



Participation and coordination within the CIPM MRA

Key actors, their roles and interactions

Participants in the CIPM MRA interact with it on different levels and with different roles but the common goal is to support the world-wide measurement system. Participation in the CIPM MRA provides for the mutual recognition of national measurement standards and of calibration and measurement certificates issued by national metrology institutes. Coordination of the CIPM MRA is carried out by key actors at the national, regional and international levels. Participation in and coordination of the CIPM MRA are described in documents CIPM MRA-P-12 '*Coordination within the CIPM MRA*' and CIPM MRA-P-13 '*Participation in the CIPM MRA*'.

CIPM MRA participating institutes

National Metrology Institutes (NMIs)

NMIs are typically the participating institutions in the CIPM MRA. They can be from Member States or Associate States/Economies of the CGPM. NMI directors sign the CIPM MRA with the approval of the appropriate authority in their own country, thereby accepting the processes specified in the framework of the CIPM MRA and recognizing the results of comparisons and calibration and measurement capabilities (CMCs) of other participating NMIs as stated in the key comparison database (KCDB). Following signature of the CIPM MRA, NMIs participate in comparisons and publish CMCs in the KCDB, and equally importantly, they actively contribute to the operation of the CIPM MRA.

Designated Institutes (DIs)

NMIs have the responsibility of maintaining national measurement standards and disseminating metrological traceability. This responsibility can be shared with one or more DIs that have appropriate metrological experience and scientific expertise in areas where the NMI is not active. These DIs, like the NMIs, operate at the top of the national metrology system and can hold CMCs and participate in comparisons. There should be clear differentiation of the metrological scope and responsibilities of the NMI and other DIs of the same Member State or Associate. Again, the approval of the appropriate national designating authority is necessary for participation in the CIPM MRA.

International Organizations (IOs)

IOs can, in certain circumstances, become signatories of the CIPM MRA. Every international organization's participation in the CIPM MRA is unique, therefore it is considered by the CIPM on a case-by-case basis.

The coordinating bodies within the CIPM MRA

Overall coordination of the CIPM MRA is carried out by the BIPM under the authority of the CIPM. NMIs and DIs of the same region collaborate through Regional Metrology Organizations (RMOs). Technical collaboration within the same metrology area is maintained by RMO TCs/WGs (technical committees/working groups). Technical collaboration at the international level is organized by the CIPM Consultative Committees. Interaction between the international and regional levels is organized by the Joint Committee of the Regional Metrology Organizations and the BIPM (JCRB).

Coordination roles within the CIPM MRA

The **JCRB**, which is chaired by the BIPM, monitors implementation of the CIPM MRA activities across the RMOs, such as the CMC and comparison processes. The **RMO** TCs/WGs organize the intra-RMO and JCRB review of CMCs, as well as conducting RMO comparisons.

RMOs also review and monitor the quality management systems (QMS) of their member institutes to ensure that every time a measurement is performed it is within the declared range and uncertainty.

CIPM Consultative Committees and their relevant working groups oversee the second stage review of CMCs (JCRB review) and are charged with planning and execution of comparisons, as well as review and approval of comparison reports. The **BIPM** provides and maintains the key comparison database (KCDB), where CMCs and comparison results are published.

For further information:

CIPM MRA Documents: <https://www.bipm.org/en/cipm-mra/cipm-mra-documents>

CIPM MRA-P-11 'Overview and implementation of the CIPM MRA'

CIPM MRA-P-12 'Coordination within the CIPM MRA: Consultative Committees, Regional Metrology Organizations, JCRB'

CIPM MRA-P-13 'Participation in the CIPM MRA: National Metrology Institutes, Designated Institutes, International Organizations'