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## ROLE OF WELMEC IN REGIONAL COOPERATION

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**Abstract** - WELMEC is the European Co-operation in Legal Metrology. The principal aim of WELMEC is to establish a harmonised and consistent approach to European legal metrology. WELMEC is concerned with the establishment, maintenance and improvement of channels of communication between its members and associate members and aims to develop mutual confidence through participation in common activities.

**Keywords:** legal metrology, measuring instrument

### 1. BACKGROUND

#### *1.1 Legal Metrology*

Legal Metrology is the entirety of the technical and administrative procedures established in law by the public authorities in order to guarantee the quality of measurements made in the course of commercial transactions and official controls, and in relation to health care, safety and order. The performance requirements that the measuring instruments must meet should provide fair trade and a high level of protection of the consumer. The different interests of the vendor and the buyer of products and energy using the same measuring instrument require legal metrological control in most of the countries world-wide.

#### *1.2 History*

WELMEC was founded in June 1990 with 18 representative Members from national authorities responsible for legal metrology in the European Union and EFTA member States signing up to a Memorandum of Understanding (MoU) concerned with the establishment, maintenance and improvement of channels of communication between its members. When it was founded, the acronym WELMEC stood for Western European Legal Metrology Co-operation. However, today WELMEC extends beyond Western Europe and includes 10 additional representatives from the candidate countries for the enlargement of the European Union. The acronym WELMEC has been retained.

WELMEC also corresponds with various organisations such as European Trade Associations and other metrology organisations.

### 2. OBJECTIVES OF WELMEC

It is an important aim of WELMEC to establish a harmonised and consistent approach to legal metrology in the light of the increasing international trade in measuring

instruments and measured goods and to support the consumer protection and fair trade. To promote this aim, the main objectives in the WELMEC MoU are

- to develop and maintain mutual confidence between legal metrology services in Europe;
- to achieve and maintain the equivalence and harmonisation of legal metrology activities taking into account the relevant guidelines;
- to identify any special features of legal metrology which need to be reflected in the European metrology, certification and testing framework;
- to organise the exchange of information for legal metrology applied at national and local level;
- to identify and promote the removal of technical or administrative barriers to trade in the field of measuring instruments;
- to promote consistency of interpretation and application of normative documents and propose actions to facilitate implementation;
- to identify specific technical problems which might form the subject of collaborative projects;
- to maintain working links with all relevant bodies and promote the infrastructure relating to harmonisation of legal metrology;
- to debate trends and establish criteria for the scope of legal metrology and maintain channels for a continuous flow of knowledge.

### 3. THE STRUCTURE

#### *3.1 Committee*

The Committee is the central controlling and decision-taking forum in the co-operation. It comprises three categories of individuals: members, associate members and observer organisations. There are 18 members, which are the 18 countries who signed the MoU, and 10 associate members. The associate members are representatives of Central and Eastern European countries. There are also seven observer organisations, including the European Commission and International Organisation of Legal Metrology (OIML). The Committee meets annually and meetings are held in English. 50 representatives attended the meeting in 2002.

The Committee elects a chairman and vice-chairman for a period of three years (with the possibility of one re-election). Since 2001 the chairman is Gerald Freistetter from the Austrian National Metrology Institute BEV. The vice-chairman is Wilfried Schulz

from the German National Metrology Institute PTB.

### 3.2 Chairman's Group

A small Chairman's Group consists of Committee members individually invited by the chairman to provide advice on strategic matters of importance to WELMEC for presentation to the Committee.

### 3.3 Secretariat

The Secretariat is responsible for carrying out or monitoring the decisions of the Committee and for preparing papers for Committee meetings and handling correspondence with other interested bodies. The authority of which the chairman is a delegate will normally supply the Secretariat. The Secretariat is funded by subscriptions from the members and associate members. With the adoption of the Measurement Instruments Directive (MID) by the European Council and the enlargement of the European Union, WELMEC will need to grow in terms of the amount of work. This will mean an increasing workload for the Secretariat. Further consideration will have to be given to the establishment of another structure or a permanent Secretariat.

### 3.4 Working Groups

The detailed discussion of issues of interest to WELMEC takes place in meetings of the Working Groups. These groups are established by the Committee and they are open to all members and associate members. The groups can invite additional experts. Several groups meet regularly to discuss a range of important subjects and make recommendations to the Committee. The current activities of WELMEC are particularly focused on the operation of the Non-Automatic Weighing Instruments Directive (NAWI) and on preparations for the MID. With this in view, WELMEC currently operates seven Working Groups:

- WG2: Weighing Instruments (Secretariat:UK)
- WG4: General aspects of legal metrology (Secretariat: Norway)
- WG5: Metrological supervision (Secretariat: Sweden and UK)
- WG6: Prepackages (Secretariat: Netherlands)
- WG7: Software (Secretariat: Germany)
- WG8: Measuring Instruments Directive (Secretariat: France)
- WG10: Measuring systems for liquids other than water (Secretariat: Netherlands).

The previous groups WG1, WG3 and WG9 have been closed after having done their work.

## 4. WELMEC DOCUMENTS

WELMEC has published a number of important information and guidance documents for the application of European Directives (TABLE I). These documents have been prepared by the Working Groups and adopted by the Committee. The documents can be downloaded from the WELMEC website [1]. Some documents are available in

different languages.

