheless, all three were legally binding, but this led to misunderstandings. The English version was rather strict with a tolerance of 1 % but less clear, the French version was very clear and the German version was both strict and clear. The "Same Sign Rule" was currently also being discussed at Commission level. An inquiry within WG 11 had not led to any decisive results (11 abstentions, not all EU countries were represented).

Mr. Schulz said that the rule only applied for gas meters and should thus be applied less strictly. Mr. Magana commented that the OIML applied even stricter rules and suggested turning to CEN/CENELEC for a solution. The Chairman suggested instructing Mr. Kramer to send out a questionnaire and the result would then be sent to the European Commission.

As for WELMEC Guide 11.1 Mr. Kramer gave a summary of discussions at WG-level covering mostly technical issues:

- different utility meters;
- meter size under the MID;
- national regulations;
- test certificates.

Mrs Lagauterie said that it was necessary to include the outcome of the previous discussions in the Guide and send it out for e-mail vote. The Guide was then adopted (confirmation for the part of "additional functionality") with the intention of amending it as soon as possible.

Ad hoc Working Group Information Exchange

This report was presented by Mr. Schulz. The basic idea at the moment for the MID Database was to link national databases to the WELMEC web site and then to create a portal. EMeTAS was a commercial solution and thus might not be acceptable to all countries. The WG was instructed to find a solution. Mr. Schulz emphasized the need to take into account article 18 of the MID. Mr. Robles wanted to know if it was intended to add information concerning the modules as general information; Mr. Schulz replied that this would be a second step.

The Committee confirmed Harry Stolz and thanked Rainer Hahnewald for his work.

Mr. Magana presented the OIML report and contributed various suggestions and points of view during this meeting. He especially dwelled on the issue of the correspondence tables published by the European Commission in the Official Journal of the European Union. Further possibilities were discussed concerning ways to make clauses and comparisons easier to understand.

23rd WELMEC Committee Meeting Decisions

The Committee:

- Approved (with one comment on EMeTAS) the Minutes of the 22nd Committee Meeting in Plovdiv, Bulgaria
- Accepted the Chairman's Report for 2006
- Approved the report concerning the budget for 2006
- Welcomed Bulgaria and Romania who had changed their membership status to WELMEC Full Membership (new issue for WELMEC 1)
- Took note of the results of the Chairman's Group Meeting with the Convenors including the proposals to amend the Member Policy Document, the Procedure of WELMEC Activities and the Working Group Instructions (amended versions for the 24th Committee Meeting, 2008)
- Re-elected Corinne Lagauterie as Vice-Chairperson of WELMEC
- Took note of the need to elect a Chairperson in 2008
- Approved the maintenance of the Type Approval Agreement for another year, in view of the MID's influence on it and in view of European developments in the field of legal metrology
- Took note of ongoing work on:
  - MID development (Mandate for AWIs, OIML-MID correspondence tables for gas, etc.)
  - Simplification (8 Directives to be included in the MID in a proper way)
  - Prepackages
  - EU New Approach Revision (Framework - Decision)
  - Proposal - Regulation on Accreditation and Market Surveillance
  - Proposal - Regulation Mutual Recognition in the non-harmonized sector
  - Units of measurements
  - NAWI and EMC (Mandate to amend EN 45501)

