

Member States and Associates (November 2024)

- 64 Member States and
- 37 Associates of the CGPM
(States and Economies)

NEW MEMBER STATES:

- **Morocco** (May 2019)
- **Ecuador** (August 2019)
- **Belarus** (January 2020)
- **Estonia** (January 2021)
- **Costa Rica** (September 2022)

NEW ASSOCIATES:

- **Cambodia** (January 2021)
- **Zimbabwe** (February 2022
reinstatement; *excluded in Jan 2021*)
- **Cuba** (October 2024
reinstatement; *excluded in Jan 2022*)

EXCLUDED ASSOCIATES:

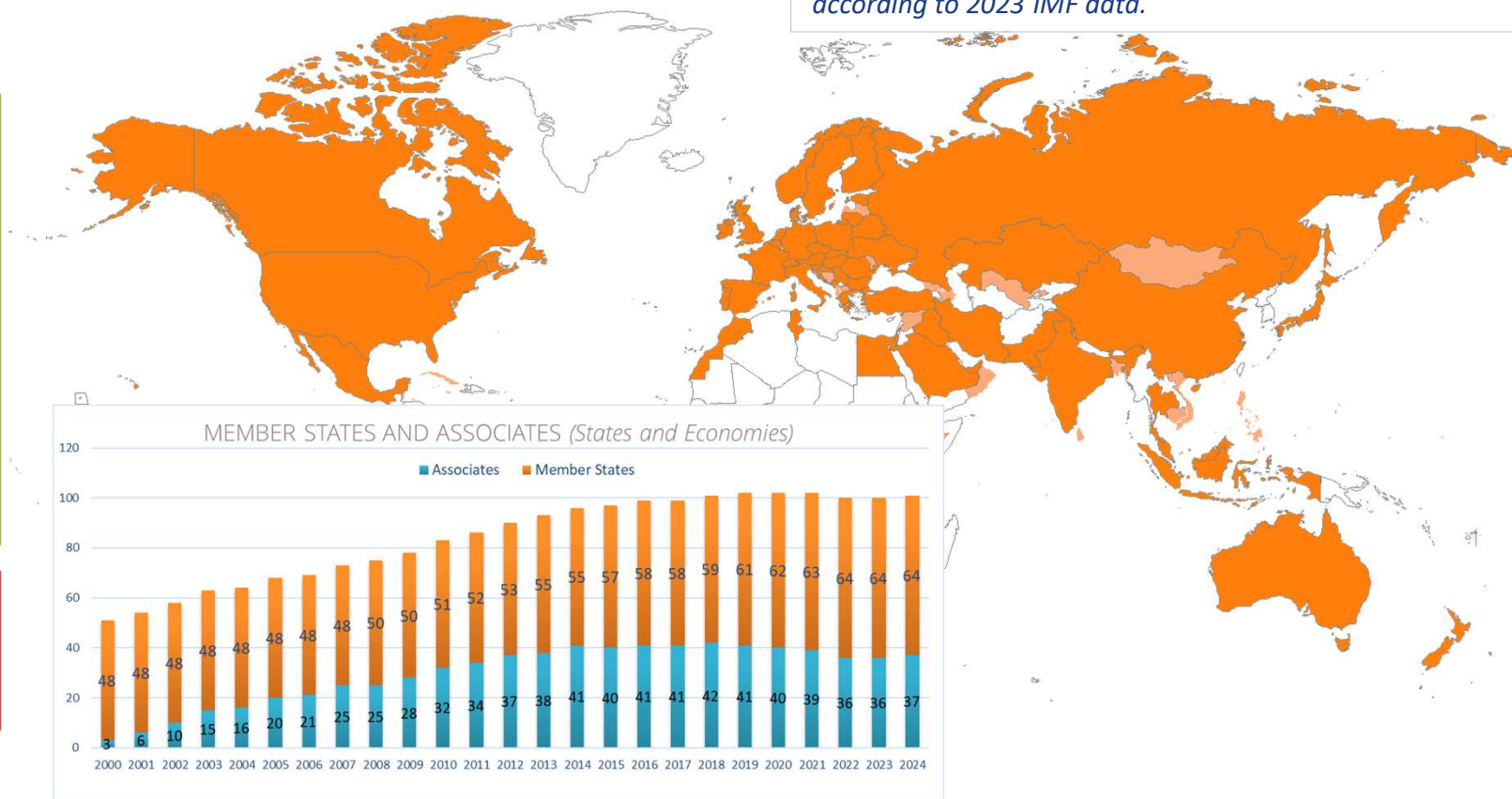
- **Sudan** (January 2022)

WITHDRAWN ASSOCIATE:

