CONSULTATIVE COMMITTEE FOR LENGTH (CCL)

The CCL is concerned with matters **related to the definition and realization of the metre, practical length and angle measurement** and future optical frequency standards for metre realizations.
Its strategy anticipates future needs in emerging areas of science and industry, encompassing a wide variety of length scales.

IMPACT

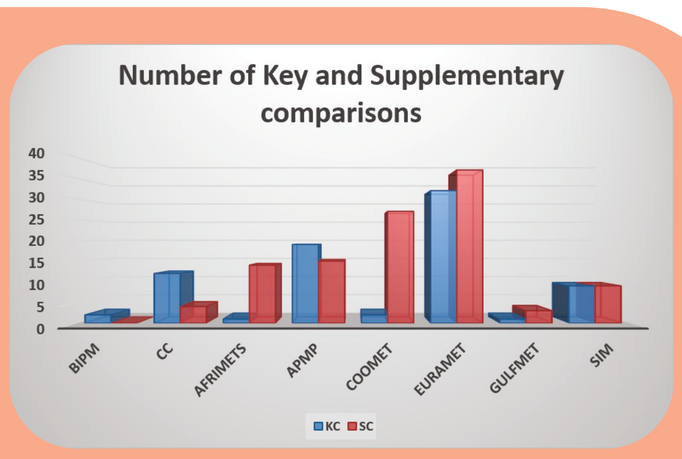
CCL research touches industry, manufacturing, healthcare and energy production alike, spanning applications from the sub-nanometre scale to non-contact, optical-based *in situ* measurements. The latter can shorten manufacturing cycle times, reduce costs and improve energy efficiency.

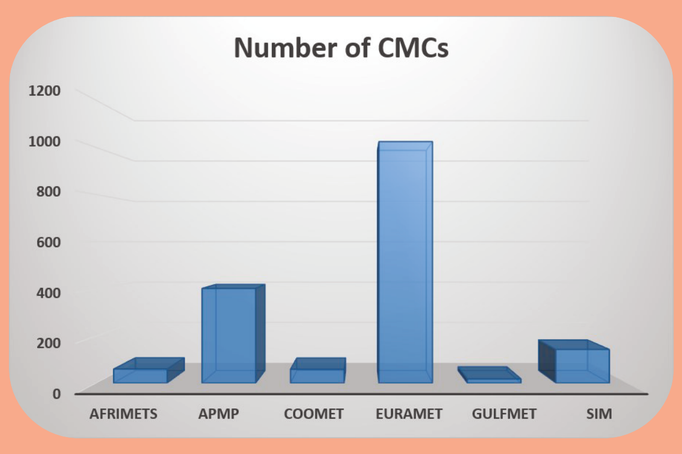
KEY ACHIEVEMENTS SINCE 2022

Global comparability of measurements

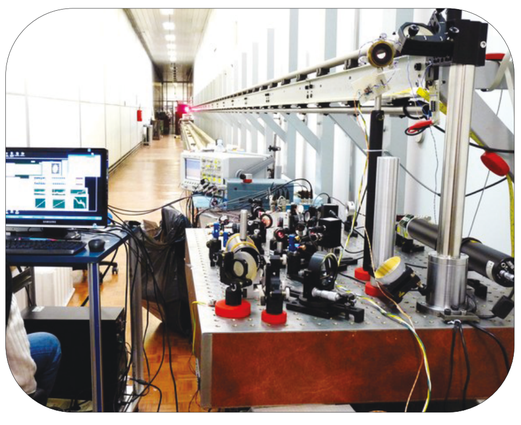
The CCL ensures international equivalence and scientific progress through its Working Groups.

- **CCL-WG-MRA** coordinates comparisons, oversees CMC activities, and develops guidance documents related to CIPM MRA matters.
- **CCL-WG-CM** supports implementation of the CIPM MRA in the field of Coordinate Metrology (CM).
- **CCL-WG-N** focuses on nanoscale traceability coordinating comparisons and developing guidance documents.
- **CCL-CCTF-WGFS** makes recommendations for radiations to be used for the realization of the definition of the metre.





Credit: BIPM



Credit: INRIM

Knowledge transfer

The CCL **workshop** on **"Latest developments in the field of length"** in October 2024 covered coordinate metrology, stabilized lasers, nanoscale metrology and ISO GPS specifications.
International events : **NanoScale, MacroScale.**

Innovation and digitalization

The CCL, in collaboration with the BIPM, introduced the **digitalized SI metre API,** which allows users to obtain in real time the latest CIPM-approved values of frequency standards and other length-related parameters. It also **refreshed the DimVIM**, which presents harmonized terminology for dimensional metrology.



Credit: Canva AI