- Welcomed the proposal from J.F Magana to give the first draft of the OIML-MID requirements correspondence tables to the WELMEC Chairman for further consideration (beginning with MI 002)
- Agreed on the amended proposal to simplify the remaining (8) old approach Directives:
  - distribution of work to one WELMEC Committee Member
  - if WELMEC WG is available contact it in this process
  - sending the draft for comments to WELMEC Committee Members, OIML, European Commission, CEN, CENELEC
  - Amendments and then decision by WELMEC Chairman if it is ready to be sent to the EC
  - Sending it to the EC if possible before November 2007
- Agreed that any additional functionalities of utility meters should be clearly identified and listed in the MID certificate. They shall not influence the utility meter in accordance with the essential requirements of the MID. They may be assessed in a separate certificate and it should be clearly stated against which requirements they have been examined
- Instructed WG 11 to make a proposal about the additional functionalities and their coverage by the MID and to present this to the next WELMEC Committee Meeting
- Agreed to review the terms of references and to set up a program for each Working Group. These will be examined during the 2008 WELMEC Committee Meeting.
- Approved all Working Group Reports
- Approved the Revision of WELMEC Guide 2.2
- Approved WELMEC Guide 5.2 (short amendment)
- Approved the funding of the Enforcement Seminar in 2008 organized by WG 5
- Approved the Revision of WELMEC Guide 6.0
- Approved WELMEC Guide 6.7 (e-mail voting on corrections only)
- Approved the Revision of WELMEC Guide 7.2 (e-mail voting on the proposal of WG 11 after consulting WG 7 for comments)
- Approved WELMEC Guide 8.0 (amendments)
- Approved WELMEC Guide 8.3 (amendments)
- Approved WELMEC Guide 8.4 (amendments)
- Approved WELMEC Guide 8.5 (amendments)
- Approved WELMEC Guide 8.6 (amendments)
- Instructed the Chairman of WG 11 to send a questionnaire concerning the "Same sign rule" for gas meters to the WELMEC Secretariat to ask the WELMEC Committee for its opinion. This report will be delivered to the European Commission for further consideration.
- Adopted WELMEC Guide 11.1 (additional functionalities e-mail voting), asking Committee members for comments by the end of June 2007 to the Convenor of WG 11 and amend the Guide as soon as possible
- Adopted the proposals of the Ad hoc WG and instructed this WG to develop the requirements of the web portal and send them to the WELMEC Secretariat (cost estimates from NWML)
- Instructed the Ad hoc WG to analyze the WELMEC web site and make proposals for amendments and changes and to send them to the WELMEC Secretariat
- Approved the funding of the Internal WELMEC Seminar by the end of 2007 in Italy (WELMEC funding hosting costs)
- Took note and thanked J.F. Magana for his update on OIML activities
- Took note and thanked K. Katerinov for his update on Coomet
- Took note and thanked P. Klenovský for his update on Euromet
- Thanked Romania for hosting the 23rd Committee Meeting
- Accepted the invitation to hold the 24th WELMEC Committee Meeting in Croatia on 8–9 May 2008

CECIP

57th General Assembly

London, United Kingdom

18 May 2007

MICHEL TURPAIN
CECIP Permanent Secretary

CECIP, the European Committee of Weighing Instruments Manufacturers, held its 57th General Assembly in London, at the invitation of the United Kingdom Weighing Federation, UKWF.

Following a boat trip up the Thames which allowed delegates to discover the city of London and its splendid monuments, the General Assembly took place in the salons of the Guoman Tower Hotel on the banks of the Thames, offering a superb view of Tower Bridge. As every year, a number of guests and members of CECIP gave presentations on a wide range of topics concerning our activity:

- Mr. Jeff Llewellyn, NWML Director (National Weights and Measures Laboratory) gave a presentation on the "Evolutions of Weights and Measures Regulations following the implementation of the Measuring Instruments Directive",
- Mr. Jeremy Sage, from the company Stringer & Co. Ltd., presented the "Guide for Members of the United Kingdom Weighing Federation",
- Miss Zsuzsanna Dakai, DG Enterprise and Industry, European Commission, presented "Market Surveillance in the European Union",
- Mr. John Anthony, Technical Expert at the UKWF, presented "Legal Metrology Certificates in the United Kingdom Weighing Federation", and
- M. Denis Turner, Chief Economist at HSBC Bank, presented "Economic Trends".

Each CECIP Federation, from the following countries:

Czech Republic	Romania
Finland	Russia
France	Slovak Republic
Germany	Spain
Hungary	Switzerland
Italy	Ukraine
Netherlands	United Kingdom
Poland	

then presented the situation of the weighing industry in its country during 2006. The table summarizes the weighing industry production in Europe and indicates an increase in production compared to 2005 in all the countries. Overall, there was an average increase of + 5.7 % in Europe.

During the afternoon the statutory part included, as usual, the following program:

- the activity report of the Legal Metrology Group, which is continuing with its task of coming up with proposals on and examinations of OIML publications (especially the revisions of OIML Recommendations dealing with automatic weighing instruments which accompany the Measuring Instruments Directive), and of WELMEC documents, European Cooperation in Legal Metrology, (especially harmonization Guides). This report was presented by Mr. Martin Stoll, the new President of this Group, who took over from Mr. John Anthony,

- the activity report of the Bureau, which takes care of the day-to-day management of the Committee and of its development by passing on experience acquired to the younger Federations of those countries that come knocking at the European Union's door, bringing on board new CECIP Members, and by making contacts with the Federations of weighing instrument manufacturers around the world.