TABLE I. WELMEC documents

| Number | Title of the Document  |
|--------|--|
| 1      | An Introduction to WELMEC  |
| 2      | Directive 90/384/EEC: Common Application   |
| 2.1    | Guide for Testing Indicators   |
| 2.2    | Guide for Testing Point of Sale Devices  |
| 2.3    | Guide for Examining Software of Weighing Instruments   |
| 2.4    | Guide for Load Cells   |
| 2.5    | Guide for Modular Approach and Testing of PCs and other Digital Peripheral Devices   |
| 2.6    | Guide for the Testing of Automatic Catchweighing Instruments   |
| 3.1    | Explanations and Interpretations for Weighing Instruments  |
| 4.1    | Guide for Notified Bodies performing Conformity Assessment of Measuring Instruments  |
| 5.1    | European Directory of Legal Metrology  |
| 6.1    | Application of Directives 75/106/EEC and 76/211/EEC concerning the marking and quantity control of e-marked prepackages: Definition of terms     |
| 6.2    | An Application of Directives 75/106/EEC and 76/211/EEC concerning the marking and quantity control of e-marked prepackages: Translation of terms |
| 6.3    | Guidance for the Harmonised Implementation of Council Directive 76/211/EEC   |
| 7      | Guidelines for Examination and Testing of Interfaces and Peripheral Equipment  |
| 7.1    | Software Requirements on the Basis of the Measuring Instruments Directive (MID)  |
| 9      | WELMEC Type Approval Agreement   |
| 10.1   | Guide for Pattern Examination of Meters for Liquids  |
| 10.2   | Guide to Metrological Devices for Transferring Measured Quantities (DTMQ)  |

## 5. LINKS WITH OTHER BODIES

In developing a strategy to achieve its declared objectives, WELMEC has forced close links with other bodies interested in metrology, certification and testing. These are the European Commission, the European Free Trade Association (EFTA) secretariat, the International Organisation of Legal Metrology (OIML), the European co-operation for Accreditation (EA), and the European Collaboration in Measurement Standards (EUROMET). In addition, WELMEC has links with legal metrology co-operative organisations in other regions, which are invited to

send observers to meetings of the Committee. In the last Committee meeting the Asian Pacific Legal Metrology Forum (APLMF) and the Euro-Asian Co-operation of National Metrological Institutions (COOMET) have been included in the Member Policy document of WELMEC as observers. Information is regularly exchanged on topics of mutual interest and direct links are being established within OIML. WELMEC welcomes close contacts with trade associations representing manufacturers and users of measuring instruments but also with metrology organisations like IMEKO.

## 6. THE TYPE APPROVAL AGREEMENT

In 1993, the WELMEC Committee decided to seek to reduce barriers to trade in measuring instruments which are not harmonised by European Directives. This was reached by preparing an agreement which would remove the need for multiple type approval testing against various national legal requirements. Following extensive discussion, the WELMEC Committee considered that OIML Recommendations could form the basis of a recognition agreement for type approvals within Europe. This agreement consists of a clear declaration on the part of the signatories of their firm intention to accept conformity with an OIML Recommendation as the basis for a national type approval with little or no further examination where the instrument has already been granted approval in another signatory country. This agreement is mainly based on the confidence between the type approval bodies in Europe as a result of the co-operation in WELMEC. For this reason there is no need for accreditation of the type approval work. A lot of manufacturers have already used this Type Approval Agreement for eight categories of measuring instruments.

## 7. THE FUTURE

After many years of consultation and negotiation between the WELMEC members and the European Commission the MID is now under discussion in the European Council and the Parliament [2] with a lot of technical input prepared by WELMEC members. In the past and in the future it is the aim of WELMEC to harmonise the technical requirements on the basis of international documents issued by the OIML.

The MID may come into force within two years. Preparation for this major change in the conformity assessment and certification of measuring instruments and the need to address the issues which will arise on implementation will mean that the next few years will be very busy ones for WELMEC. There will continue to be plenty of opportunities for WELMEC to demonstrate its effectiveness as the forum for co-operation in legal metrology. The increasing importance of information technology including software as an important part of measuring instruments is a challenge because fraudulent use of the instruments has to be limited by technical means. So WELMEC supports an exchange of information with all parties interested in reliable measurements.

One step in this direction has already been done by

participating in three EU funded Growth Projects. The first project is titled 'Uniform test procedures and test report formats for Notified Bodies under the Measuring Instruments Directive' and concerns gas meters, liquid flow meters and taximeters. The second project concerns automatic weighing instruments. It is split into four work packages: Automatic catchweighing instruments, front end loaders, the utilisation of OIML R76 test results and the application of the conformity assessment Module H1 which combines the design examination of the instrument with the assessment of the quality management of the manufacturer. The third project concerns software requirements in the MID including testing and validation, back tracing of software requirements, future aspects, project co-ordination, dissemination of results and information days.

WELMEC may also play a significant part in facilitating notified body co-ordination and market surveillance activities, as well as initiating co-operation in technical projects, training, and consultancy. WELMEC will establish more working groups for specific categories of measuring instruments covered by the MID in order to harmonise the application of the directive supporting the single market and the consumer protection.

## CONCLUSION

Many measuring instruments used world-wide are subject to legal control. So the technical specifications of measuring instruments and the requirements for testing and conformity assessment should be harmonised in order to remove barriers to trade and to achieve fair trade and a high level of protection for the consumer. For this reason WELMEC will continue to extend and deepen its links with other regional and international bodies with interest in legal metrology.

## REFERENCES

- [1] <http://www.welmec.org>
- [2] <http://europa.eu.int/cgi-bin/eur-lex/udl.pl?REQUEST=Service-Search&LANGUAGE=de&GUILANGUAGE=de&SERVICE=all&COLLECTION=com&DOCID=502PC0037>

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