Resolution 2 of the 27th CGPM (2022)

On the global digital transformation and the International System of Units

The General Conference on Weights and Measures (CGPM), at its 27th meeting,

considering

- that governments, industry, academia, and civil society have been working toward a comprehensive digital transformation for many years, and, in so doing, are:
  - establishing systems to collect, aggregate, analyse and interpret digital data,
  - introducing networked sensor systems for diverse scientific and industrial applications,
  - sharing data at local, national, regional and international levels,
- the essential role of the International System of Units (SI) in providing confidence in the accuracy and global comparability of measurements needed for international trade, manufacturing, human health and safety, protection of the environment, global climate studies and scientific research,

anticipating that

- maintaining and building confidence in the accuracy and global comparability of measurements will require the creation of a full digital representation of the SI, including robust, unambiguous, and machine-actionable representations of measurement units, values and uncertainties,
- successfully effecting such a comprehensive digital transformation will require engagement with a wide range of stakeholders including, but not limited to, the International Organization for Standardization (ISO), International Electrotechnical Commission (IEC), International Organization of Legal Metrology (OIML), International Laboratory Accreditation Cooperation (ILAC), Committee on Data for Science and Technology (CODATA) of the International Science Council, and other scientific, regulatory, and quality infrastructure communities,

welcomes

- the recent efforts to articulate guiding principles for a digital transformation in metrology,
- the establishment of a flexible and inclusive governance structure supporting the development and implementation of that transformation,

encourages

- the CIPM to continue its outreach and engagement initiatives to ensure that the Metre Convention naturally extends its role as the globally accepted anchor of trust for metrology into the digital era,
- the CIPM to undertake the development and promotion of an SI Digital Framework, that will include the following features:
  - a globally accepted digital representation of the SI, compatible with, and useable within, digital data exchange standards and protocols, whilst maintaining compatibility with existing non-digital solutions,
  - facilitating use of digital certificates in the existing robust infrastructure for the world-wide recognition and acceptance of calibration and measurement capabilities,
  - the adoption of the FAIR principles (Findable, Accessible, Interoperable, and Reusable) for digital metrological data and metadata, ensuring that other communities recognize the critical importance of metrological traceability for measurement data, the latter being an established requisite for building trust,

invites

- National Metrology Institutes, Regional Metrology Organizations and other stakeholders to maintain and, where possible, increase their existing level of commitment and collaboration with the CIPM to continue the development, promotion and implementation of the SI Digital Framework,
- all organizations with an interest in, or activities related to, the quality infrastructure – that relies on metrology, standardization, accreditation, conformity assessment, and market surveillance – to consider joining the collaborative venture of the digital transformation to ensure that the SI Digital Framework meets the needs of all stakeholders.

The reader should note that the official version of this Resolution is the French text

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View

Pavillon de Breteuil
F-92312 Sèvres Cedex FRANCE