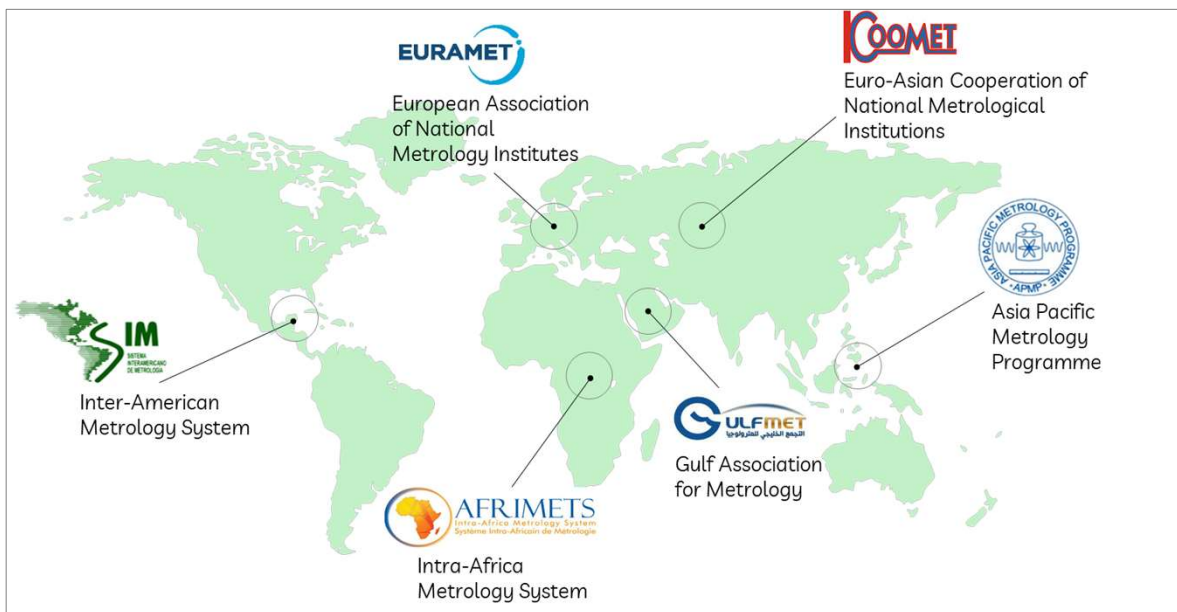
- **Seychelles** (January 2022)

Bureau
International des
Poids et
Mesures

109 of the 193 states listed by the UN participate in the BIPM's activities, covering around 98 % of the world's GDP according to 2023 IMF data.



CIPM MRA Participation *(November 2024)*



255 institutes participating in the CIPM MRA

The CIPM MRA has been signed by:

- representatives of 101 institutes
 - 64 Member States
 - 37 Associates of the CGPM
- 4 international organizations (*ESA, IAEA, JRC, WMO*) and covers a further 153 designated institutes.

26 063 CMCs

regionally and internationally peer-reviewed CMC declarations

1 896 comparisons

1191 key, 705 supplementary comparisons

6 RMOs

Playing an important role to support mutual confidence in the validity of calibration and measurement certificates issued by participating institutes

Summary of current membership

Today, 109 of the 193 UN Member States participate in the BIPM's activities:

- ❖ 64 Member States representing 95 % of the world GDP (and 74 % of world population)
- ❖ 37 Associate States and Economies representing 3 % of world GDP (and 11 % of world population)
 - 34 Associate States
 - 10 encouraged Associate States more likely to become Member States in future –
Azerbaijan, Cuba, Latvia, Luxembourg, Panama, Peru, Philippines, Sri Lanka, Viet Nam, Uzbekistan
 - 3 Associate Economies: *Hong Kong (China), Chinese Taipei, CARICOM (Caribbean Community)*
 - 11 States out of 15 members of CARICOM
 - *Antigua and Barbuda, Barbados, Belize, Dominica, Grenada, Guyana, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago*
 - plus *Jamaica* which is independently an Associate State

84 UN Member States are not Member States or Associate States

59 States participate in an RMO



25 States do not participate in an RMO

10 States on UN Scale ≥ 0.02

AFRIMETS members (3) *Algeria, Cote d'Ivoire, Nigeria*

SIM members (3) *Dominican Republic*, Guatemala, Venezuela**

APMP members (2) *Brunei, Jordan*

EURAMET member (1) *Cyprus*

GULFMET member (1) *Bahrain*

3 States on UN Scale ≥ 0.02

European States (1) *Iceland*

Asian State (2) *Lebanon, Turkmenistan*

49 States on UN Scale < 0.02

AFRIMETS members (34) *Angola, Benin, Burkina Faso, Burundi, Cabo Verde, Cameroon*, Central African Republic, Chad, Comoros, Congo Brazzaville, Dem. Rep. of Congo, Equatorial Guinea, Eswatini, Gabon, Gambia, Guinea, Guinea-Bissau, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Rwanda, Senegal, Seychelles*, Sierra Leone, South Sudan, Sudan*, Togo, Uganda*

APMP members (6) *DPR Korea*, Fiji, Kiribati, Myanmar, Nepal, Papua New Guinea (inc. 3 Pacific Islands Forum members: Fiji, Kiribati, Papua New Guinea)*

