



Bureau International des Poids et Mesures



Update from the BIPM

Andy Henson

Director, International Liaison and Communication department



**EURAMET GA
May, 2012
Lyngby, Denmark**



New Members and Associates

New Members:



Tunisia
February 1, 2012 (ex Associate)

New Associates:



Bosnia and Herzegovina
May 24, 2011



Montenegro
August 1, 2011



Oman
May 8, 2012

Members and Associates

- As of 8 May 2012, there are 56 Member States of the BIPM, and 34 Associate States and Economies of the General Conference:

→ Member States		
<ul style="list-style-type: none"> Argentina Australia Austria Belgium Brazil Bulgaria Cameroon Canada Chile China Croatia Czech Republic Democratic People's Republic of Korea Denmark Dominican Republic Egypt Finland France Germany 	<ul style="list-style-type: none"> Greece Hungary India Indonesia Iran (Islamic Republic of) Ireland Israel Italy Japan Kazakhstan Kenya Malaysia Mexico Netherlands New Zealand Norway Pakistan Poland Portugal 	<ul style="list-style-type: none"> Republic of Korea Romania Russian Federation Saudi Arabia Serbia Singapore Slovakia South Africa Spain Sweden Switzerland Thailand Tunisia Turkey United Kingdom of Great Britain and Northern Ireland United States of America Uruguay Venezuela (Bolivarian Republic of)
→ Associates of the CGPM		
<ul style="list-style-type: none"> Albania Bangladesh Belarus Bolivia (Plurinational State of) Bosnia and Herzegovina CARICOM Chinese Taipei Costa Rica Cuba Ecuador Estonia Georgia 	<ul style="list-style-type: none"> Ghana Hong Kong (China) Jamaica Latvia Lithuania Malta Mauritius Montenegro Oman Panama Paraguay Peru 	<ul style="list-style-type: none"> Philippines Republic of Moldova Seychelles Slovenia Sri Lanka The former Yugoslav Republic of Macedonia Ukraine Viet Nam Zambia Zimbabwe

