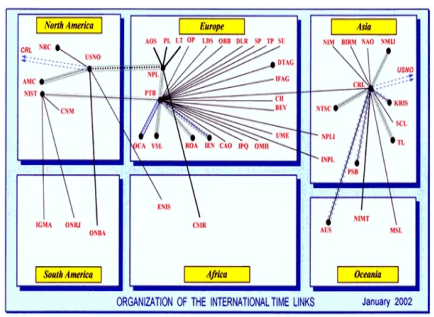
WELCOME TO THE BUREAU INTERNATIONAL DES POIDS ET MESURES

Organization of the international time links that provide data for the calculation of TAI



BIPM

BIPM'S MISSION

THE ROLE OF THE BIPM IS WORLDWIDE UNFORMITY OF MEASUREMENT.

It achieves this through providing the necessary scientific and technical basis for such uniformity and by collaborating with other institutions and organisations that have related missions.

1875 FOUNDATION OF THE BUREAU INTERNATIONAL DES POIDS ET MESURES

- Started in 1860s with the “Committee for Weights and Money”
- 1870 - International Committee for the Metre

Sèvres vase given to all the members of the Committee for the Metre

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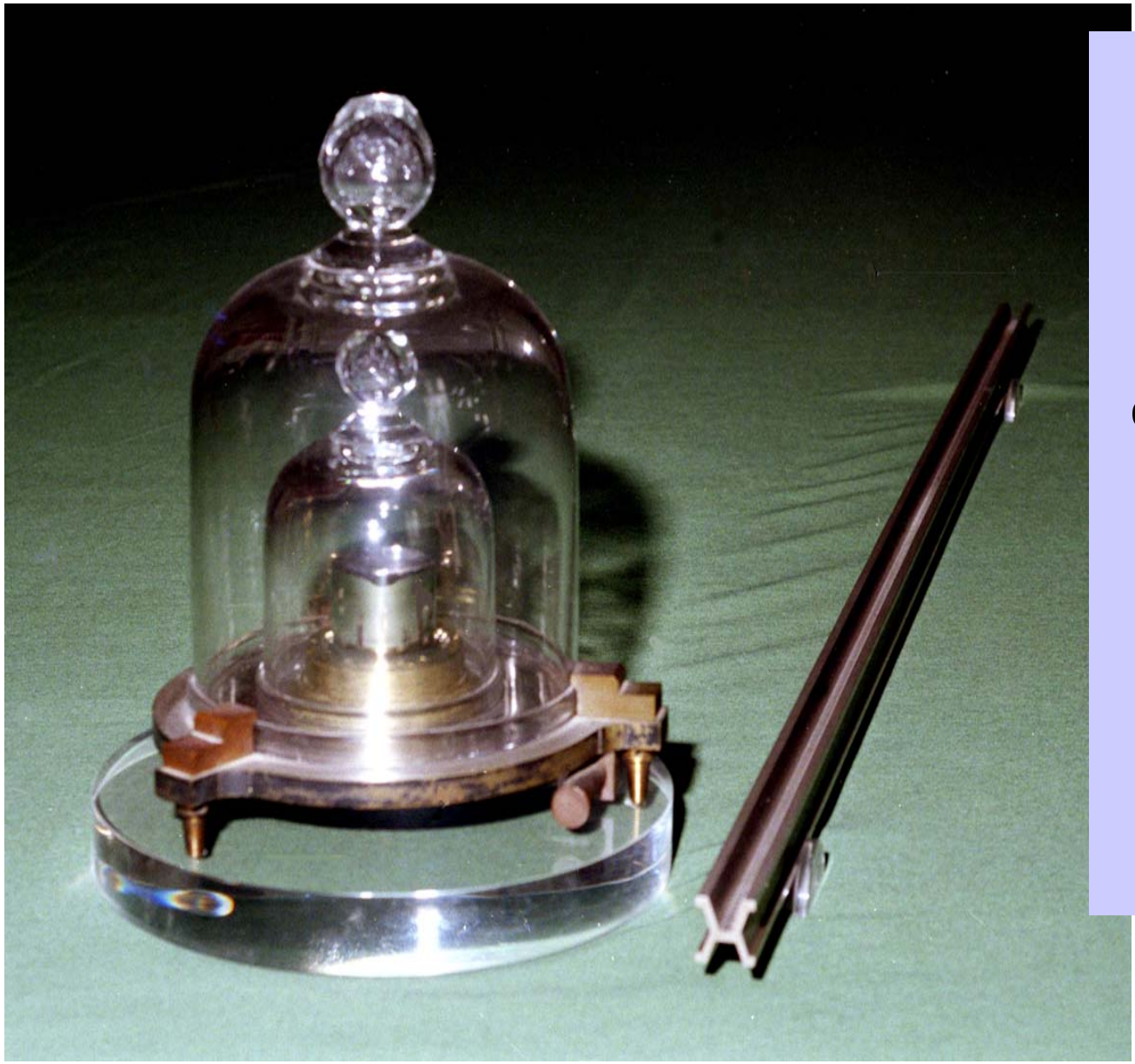

“establish new metric methods, conserve the metre and the kilogram, carry out comparisons necessary to assure the uniformity of measures throughout the world”

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BUREAU INTERNATIONAL DES POIDS ET MESURES TODAY

- **An intergovernmental scientific institute, on international territory at Sèvres with some 60 staff.**
- **€10M pa budget funded by 51 Member States and 16 Associates of the General Conference of the Metre Convention - a diplomatic conference held every 4 years.**