SIM members (5) *Bahamas, El Salvador, Haiti, Honduras, Nicaragua (inc. 2 CARICOM members: Bahamas, Haiti)*

COOMET members (3) *Armenia, Kyrgyzstan, Tajikistan*

GULFMET (1) *Yemen**

22 States on UN Scale < 0.02

African States (4) *Djibouti, Eritrea, São Tomé and Príncipe, Somalia*

Pacific Islands Forum members (9) *Marshall Islands, Micronesia, Nauru, Palau, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu*

Asian States (5) *Afghanistan, Bhutan, Laos, Maldives, Timor-Leste*

European microstates (4) *Andorra, Liechtenstein, Monaco, San Marino*

*Excluded Member States and Associate States

27th meeting of the CGPM (Nov 2022)



The CGPM adopted seven resolutions at the meeting:

- **Resolution 1:** *On the report prepared by the International Committee for Weights and Measures on the “Evolving Needs in Metrology”*
- **Resolution 2:** *On the global digital transformation and the International System of Units*
- **Resolution 3:** *On the extension of the range of SI prefixes*
- **Resolution 4:** *On the use and future development of UTC*
- **Resolution 5:** *On the future redefinition of the second*
- **Resolution 6:** *On universal adherence to the Metre Convention*
- **Resolution 7:** *On the dotation of the International Bureau of Weights and Measures for the years 2024 to 2027*

Please see the BIPM website for the full text of the resolutions.

Wider participation in BIPM activities (1)

...committed

- to further strengthening the role of the International Bureau of Weights and Measures (BIPM) and to facilitate wider participation in its activities, thus achieving lasting and universal adherence to the Metre Convention,...

The CGPM invites the CIPM

- to review the membership practices of other international organizations,
- to examine the current application of Article III of the Metre Convention,
- to consider the implications of wider participation in the BIPM Work Programme and services.

DOI : 10.59161/CGPM2022RES6E



Wider participation in BIPM activities (2)



- ♦ **New membership category - “Observer”** will allow States to establish links to the world’s measurement system via
 - attendance of the open online sessions of the CGPM, BIPM’s plenary body, at no cost and without voting rights.
 - access to tailor-made capacity-building activities and dedicated information resources.
 - participation in the celebration of 20 May - World Metrology Day worldwide.

Observer status will give visibility at the international level of the implementation of the SI and the UTC nationally.

There would be no membership fee required for an Observer status.

There will be no participation in the CIPM MRA for Observers.

*Appropriate actions to be proposed for consideration by the CGPM at its 28th meeting to be held in **October 2026**.*

www.bipm.org

Benefits of “Observer” status

Possible benefits for Member States and the BIPM

EVIDENCE OF THE USE OF THE SI AND THE UTC GLOBALLY

- *Participation in the Metre Convention becomes universal without a necessity to amend the Metre Convention*
- *No costs for Member States*
- *Communication strengthened with States with less developed metrology infrastructures*
- *Strengthened participation in the RMOs*

✓ *Opens the door for other Intergovernmental Organizations to participate as observers (e.g., WMO, OECD, WTO...)*

Possible benefits for Observers

- *International visibility of the use of the SI and the UTC nationally.*
- *Access to tailor-made capacity-building activities.*

“Member State”, “Associate” and “Observer” statuses

MEMBERSHIP	LEGAL AND DIPLOMATIC STEPS*	FINANCIAL STEPS	COMMITMENTS	BENEFITS AND RIGHTS
Member State/ State Party to the Metre Convention	Accession to the Metre Convention, confirmed by Notification from the French MFA.	Annual contribution One-off initial entrance fee, if relevant	Implementation of the terms of the Metre Convention and Resolutions of the CGPM in good faith. Timely and consistent fulfillment of financial obligations.	Full participation in global decision-making and consensus-building activities within the organization. Voting member at meetings of the CGPM. Full access to scientific and technical activities at the CIPM CCs and the BIPM laboratory facilities. Full access to the CIPM MRA and capacity-building activities.
Associates	<u>In the case of a State or Economy</u> National decision to adopt Associate status (and agreement by the CGPM for Associate Economy status) <i>The CGPM considers Associate State status to be a first step towards becoming a Member State.</i>	Annual subscription No entrance fee	Implementation of the Resolutions of the CGPM in good faith. Timely and consistent fulfillment of financial obligations.	Limited participation in global decision-making and consensus-building activities within the organization. Attendance of meetings of the CGPM (with no vote). Full access to the CIPM MRA and capacity-building activities.
Observer	<u>In the case of a State or Economy</u> National decision addressing the implementation of the SI and the UTC.	No fee	Implementation by national decision of the SI and the UTC. Implementation of the Resolutions of the CGPM in good faith (when applicable).	International visibility of the use of the SI and the UTC nationally. Access to tailor-made capacity-building activities.
Observer	<u>In the case of an International Governmental Organization (IGO)</u> An MoU signed with the BIPM following agreement by the CIPM (subject to the criteria defined in CIPM D01). <i>IGOs cannot become members</i>	No fee	Implementation of the metrological traceability concept and the use of the SI and the UTC (when applicable).	Access to scientific and technical activities via CIPM MRA, JCs, CIPM CCs, subject to agreement by the CIPM.