New CIPM MRA Signatories



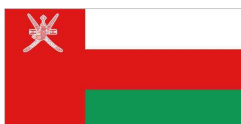
Kingdom of Saudi Arabia
May 25, 2011



Bosnia and Herzegovina
June 15, 2011

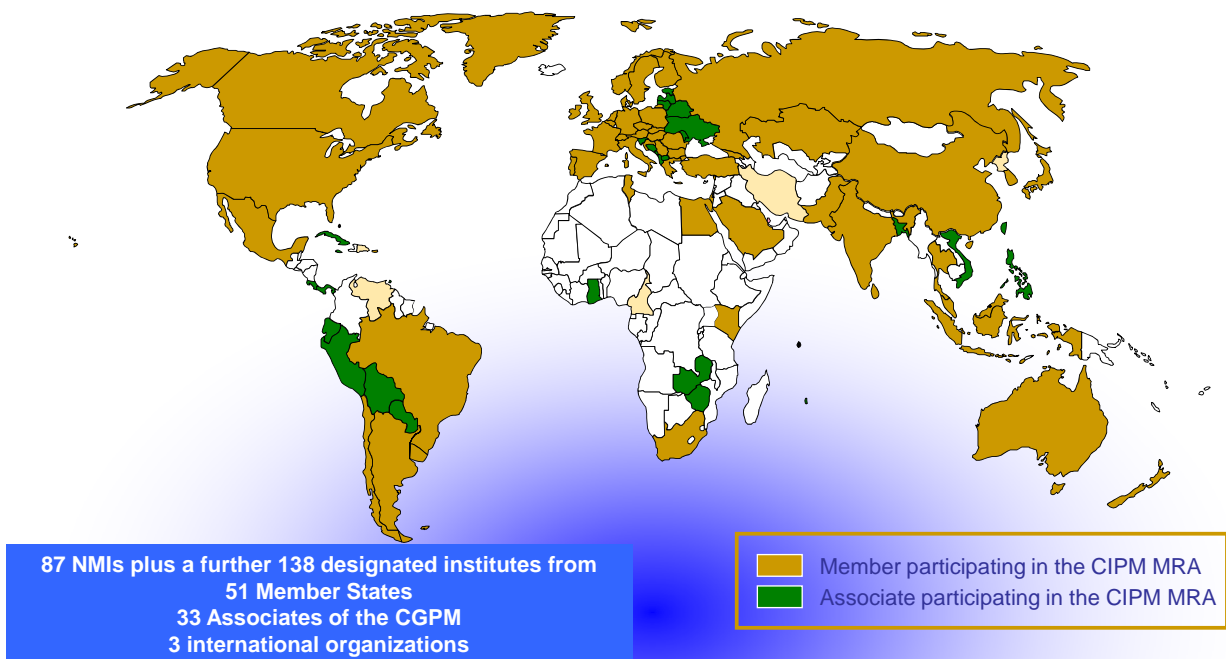


Pakistan
July 6, 2011



Montenegro
October 19, 2011

CIPM MRA Participation



21

The BIPM scientific activities regarding the CIPM MRA

The BIPM currently conducts more than 80 on-going BIPM key comparisons (series of bilateral comparisons at the BIPM or on-site at NMIs)

- they cover the fields of radioactivity, dosimetry, DC voltage, resistance and capacitance, and ozone measurements;
- the graphs of equivalence are regularly updated with some 35 news results added over the last year;
- this represents a continuous work: protocols, measurements, data analysis, reports, etc.

In addition, **the BIPM conducts and/or participates in a number of CC key comparisons.**

The BIPM is involved in the edition of many of the comparison reports through the CC executive secretariat work, even in fields in which the BIPM has no laboratory work.

The BIPM maintains the KCDB and checks the integrity of data published there. It has the unique international role of composing the extended graphs of equivalence corresponding to linkage of RMO key comparisons to CC key comparisons.

It maintains the list of the **BIPM calibration and measurement services**, published in the BIPM web site, and also available from the KCDB.

And the BIPM maintains its **Quality and Management System**.

24th General Conference on Weights and Measures (CGPM)

The 24th General Conference on Weights and Measures convened in Paris between October 17 and 21, 2011.

Resolutions:

1. On the possible future revision of the International System of Units, the SI
2. On the importance of international collaboration so as to place measurements to monitor climate change on an SI traceable basis
3. Dotation of the BIPM for the years 2013 to 2015
4. On the status of Associate State of the General Conference
5. On the acceptance of Economies as Associate of the General Conference
6. On financial arrears of States Parties to the Metre Convention

24th General Conference on Weights and Measures (continued)

7. On rescheduling agreements between the International Committee for Weights and Measures and defaulting States Parties to the Metre Convention for the payment of their financial arrears
8. On the revision of the mise en pratique of the metre and the development of new optical frequency standards
9. On the adoption of a common terrestrial reference system
10. On the role, mission, objectives, long-term strategy and governance of the BIPM

Full texts of the resolutions are available publicly on BIPM's website:

<http://www.bipm.org/jsp/en/ListCGPMResolution.jsp?CGPM=24>

Resolution 4 - Associate States of the CGPM

To carry a fair share of the costs and encourage transition to full Member State status:

- The minimal annual subscription has risen from 0.05% of the annual dotation of the BIPM to 0.1% (from 2013 for existing Associates), of the said dotation (to around 11.6 k€ per year)
"minimum" clause
- After an initial five-year period from the date of becoming an Associate State, increasing progressively and irreversibly the amount of the subscription for Associate States after the CIPM has decided, based on the agreed criteria, that they should be encouraged to accede to the Metre Convention. Such an increase would be progressive so that their subscription reaches, in five years to an amount equivalent to 90% of the annual contribution they would pay as States Parties to the Metre Convention.
"escalator" clause

In both cases each State impacted has been written to explaining the exact impact for them

Criteria:

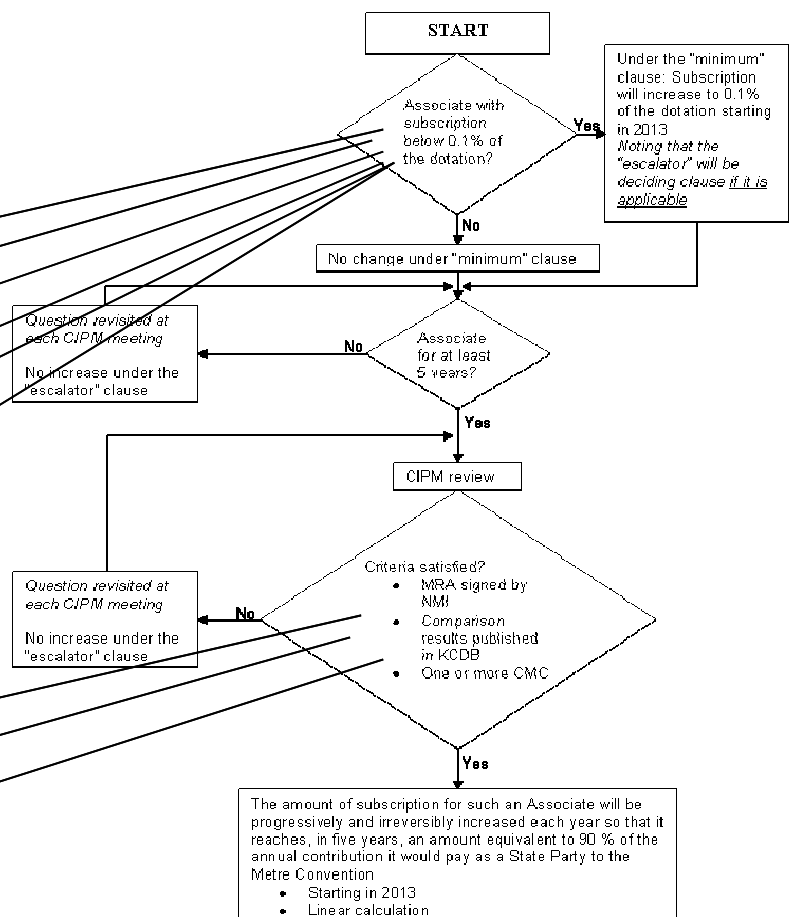
- o Signature of the CIPM MRA by the Associate State's National Metrology Institute;
- o Publication of comparison results in the key comparison database (KCDB); and
- o Having one or more Calibration and Measurement Capability (CMC) listed in the KCDB.

Changes For Associates

EURAMET Associates of the CGPM

- Albania
- Bosnia & Herzegovina
- Estonia
- FYR Macedonia
- Malta
- Montenegro

- Latvia
- Lithuania
- Slovenia





Resolution 1 – Possible revision of the SI

Resolution 1 takes note of the CGPM's intention to propose a revision of the SI and sets out a detailed road-map towards the future changes.

In the “New SI” four of the SI base units, the kilogram, the ampere, the kelvin, and the mole will be redefined in terms of the invariants of nature (fundamental constants) – the Planck constant (h), the elementary charge (e), the Boltzmann constant (k), and the Avogadro constant (N_A).

Conditions for the adoption of the redefinitions as set by the 23rd CGPM have not yet been fulfilled. Resolution 1 encourages the NMIs, the BIPM and academic institutions to maintain their efforts towards experimental determination of the fundamental constants h , e , k and N_A .

More information at: http://www.bipm.org/en/si/new_si/



Resolution 3 – BIPM Dotation for 2013-2015

The CGPM votes on the dotation of the BIPM for the period up to the next CGPM.

According to Resolution 3 adopted at the 24th CGPM, the annual dotation of the BIPM for 2013 will be 11 577 000 EUR in 2013 and will increase %1 annually for the next two years, up to 2015.

As there are no longer formal “voluntary contributions” to the BIPM this is a reduction in actual (and of course real) terms

That Resolution 3 approved dotation for years 2013-2015 means that the 25th CGPM will be held in 2014, not 2015 as had been expected.



Resolution 10 – Governance of the BIPM

Long title: “On the role, mission, objectives, long-term strategy and governance of the BIPM”

The resolution is a response to demands from member states for the “modernization” of BIPM’s governance and the search for a new and stronger strategic direction for the BIPM.

The CIPM will establish a Working Group with broad representation to conduct an encompassing review of the BIPM, including its role, mission, financial stability, strategic direction and governance.

Findings will be presented to the CIPM, Member States and NMI Directors in October 2012.

CIPM then to formulate and implement actions based on findings in 2013-2014.

Report will be made to 25th CGPM and approval will be requested for further actions.