This year a partial CECIP Bureau election took place to replace Dr. Fabio Martignoni, Vice-President, who was elected in 1998 and whom we thank both for his active participation in the CECIP Bureau and for his organization of the 2006 Assembly in Varèse. The newly elected Member is Mr. Vincent van der Wel of the Dutch Federation. The composition of the Bureau is now as follows:

President	Mr. Antonio Matute Spanish Federation
Vice-President	Mr. Richard Herbert United Kingdom Federation
Vice-President	Mr. Martin Stoll Swiss Federation
Member	Dr. Günther Maaz German Federation
Member	Mr. Daniel Stastny Czech Republic Federation
Newly elected Member	Mr. Vincent van der Wel Dutch Federation
Permanent Secretary	Mr. Michel Turpain French Federation

The General Assembly ended with a Gala Dinner in the superb Cutlers Livery Hall. The Cutlers' Corporation is one of the oldest corporations in the City of London and received its first Royal Charter from Henry V in 1416.

The last day was devoted to a tour of London, though this time by coach, and included discovering the Globe Theatre where Shakespeare plays are staged. The visits finished off with a traditional pub lunch.

We express our sincere thanks to our British friends, to President Tony Mellor, Richard Herbert, Donna Webb, and to all the members of the British Federation for their warm welcome.

See you next year in France! ■

CECIP

57ème Assemblée Générale

Londres, Royaume-Uni

18 mai 2007

MICHEL TURPAIN
Secrétaire Permanent du CECIP

Le CECIP, Comité Européen des Constructeurs d'Instruments de Pesage, vient de tenir sa 57ème Assemblée Générale à Londres, à l'invitation de la Fédération du Pesage du Royaume-Uni, United Kingdom Weighing Federation, UKWF.

Après la découverte de la ville de Londres et de ses splendides monuments du pont d'un bateau naviguant sur la Tamise, notre Assemblée Générale s'est tenue dans les salons du Guoman Tower Hotel toujours au bord de la Tamise avec une superbe vue sur Tower Bridge ! Comme tous les ans de nombreux invités et membres du CECIP sont intervenus dans des domaines très variés intéressant notre activité:

- M. Jeff Llewellyn, Directeur du NWML, National Weights and Measures Laboratory, nous a présenté les: "Evolutions de la Réglementation des Poids et Mesures suite à la Directive sur les Instruments de Mesure",
- M. Jeremy Sage, de la société Stringer & Co. Ltd., nous a présenté le: "Guide des Membres de la Fédération du Pesage du Royaume-Uni",
- Mlle Zsuzsanna Dakai, de la Direction Générale Entreprise et Industrie de la Commission Européenne, nous a présenté: "La surveillance du Marché dans l'Union Européenne",
- M. John Anthony, Expert Technique de la UKWF, nous a présenté le: "Certificat de Métrologie Légale de la Fédération du Pesage du Royaume-Uni", et
- M. Denis Turner, Chef Economiste de la Banque HSBC, nous a présenté les: "Tendances de l'Economie".

Puis chaque Fédération du CECIP, venant des pays suivants:

Allemagne
Espagne
Finlande
France
Hongrie
Italie
Pays-Bas
Pologne
République Slovaque
République Tchèque
Roumanie
Royaume-Uni
Russie
Suisse
Ukraine

nous a présenté la situation de l'industrie du pesage en 2006 dans son pays, résumée dans un tableau récapitulatif détaillant la production d'instruments de pesage en Europe et montrant une hausse de la production par rapport à 2005 dans tous les pays. Ceci nous amène à une hausse moyenne européenne de + 5.7 %.

La partie statutaire s'est déroulée l'après-midi avec le programme habituel suivant:

- le rapport d'activité du Groupe Métrologie Légale qui poursuit sa tâche de propositions et d'examens des documents de l'OIML (en particulier la révision des Recommandations touchant les instruments de pesage à fonctionnement automatique qui accompagnent la Directive sur les Instruments de Mesure), et des documents du WELMEC, European Cooperation in Legal Metrology, (en particulier les guides d'harmonisation). Le rapport a été présenté par M. Martin Stoll, le nouveau Président de ce Groupe qui prend la suite de M. John Anthony,
- le rapport d'activité du Bureau qui assure la gestion quotidienne du Comité et son développement, en apportant notre expérience aux jeunes Fédérations des pays qui frappent à la porte de l'Union Européenne, amenant de nouveaux membres au CECIP, et en prenant contact avec les Fédérations de constructeurs d'instruments de pesage à travers le monde.