*The legal and diplomatic steps shown here will be reviewed after the agreement of the By-Laws by the CGPM.

World Metrology Day now a UNESCO initiative



The UNESCO General Assembly have agreed to proclaim “World Metrology Day” on 20 May every year.

- Many thanks to the Permanent Delegation of Kazakhstan and 43 UNESCO Member States.



UNESCO Member States in support

21 Member States (out of 64): *Belarus, Brazil, Bulgaria, China, Hungary, Indonesia, Iran, Malaysia, Morocco, Pakistan, Poland, Republic of Korea, Russian Federation, Saudi Arabia, Serbia, Singapore, South Africa, Switzerland, Tunisia, Turkey, United Arab Emirates*

12 Associates of the CGPM (out of 36): *Albania, Azerbaijan, Bangladesh, Ethiopia, Ghana, Mauritius, Moldova, Mongolia, Sri Lanka, Syria, Uzbekistan, Viet Nam*

10 States out of 85 UN Member States/non-members: *Cameroon, Dominican Republic, Gabon, Jordan, Kyrgyzstan, Lebanon, Liberia, Myanmar, Palau, Turkmenistan*

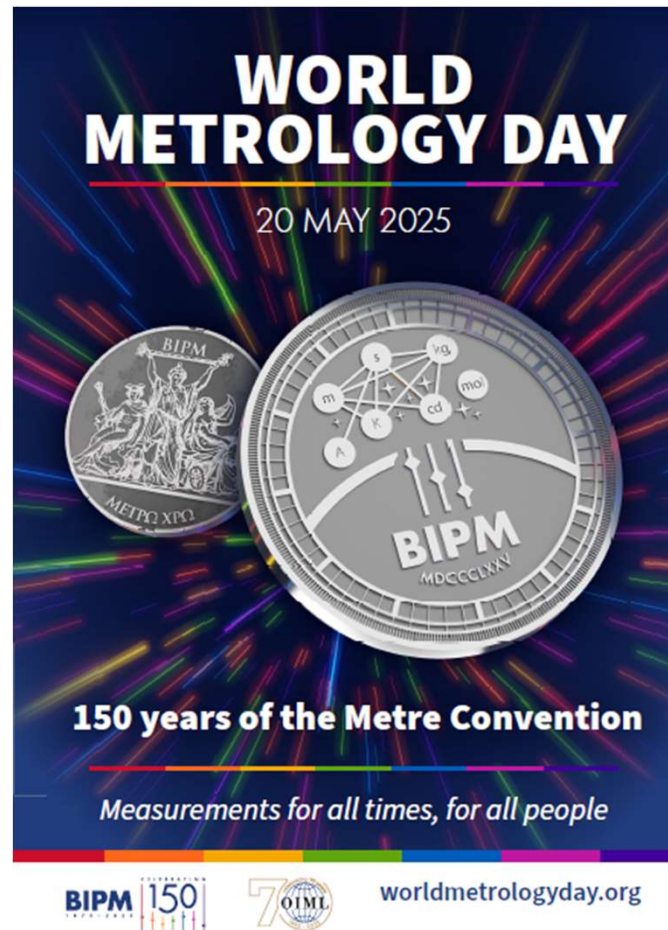
World Metrology Day 2023 – launch at UNESCO



Celebration of World Metrology Day at UNESCO,
May 14, 2023.



World Metrology Day 2025



<https://thebipm150.org/>



Save the dates ..

Tue 20th May
to
Thur 22nd May
2025

Paris.

Pre-Registration is open under: <https://thebipm150.org>

<https://thebipm150.org/agenda/>

Home | 20 May | 21-22 May | Posters | Anniversary editions | History | Gallery | Venues | Pre-registration | Contact



20 May Programme

UNESCO Headquarters, Paris • 20th May 2025

20 May 2025 will be the 150th anniversary of the signing of the Metre Convention and therefore a special World Metrology Day. It will be marked by an event held to celebrate the achievements of 150 years of the BIPM.

Speakers' contributions will span all the way from the history of the BIPM as one of the oldest international organizations of the world to the current challenges in metrology. They will focus on the scientific achievements of 150 years of metrology and the unique international scientific collaboration under the Metre Convention.



Theme: "150 years since the signing of the Metre Convention and celebration of World Metrology Day 2025"

After some opening remarks from UNESCO, the session will start with speeches by the Permanent Delegations to UNESCO of a number of the Member States of the BIPM. These will welcome the recognition by the UNESCO General Conference in 2023 of World Metrology Day.