Follow-Up to the 24th CGPM

Resolution 2: On the importance of international collaboration so as to place measurements to monitor climate change on an SI traceable basis

The BIPM-WMO Joint Liaison Group met in Geneva on February 14, 2014.

The primary outcome of the meeting was the outline of a strategic approach based on the 50 “Essential Climate Variables”

- ECVs define platform independent metrology performance (focus on desired uncertainty rather than methods/techniques)
- Allow needs and capabilities to be compared (targets vs. actual performance)
- Piloting of the approach using BIPM capabilities
- If it makes sense, wider adoption of the strategy



Follow-Up to the 24th CGPM

Resolution 4: On the status of Associate State of the General Conference

Letters were sent in December 2011 to all Associates States of the General Conference informing them of the resolution and its implications for subscription fees and transition to Member status.

Each letter was tailored to the particular circumstances of the Associate

Only Ecuador has responded, indicating that although they would like to become a Member State they could not afford to do so.



Follow-Up to the 24th CGPM

Resolution 10: On the role, mission, objectives, long-term strategy and governance of the BIPM

The Ad hoc Working Group met March 14-16, 2012

Composed of CIPM President, BIPM Director, CIPM Secretary and representatives from 12 member states, encompassing all RMOs and a wide range of contribution levels.

List of 20 recommendations concerning the BIPM's Programme of Work, strategic planning, and budgeting process; BIPM governance, the composition of the CIPM, and the organization of the CGPM.

Recommendations to be discussed at the Meeting of representatives of States Parties and of Directors of National Metrology Institutes in October 2012. List of recommendations and notes of the meeting have been circulated to NMI directors.

Joint BIPM, OIML, ILAC and ISO Declaration on Metrological Traceability



**JOINT
BIPM, OIML, ILAC AND ISO
DECLARATION ON
METROLOGICAL TRACEABILITY
9th November 2011**

Michael Kühne
Director of the BIPM
Stephen Petrosky
BIML Director
Peter Unger
ILAC Chair
Roberto Acosta
ISO Secretary General

Quadripartite declaration concluded in November 2011 after months (years!) of discussion/negotiation

Makes a common statement for the entire quality Infrastructure

The BIPM, OIML, ILAC, and ISO endorse the following recommendations:
In order to be able to rely on their international acceptability, calibrations should be performed:

- in National Metrology Institutes who should normally be signatories to the CIPM MRA and have CMCs published in the relevant areas of the KCDB or
- in laboratories accredited by accreditation bodies which are signatories to the ILAC Arrangement;

measurement uncertainty should follow the principles established in the GUM; the results of the measurements made in accredited laboratories should be traceable to the SI

NMIs providing traceability for accredited laboratories should normally be signatories to the CIPM MRA and have CMCs published in the relevant areas of the KCDB;

within the OIML's MAA, accreditation should be provided by bodies which are signatories to the ILAC Arrangement and the above policies on traceability to the SI should be followed;

The above principles should be used whenever there is a need to demonstrate metrological traceability for international acceptability

World Metrology Day 2012



- The theme of World Metrology Day in 2012 is **"Safety"**
- The joint BIPM-OIML WMD website has been updated to feature the official 2012 WMD poster designed in cooperation with PTB International Technical Cooperation and a joint Directors' Message
- Information on national WMD activities will be posted on the website www.worldmetrology.org

Upcoming Meetings and Events

- **18th Meeting of the CCQM**
BIPM, April 13-20, 2012
- **23rd Meeting of the CCRI**
BIPM, May 15, 2012
- **26th Meeting of the CCT**
BIPM, May 21-25, 2012
- **101st Meeting of the CIPM (I)**
BIPM, June 6-7, 2012
- **8th Meeting of the CCAUV**
BIPM, June 11-15, 2012
- **19th Meeting of the CCTF**
BIPM, September 6-14, 2012
- **15th Meeting of the CCL**
BIPM, September 17-21
- **29th Meeting of the JCRB & Inter-RMO Meeting**
Washington, DC, September 25-16, 2012
- **Meeting of NMI Directors and State Representatives**
BIPM, October 16-17, 2012
- **101st Meeting of the CIPM (II)**
BIPM, October 18-19, 2012
- **Workshop: Metrology for Dynamic Measurement**
BIPM, November 15-16, 2012



Bureau International des Poids et Mesures

Thank you for your attention