- **The focus for world metrology and an up to date SI system to meet the needs of science and commerce.**
- **Compares national standards to ensure international equivalence and acceptability of measurement especially to meet regulatory and trade needs.**
- **Presses for SI traceability and measurement consistency world-wide**

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THE INTERNATIONAL MEASUREMENT SYSTEM

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Accuracy

NPL,UK

NIST, USA

KRISS, KOREA

Measurements for Industry, science, health and commerce

WORLD TRADE, INTERNATIONAL HEALTHCARE etc etc

Number of measurements

THE CO-ORDINATION PROCESS

- **Ten “Consultative Committees” of the International Committee for Weights and Measures, including the CC for Metrology in Chemistry (CCQM)**
- **Participation in carefully controlled comparisons of standards and techniques**
- **Joint Committees and partnerships, through MoUs etc with international, intergovernmental and specialist organisations**
- **Secondments and exchanges between BIPM and National laboratories**

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BIPM'S MAIN TECHNICAL ROLES

- Maintain the kilogram- needed for the next 10/15 years until replaced, probably by Watt Balances.
- Disseminate Co-ordinated Universal Time based on weighted averages of clocks from many National Metrology Institutes.
- Maintain unique world reference facilities eg SIR (ionizing radiation and isotopes), ozone spectrophotometers.
- Maintain travelling standards to compare fixed national references eg Josephson Junctions for the volt, Quantum Hall devices for the ohm, laser based frequency combs for the metre etc.
- Coordinate international comparisons and networks eg organic chemistry reference materials for laboratory medicine
- Promote traceable, accurate measurement for physical, engineering, chemical and medical measurements worldwide.

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Reconnaissance mutuelle
des étalons nationaux de mesure
et des certificats d'étalonnage et de mesurage
émis par les laboratoires nationaux de métrologie

Paris, le 14 octobre 1999

Mutual recognition
of national measurement standards
and of calibration and measurement certificates
issued by national metrology institutes

Paris, 14 October 1999

Comité international des poids et mesures

Bureau international des poids et mesures

Organisation intergouvernementale de la Convention du Mètre

In 1999 the CIPM developed an MRA between NMIs to address technical barriers to trade caused by lack of traceability and equivalence.

Complying with the MRA means that an NMI's calibration certificates are acceptable world-wide with a validated accuracy.

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CIPM MRA

- **Covers 51 ‘Metre Convention’ countries**
- **A new category of Associates to the General Conference on Weights and Measures (now 16) was created to involve other countries that were not (yet) full members**
- **Signed October 1999, by 38 NMIs and two international organisations.**
- **Provides a data base covering the world’s NMIs and “designated institutes” that shows National capabilities and differences between National Standards - 14,000 CMC entries already**
- **www.bipm.org**

TO MEET THE REQUIREMENTS OF THE MRA, AN NMI OR DESIGNATED INSTITUTE WILL NEED:

- **To have its calibration and measurement capabilities (CMCs) validated by others.**
- **To take part in key comparisons that give confidence in day-to day measurements at the NMIs**
- **To implement and allow others to understand its quality/management systems**

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SOME REAL BENEFITS ALREADY

- **Several key comparisons have shown unsuspected problems at NMIs (large as well as small). This would have cost many € thousands to find out from a research programme.**

- **NMIs are using CMCs to benchmark their performance and then take decisions on whether to close down their activity and rely on the capability of other NMIs.**

- **Trade negotiators are quoting the MRA in support of trade (eg EU-USA)**

- **Regulators are recognising the need to plan metrology needs into legislation etc. Applies to new as well as existing areas.(REGMET)**

- **Has stimulated closer collaboration with Accreditors**

- **Economic analysis shows the benefits at the global level**

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WHAT CAN THE METRE CONVENTION BRING TO LABORATORY MEDICINE?

- **Our expertise is in traceable measurement, where possible to the SI.**
- **We have the power to address Governments and other international and intergovernmental bodies.**
- **The Metre Convention brings the diplomatic commitment of nearly 70 economies - the majority of the trading world**
- **An increasing impact on Regulators and a strong partnership with the Accreditation Community.**

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REGULATION

New International Regulatory Driver: EU IVD Directive

Implementation begins in December, 2003

- Worldwide *in vitro* diagnostic device market is ~$20B

Stated Purpose of Directive

- Eliminate trade barriers *within Europe* by ensuring access to the entire EU market with one single product approval (CE Mark)

Essential Requirements

- IVD Calibrators and/or control materials must be traceable to *"standards of a higher order"*
  - nationally/internationally recognized *certified reference materials*

Scheduled Implementation

- First IVD product with CE Mark may be placed from June 2000 onwards
- All *new* IVD products *must* have mark by December 2003
- Existing IVD products may be sold without the CE mark until December 2005

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THE JOINT COMMITTEE FOR TRACEABILITY IN LABORATORY MEDICINE

- **BIPM, together with the ILAC, and IFCC (the International Federation of Clinical Chemistry) collaborate to address measurement issues in the discipline.**

- **BIPM and WHO have a MoU that covers joint interests in traceability in medicine.**

- **The proposed JCTLM, aims to set an international framework that will enable interested parties to access internationally recognised lists of higher order reference materials and reference material procedures and also to identify competent reference laboratories in laboratory medicine**

NEXT STEPS

- **We are well on the way to an international framework that is supported and recognised by the key players.**
- **Actions are in hand to encourage the use of this framework by the EU and other medical device and laboratory medicine regulators.**
- **Development of the culture of traceability, uncertainty and accreditation in the field.**
- **Raising of awareness amongst healthcare practitioners and clinicians of the benefits of better measurement.**

WE THANK YOU FOR YOUR COMMITMENT TO, AND INTEREST IN, THE JCTLM