- "The Metre Convention of 1875 - an act of multilateral scientific collaboration"
- Dr W. Louw (South Africa), President of the International Committee for Weights and Measures (CIPM).
- Reply - Dr B. Mathew (Switzerland) President of the International Committee

09:30 to 10:30
Opening Session

21st and 22nd May 2025

Two-day conference in Versailles with the title:

“From units to the universe – future revolutions in metrology”

Three sessions devoted to the cross-cutting themes

- **Quantum technology**
- **Environment and climate**
- **Digital transformation**

Full-day session devoted to

- **“Metrology for future science”.**

All sessions to include two keynotes from external stakeholders, panel discussions (CIPM and NMIs).

One session devoted to the results of an open poster competition.

PALAIS DES CONGRÈS



Open Call for Posters

<p>1</p> <p>SI units and fundamental metrology</p> <p>Submit</p>	<p>2</p> <p>The Environment and Climate Change</p> <p>Submit</p>	<p>3</p> <p>Health and Life Sciences</p> <p>Submit</p>
<p>4</p> <p>Safe Food and Water</p> <p>Submit</p>	<p>5</p> <p>Energy</p> <p>Submit</p>	<p>6</p> <p>Industry and Advanced Manufacturing</p> <p>Submit</p>
<p>7</p> <p>Digital transformation, Artificial Intelligence, and Systems Metrology</p> <p>Submit</p>	<p>8</p> <p>Metrology for Quantum Technologies</p> <p>Submit</p>	<p>9</p> <p>New opportunities for Metrology</p> <p>Submit</p>

Submit your poster until December 15th!

CBKT: forms of delivery

WORKSHOP-BASED

CB activities



- take place at the BIPM
- in the regions jointly with RMOs

NEW! Forum supporting RMO Secretariats and those who assist the RMO in various interactions with the BIPM

LABORATORY-BASED

CB placements



- placements at the BIPM
- placements at the partner NMI/DI

KNOWLEDGE TRANSFER

activities



- by VISITING SCIENTISTS from NMIs/DIs
- other KT activities (i.e. hosting workshops etc.)

REMOTE-LEARNING

online activities



- online short courses
- technical exchanges
- e-learning

CBKT statistics *(as of September 2024)*

61 CBKT initiatives

- **30** projects in-person at the BIPM and regions
- **31** projects online (*15 of them repeated to cover all time zones*)
- **60 +** lecturers from NMIs/DIs and IOs have been involved in delivery of the CBKT activities

4109 participation

- **558** in-person participation from NMIs/DIs
- **3551** online participation
- Additionally:**
 - **604** Accreditation community
 - **over 1600** registered users in e-learning

Thanks for support from:

- | | | | |
|----------------------|-----------------------|-------------------------|----------------|
| - METAS, Switzerland | - NMISA, South Africa | - SCL, Hong Kong, China | Plus |
| - NIM, China | - NPL, United Kingdom | - TÜBİTAK UME, Türkiye | - All the RMOs |
| - NIST, USA | - PTB, Germany | - IEEE, USA | |

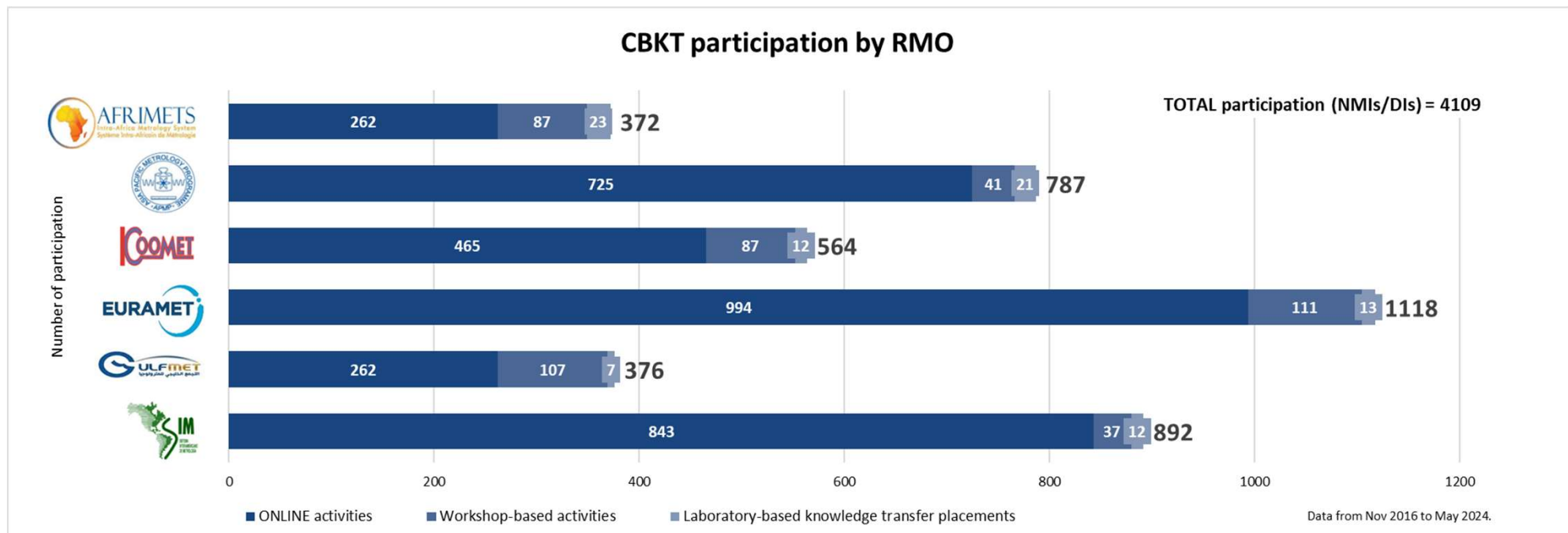
BIPM/RMO CBKT Officers meeting organized to exchanges ideas

