IONIZING RADIATION - DOSIMETRY METROLOGY

The BIPM's services in radiation dosimetry are the foundation of measurements world-wide for medicine, industry and radiation protection. It maintains **stable international reference standards, runs key comparisons and offers calibration services** for the global dosimetry community.

IMPACT

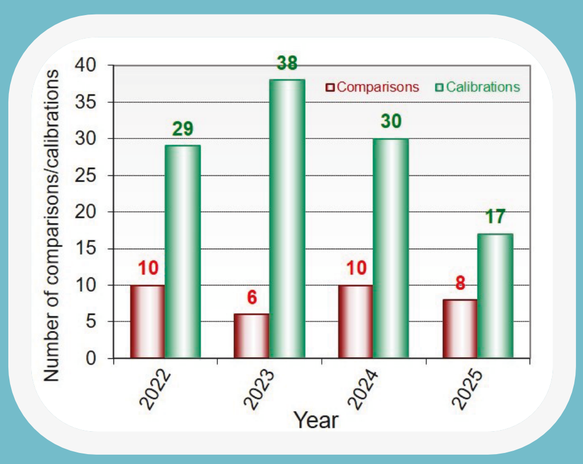
An international reference for radiation dose measurement maintained through BIPM dosimetry services, enables patients to trust the safety of radiotherapy and medical imaging - and radiation workers to have confidence in their own safety.

KEY ACHIEVEMENTS SINCE 2022

Fulfilling the requirements of NMIs

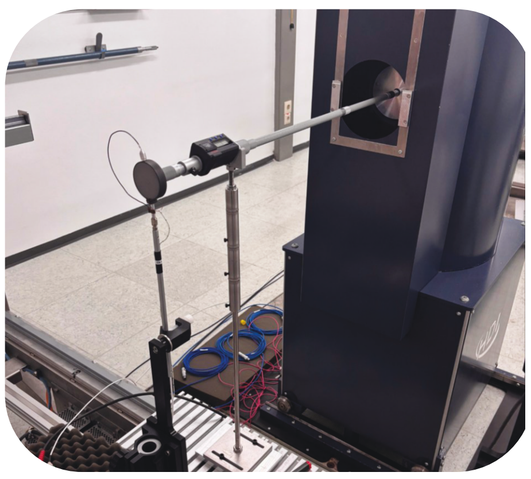
In 2022-2025 the BIPM:

- **Performed 114 calibrations of the NMI and International Atomic Energy Agency (IAEA)** standards to assure **traceability to the SI**.
- **Carried out 34 comparisons** to establish degrees of equivalence of the NMI primary standards for radiation dosimetry.



Number of calibrations and comparisons during the period 2022-2025

Credit: BIPM



International Atomic Energy Agency ^{137}Cs irradiator and BIPM primary standard

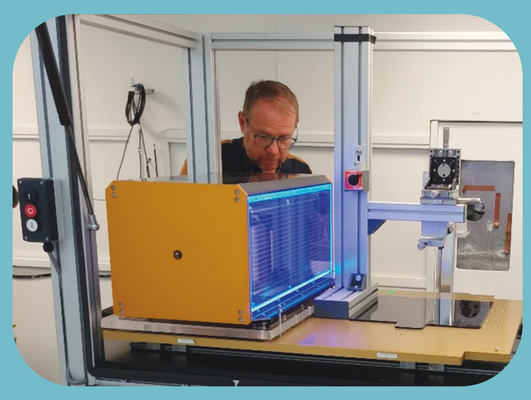
Credit: BIPM

Re-establishment of services in the external ^{137}Cs irradiation facility at the IAEA

The BIPM developed a measuring system to relaunch the key comparison and calibrations of NMI standards for radiation protection. It uses the IAEA ^{137}Cs source (Vienna), which is fully **characterized and operated by the BIPM.**

Development of a new primary standard facility for medium-energy x-ray dosimetry

A new facility has been designed and constructed by the BIPM to ensure continuity of key comparison and calibration services in **medium-energy x-ray dosimetry** with high accuracy and stability.



New BIPM primary standard for medium-energy x-rays

Credit: BIPM