Puis cette année nous avions une élection partielle du Bureau du CECIP pour remplacer le Dr Fabio Martignoni, Vice-Président, qui avait été élu en 1998 et que nous remercions pour son active participation au Bureau du CECIP ainsi que pour l'organisation de la dernière Assemblée à Varèse. Le nouvel élu est M. Vincent van der Wel de la Fédération des Pays-Bas. La composition du Bureau est maintenant la suivante:

Président	M. Antonio Matute Fédération de l'Espagne
Vice-Président	M. Richard Herbert Fédération du Royaume-Uni
Vice-Président	M. Martin Stoll Fédération de la Suisse
Membre	Dr. Günther Maaz Fédération de l'Allemagne
Membre	M. Daniel Stastny Fédération de la République Tchèque
Nouvel élu	M. Vincent van der Wel Fédération des Pays-Bas
Secrétaire Permanent	M. Michel Turpain Fédération de la France

L'assemblée se termina par un dîner de gala dans le superbe "Cutlers Livery Hall". La Coorporation des Couteliers est une des plus anciennes des coorporations de la Cité de Londres qui a reçu sa première Charte Royale des mains de Henri V en 1416.

La dernière journée fut consacrée à une visite de Londres, mais cette fois-ci en autocar et à la découverte du "Globe Theatre" où se jouent les pièces de Shakespeare. Ces visites se terminèrent par un déjeuner dans un Pub suivant la tradition.

Merci à nos amis britanniques, au Président Tony Mellor, à Richard Herbert, à Donna Webb et à tous les membres de la Fédération du Royaume-Uni pour leur chaleureux accueil.

A l'année prochaine en France !

Statistiques - Industrie du Pesage *Année 2006*
Results - Weighing Industry *Year 2006*

Pays Country	Production		Variation	Export	Import
	Hors taxe Monnaie locale Local currency	Hors taxe Without tax Million Euro	2006 / 2005	Variation/2005 Million Euro	Variation/2005 Million Euro
ALLEMAGNE *GERMANY*		780	+ 4.0 %	524.5 + 9.9 %	195.8 + 0.2 %
ESPAGNE *SPAIN*		45.8	+ 10.9 %	14.4	14.6
FINLANDE *FINLAND*		32	+ 9.2 %	9.5 + 32.8 %	11.2 + 6.0 %
FRANCE *FRANCE*		151.3	+ 2.8 %	65.8 – 4.0 %	148.1 + 3.5 %
HONGRIE *HUNGARY*					
ITALIE *ITALY*		134.3	+ 0.3 %	21.8	70.7
PAYS-BAS *NETHERLANDS*		148.4	+ 6.0 %		
POLOGNE *POLAND*		49.9	+ 6.8 %	7.1 + 4.5 %	17.1 + 6.8 %
REPUBLIQUE SLOVAQUE *SLOVAK REPUBLIC*					
REPUBLIQUE TCHEQUE *CZECH REPUBLIC*		14	+ 10.7 %	3.7 + 6 %	18.7 + 14 %
ROUMANIE *ROMANIA*					
ROYAUME-UNI *UNITED KINGDOM*		175.5	+ 2.0 %	140.1 + 8.6 %	128.3 – 2.8 %
FEDERATION RUSSE *RUSSIAN FEDERATION*		82.5	+ 17.5 %	6.7	47.2
SUISSE *SWITZERLAND*				106.8 + 5.6 %	40.2 + 2.8 %
UKRAINE *UKRAINE*					

COOMET

Prize for the "Best Young Metrologist of COOMET"

MANFRED KOCHSIEK, Former PTB Vice-President

Thorsten Dziomba, a young scientist, was awarded the title "Best Young Metrologist of COOMET". His presentation convinced the high-ranking Committee, including the Presidents of several COOMET National Metrology Institutes (NMIs)

COOMET (Euro-Asian Cooperation of National Metrological Institutions) is an organization of National Metrology Institutes (NMIs) in 17 Central European, East European, and Asian countries.

In 2007, COOMET organized a second scientific conference for young metrologists up to 35 years of age. A total of 24 young scientists from nine countries participated in the two-day event at the Ukrainian Metrology Institute in Charkov.