Discussion with RMOs on:

- Integrated ‘*knowledge hub for comparisons*’ to support potential comparison pilots
- Orientation session to newly appointed RMO TC/WG Chairs (or potential Chairs)

CBKT Participation by RMO

Collaboration with all six RMOs



Thanks for support from:

- METAS, Switzerland
- NIM, China
- NIST, USA
- NMISA, South Africa
- NPL, United Kingdom
- PTB, Germany
- SCL, Hong Kong, China
- TÜBITAK UME, Türkiye
- IEEE, USA
- Plus
- All the RMOs

CBKT projects 2024 *(as of November 2024)*

**BIPM
e-learning
25 courses
1750 users**

new courses

- QNMR SUMMER SCHOOL (BIPM)
- Evaluation of comparison results (COOMET)
- CCTF Best practices (Technical exchanges) (BIPM)
- Time Transfer through GNSS Pseudorange Measurements (BIPM)
- **The joint BIPM and OIML e-learning course based on the joint publication – “National Metrology Systems - Developing the Institutional and Legislative Framework”. (BIPM)**



<https://e-learning.bipm.org/>

**Laboratory
Placement
*cycle 7 / 2024***

The 2024, seventh cycle of the joint BIPM and TÜBİTAK UME initiative is now hosting ten talented metrologists from ten different countries (Ethiopia, Uzbekistan, Azerbaijan, Kenya, Saudi Arabia, Argentina, Egypt, Costa Rica, Indonesia, Russia) from all RMOs; AFRIMETS, APMP, COOMET, EURAMET, GULFMET and SIM.



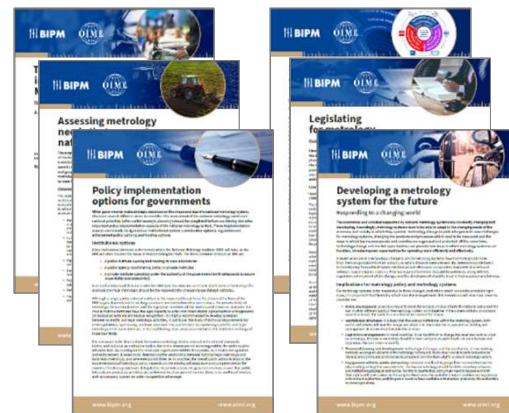
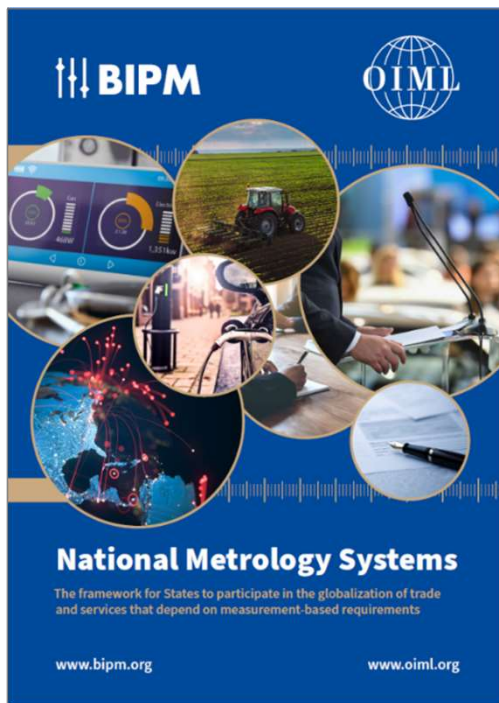
**Online
technical
exchanges**

Three technical exchanges were organized to support the CIPM MRA user community (CMC Writers, Comparison pilots and RMO TC/WG Chairs) with 565 participation.

