



# **BIPM update**

## **to the ISO CASCO Plenary, April 2025**

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February 2025

## Introduction

The International Bureau of Weights and Measures/Bureau International des Poids et Mesures (BIPM) is the intergovernmental organization established by the Metre Convention on 20 May 1875.

It is the home of:

- the International System of Units (SI), the metric system and
- the international reference time scale (UTC).

The BIPM is one of the oldest international organizations in the world and, as of February 2025, has 64 Member States and 37 Associates. This results in a mandate that covers more than 100 UN Member States.

Moving forward, a key objective of the BIPM and its stakeholders is to extend global participation and access to BIPM activities. In answer to this, in 2022 a resolution was adopted by the BIPM's [General Conference on Weights and Measures \(CGPM\)](#), entitled “*Universal adherence to the Metre Convention*”. The aim of this resolution is to expand the categorisations for participation in BIPM activities. Necessary steps are underway to implement this initiative.

## International liaison and communication

### World Metrology Day

While the BIPM and the International Organization of Legal Metrology/Organisation Internationale de Métrologie Légale (OIML) have been celebrating the anniversary of the signing of the Metre Convention as a World Metrology Day since 2000, in November 2023 the General Conference of the United Nations Organization for Education, Culture and Science (UNESCO) declared it an official UNESCO International Day.

On 14 May 2024, [World Metrology Day](#) was celebrated at UNESCO for the first time. This marked a significant step forward in raising global awareness for metrology's role in everyday life and the importance of BIPM's capacity-building activities around the world.

'Sustainability' took centre stage as the official theme of our 2024 World Metrology Day and more than 30 celebratory events were organized around the world. The official poster—developed in partnership with the National Metrology Institute of Türkiye and distributed to over 40 institutes and organizations— [can be found in our official poster archive](#).

#### A Landmark Year

2025 marks 150 years of the signing of the Metre Convention. In celebration of this landmark year, the BIPM holds several events to pay tribute to 150 years of global scientific achievements and collaboration in precision measurement and innovation.

**When:** 20-22 May 2025 | **Where:** Paris and Versailles | <https://www.bipm.org/en/bipm-anniversary>

## Institutional liaison

The BIPM was granted the status of Observer to the Intergovernmental Panel on Climate Change (IPCC) in August 2024 and nominated its focal point for IPCC. This new status will allow the BIPM and its global network of metrology experts to contribute to the work of the IPCC – ensuring that data driving climate decisions continue to be grounded in rigorous and traceable measurements.

The BIPM delegation headed by the Director of the BIPM attended the Conference of Parties (COP29) of the United Nations Framework Convention on Climate Change (UNFCCC) in November 2024 in Baku, Azerbaijan. The BIPM was granted observer status to UNFCCC in 2022 which enables the BIPM to bring metrological expertise directly into the UN's climate policy framework.

Recognizing the potential synergy between Quality Infrastructure (QI) and Regulation, on 6 December 2024, the BIPM and the Organisation for Economic Co-operation and Development (OECD) hosted a full-day event to explore the critical links between regulatory systems and QI. The in-person and online event brought together close to 180 leading experts, policymakers and practitioners from around the world. The insights gathered during the event contribute to a deeper understanding of how QI and regulatory systems can work in harmony to address pressing global challenges.

## Capacity-building activities

[The BIPM Capacity Building and Knowledge Transfer Programme \(CBKT\)](#) aims to increase the effectiveness with which Member States and Associates engage in the world-wide coordinated metrological system.

CBKT initiatives are delivered through activities such as:

- workshops,
- laboratory placements
- remote-learning activities

### Results

In support of national and regional metrology activities, as of February 2025, the BIPM has organized close to 63 CBKT initiatives, featuring 65 lectures and contributions from experts from National Metrology Institutes (NMIs), Regional Metrology Organizations (RMOs) and International Organizations.

Today, the BIPM e-learning platform has over 1 750 registered users and more than 25 courses available, in addition to knowledge transfer material from RMOs.

In total, over 4 254 people, from 126 different countries, have participated in the BIPM's CBKT activities (covering all six RMOs) both on and offline.

**Recent activities:** BIPM and OIML joint knowledge transfer initiative

Based on the demand from CEEMS countries, the BIPM and the OIML have agreed to organize a joint knowledge transfer initiative through their capacity building and knowledge programmes. The first outcome of this knowledge transfer initiative is a Brochure with six accompanying inserts, the contents of which draw upon the BIPM and OIML joint publication *“National metrology systems - Developing the institutional and legislative framework”* (OIML D 1:2020).

The second outcome of the initiative is the e-learning course “National Metrology Systems” published on the remote resources of the BIPM and the OIML. It allows those interested in the material to access the course from anywhere and at any time. This flexibility accommodates diverse learning paces, making knowledge transfer more inclusive and accessible to a broader audience.

This self-study course contains five e-learning modules, which have the final goal of providing guidance to set up a national metrology system in a country or economy where it does not yet exist, or which has only partial elements of it.



## Young metrologists' 2050+ vision to shape the future of metrology

The BIPM, in collaboration with RMOs, has concluded a foresight exercise aimed at generating and facilitating visionary ideas for future opportunities and challenges. The exercise was conducted with groups of young metrologists through workshops, debates and interviews. The results will directly contribute to the *Strategy 2030+* of the BIPM's [International Committee for Weights and Measures \(CIPM\)](#).

*The first stage* of the exercise—comprising of a series of online discussion workshops with over 380 participants from all six RMOs—was concluded in April 2024. These workshops acted as a catalyst for many RMOs, prompting the launch of internal communication channels for young metrologists.

*The second stage* focused on consolidating, reviewing, providing feedback, and presenting ideas collected. This was done through:

- an online questionnaire that ran from June 2023 to June 2024,
- a meeting of RMO coordinators to discuss responses in July 2024,
- online interviews with five of the young metrologists who had submitted the most insightful responses,
- a summary outlining the ideas that were sent for a “second round” of reviews and feedback, and finally, a presentation to the CIPM—in October 2024—of the consolidated list of key challenges, opportunities and priority areas for action in the form of *The Young Metrologists' 2050+ Vision report*.

## Digital transformation

The BIPM plays a leading role in the digital transformation of metrology and, alongside nine international organizations, has signed a [Joint Statement of Intent on the digital transformation in international scientific and quality infrastructure](#). This statement provides a platform for signatories to indicate their commitment to developing and establishing a world-wide *uniform and secure* data exchange format based on the SI.

In support of this goal, the first meeting of the Forum on Metrology and Digitalization was held in March 2024 and the second in February 2025. The forum is tasked with advising the CIPM on the SI Digital Framework and the broader implications of global digital transformation for metrology and international Quality Infrastructure (QI). Its mission includes:

- harmonizing digitalization activities between NMIs, Consultative Committees, Regional Metrology Organizations and BIPM headquarters; and
- acting as a platform for exchanging information, fostering collaboration and creating synergies. *This includes liaising with international QI organizations and relevant industry associations.*

The first services made available by the BIPM through the SI Digital Framework include:

- (i) the SI Reference Point - a digital reference for the SI;
- (ii) a reference point for kinds of quantity;
- (iii) digital references for the Service Categories defined by the CIPM's Consultative Committees in physics and ionizing radiation; and
- (iv) a reference point for nuclides.

All the services are currently in beta-testing and user feedback is warmly encouraged.