The lectures were held in Russian and English. On 19 and 20 June, lecturers from the Ukrainian Metrology Institute in Charkov had the opportunity to present their work.

In addition to the mainly scientific questions, problems concerning metrological infrastructures and legal metrology were also discussed. Legal metrology subjects included, in particular, load alteration measurements for electricity meters, statistical evaluation of comparison measurements, traceability for analytical chemical measurements, as well as flow-rate measurements for cold and hot water.

The fact that nine countries participated was most gratifying; also of note was the very high scientific quality of the work presented, together with the progress made in comparison to the first conference two years ago. The increased number of lectures given in English from the countries of the former Soviet Union was especially well received.

The committee of nine high-ranking representatives (including, among others, former CIML Acting President Manfred Kochsiek) unanimously selected Thorsten Dziomba of the PTB to receive the first prize in recognition of his work entitled "Turning Scanning Probe Microscopy into a more quantitative method". This work is the result of cooperation with the Federal Institute for Materials Research and Testing (BAM), Berlin, and the Institute of Physics of Microstructures of the Russian Academy of Sciences (IPM-RAS), Nizhniy Novgorod, Russia.

The second prize went to the Ural Research Institute of Metrology (UNIIM) in Ekaterinburg and the third prize to the Host Institute. A special prize from the PTB for the best English lecture was given to Mrs. A. Skutina, also from UNIIM, Russia.

The prize money was donated by internationally active measuring instrument manufacturers (Gilbarco-Marconi; Sensus Metering Systems; Mettler-Toledo; Sartorius; Kromschröder). ■

The President of COOMET, Dr. G. Sidorenko, presents the winner's certificate to Thorsten Dziomba (PTB Braunschweig)

The OIML is pleased to welcome the following new

CIML Members

- **Albania:**
  Mrs Myrete Pazaj
- **Brazil:**
  Mr Luiz Carlos Gomes dos Santos
- **Italy:**
  Dott. Antonio Lirosi

Corresponding Member

- **United Arab Emirates**

OIML Meeting

15-16 November 2007 - Hamburg, Germany (To be confirmed)

TC 8/SC 1 Static volume and mass measurement

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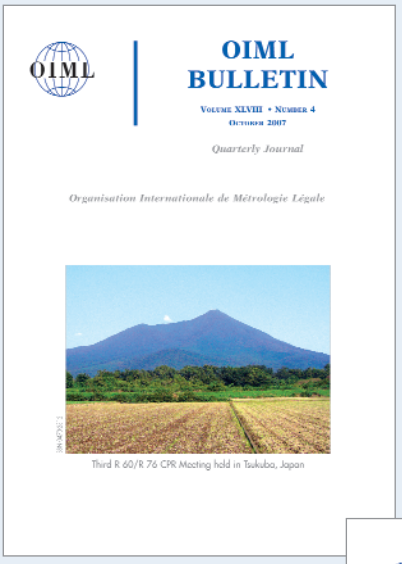
Committee Drafts

Received by the BIML, 2007.05 – 2007.07

General requirements for software controlled measuring instruments	E	1 CD	TC 5/SC 2	DE+BIML
Automated refractometers: Methods and means of verification	E	3 CD	TC 17/SC 2	RU
Revision R 71: Fixed storage tanks. General requirements	E	3 CD	TC 8/SC 1	AT



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RLMOs
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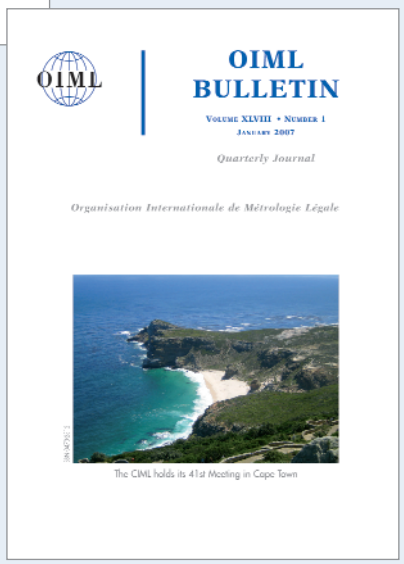
Consumers' & Users' Groups, etc.

- Technical articles on legal metrology related subjects
- Features on metrology in your country
- Accounts of Seminars, Meetings, Conferences
- Announcements of forthcoming events, etc.



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