**ONLINE TECHNICAL
EXCHANGES**

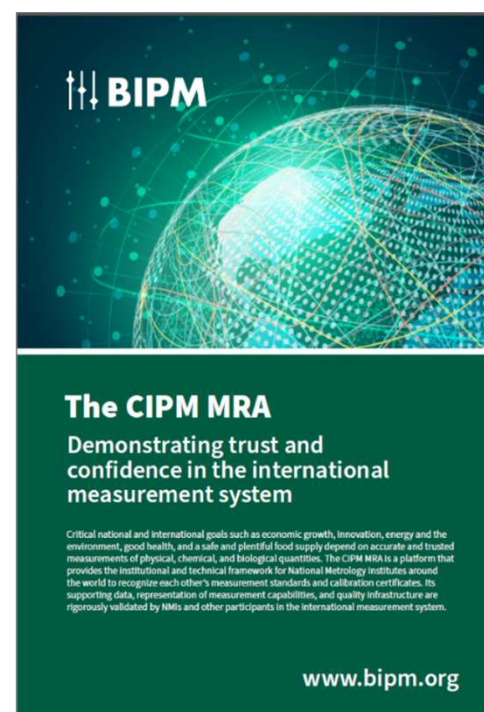
KCDB 2.0
Comparisons

CBKT publications:



Available at:

<https://www.bipm.org/en/committees/cb/cbkt/bipm-oiml-brochure>



Available at:

<https://www.bipm.org/en/committees/cb/cbkt/cipm-mra-brochures>

YM2050+

RMO Coordinators

AFRIMETS



*Alphonsus KIPKEMBOI
(Kenya)*

AFRIMETS



*Pritesh JIVAN
(South Africa)*

APMP



*Oijai ONGRAI
(Thailand)*

APMP



*Yin Hsien FUNG
(New Zealand)*

COOMET



*Nikita ZVIAGIN
(Russian Federation)*

COOMET



*Gulaikhan SUYEUBAYEVA
(Kazakhstan)*

EURAMET



*Peter PAVLASEK
(Slovakia)*

GULFMET



*Rayan ALYOUSEFI
(Saudi Arabia)*

GULFMET



*Moza Khalfan
ALMEMARI (UAE)*

SIM



*Rodrigo COSTA-FELIX
(Brazil)*

SIM



*Fernando José Andrés
MONGE (Costa Rica)*

Young metrologists' vision for 2050+

The BIPM has proudly concluded its first-ever Young Metrologists' 2050+ Vision programme, a milestone initiative designed to capture and inspire innovative ideas from the next generation of metrology leaders.

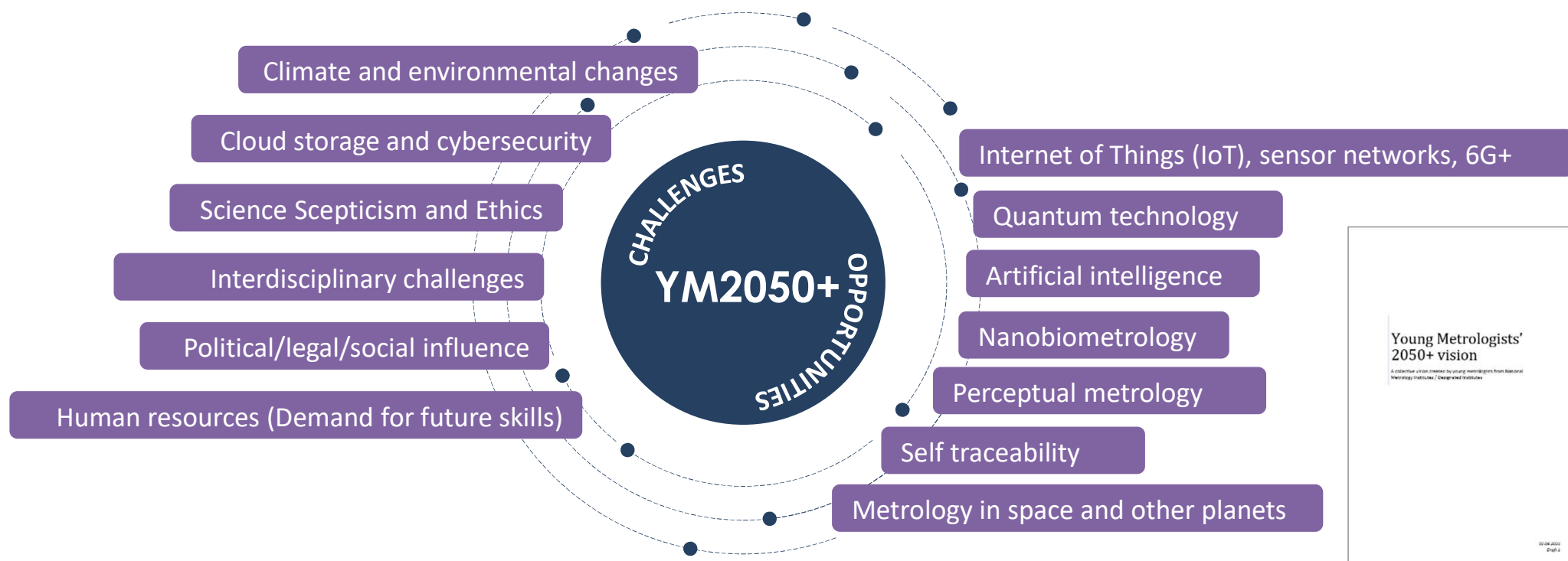
More than 380 young metrologists joined and shared their views during the online workshops!

