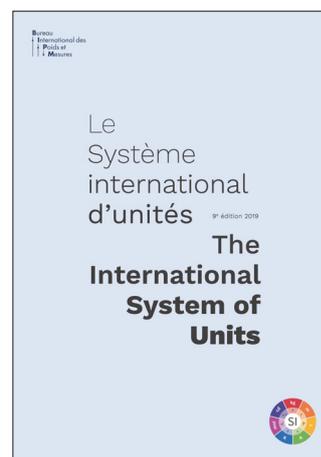


# Launch of the revised SI

The 26th meeting of the General Conference on Weights and Measures (CGPM) adopted a set of far-reaching changes to the International System of Units (SI) in November 2018. The meeting introduced a new approach to articulating the definitions of the units in general, and of the seven SI base units in particular, by fixing the numerical values of seven “defining” constants. Among them are fundamental constants of nature such as the Planck constant and the speed of light, so that the definitions are based on and represent our present understanding of the laws of physics. For the first time, a complete set of definitions is available that does not make reference to any artefact standards, material properties or measurement descriptions. These changes enable the realization of all units with an accuracy that is ultimately limited only by the quantum structure of nature and our technical abilities but not by the definitions themselves. Any valid equation of physics relating the defining constants to a unit can be used to realize the unit, thus creating opportunities for innovation and realization everywhere with increasing accuracy as technology proceeds.

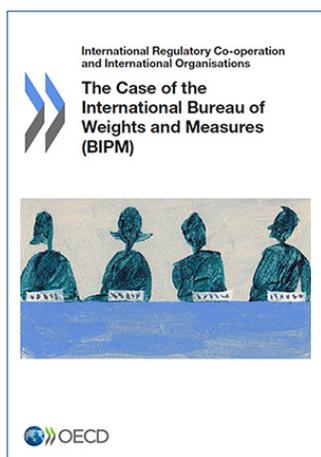
The implementation of the revised SI took place on 20 May 2019, a date chosen because it is World

Metrology Day, the day when the signing of the Metre Convention in 1875 is commemorated. Whilst the future impact of the changes will be far reaching, considerable attention has been paid to ensure that these definitions are consistent with those in place at the time the change was implemented.



To coincide with the implementation of the revised SI, the 9th edition of the SI Brochure (2019), which defines and presents the SI, was published. The SI Brochure can be downloaded from the BIPM website.

## OECD study



The OECD study *'The Case of the International Bureau of Weights and Measures'* was published within their International Organization Partnership on 6 February 2020 (see page 10). This study complements a series of the OECD studies of rule-making practices of selected IOs developed during 2014–2016 for the FAO, IMO, ISO, OECD, OIML, UNECE, WHO and in 2019 for the WTO and in 2020 for the OIE<sup>†</sup>.

## IMRR

The International Metrology Resource Registry (IMRR), developed by NIST and hosted by the BIPM, is a web-based service that allows National Metrology Institutes and Designated Institutes to publish information about their data holdings, data services, standards documents, metrology-related software, websites, and about their organizations themselves.



The goal of the IMRR is two-fold: expose the services and capabilities of the NMIs to a broad community of researchers, industrial partners, and government agencies, and allow the NMIs to better coordinate their research and development efforts through increased visibility of each other's activities.

<sup>†</sup>Food and Agriculture Organization (FAO), International Maritime Organization (IMO), International Organization for Standardisation (ISO), Organisation for Economic Co-operation and Development (OECD), International Organization of Legal Metrology (OIML), United Nations Economic Commission for Europe (UNECE), World Health Organization (WHO), World Trade Organization (WTO) and World Organisation for Animal Health (OIE).