- SIM (Approx. 40 people, November 2023)
- COOMET (Approx. 70 people, February 2024)
- GULFMET (Approx. 60 people, February 2024)
- APMP (Approx. 100 people, February 2024)
- AFRIMETS (Approx. 80 people, March 2024)
- EURAMET (Approx. 40 people, April 2024)



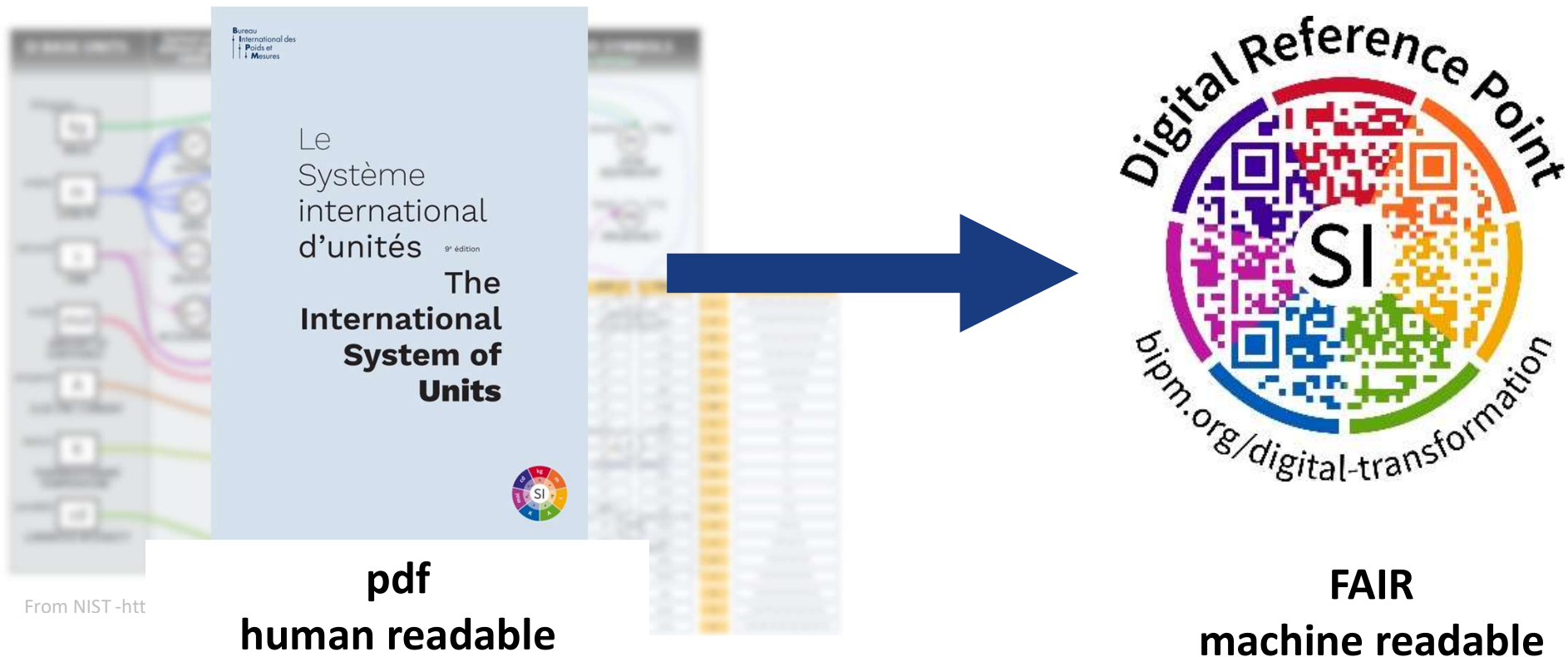
Young metrologists' vision for 2050+

“ *Our vision for global metrology: Metrology, as a cornerstone of natural sciences, must evolve together and drive advances in technology, supporting all stakeholders based on collaborative capacity and capability building to co-shape the future.* ”



The SI Digital Framework provides a fully digital representation of the SI

- Provide the globally accepted anchor of trust for metrology in the digital era
- Facilitate the use of digital certificates and the adoption of the FAIR principles



BIPM Digital References



Version 1.0: Beta Testing

- Units
- Prefixes
- Defining constants
- Quantities - used in the SI Brochure
- Decisions

- CMCs
- Measurement service categories
for Physics (exc RI)

BIPM Digital References



Under Development

- Measurement service categories for RI and Chemistry
- NMIs/DIs
- Quantities – used in the KCDB
- Fundamental constants...

Thank you