



International Organization for Standardization
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Международная организация по стандартизации

ISO report to the 25th meeting of the Consultative Committee for Units (CCU), 21-23 September 2021

ISO, the [International Organization for Standardization](#), is an independent, non-governmental international organization with a membership of over 160 national standard bodies. Through its members, it brings together experts to share knowledge and develop voluntary, consensus-based and market-relevant International Standards that support innovation and provide solutions to global challenges.

As of today, we have published near to 24000 International Standards and related documents, a portfolio that contributes to all of the UN Sustainable Development Goals (SDGs). This information is accessible in an interactive [website](#) that allows us to keep track of our commitment to the SDGs.

With the view to continue shortening, facilitating and reducing the cost of the development of standards, we are developing an [Online Standard Development](#) collaborative platform, together with the IEC (International Electrotechnical Commission) and in collaboration with the CEN-CENELEC (European Committee for Standardization - European Committee for Electrotechnical Standardization). The platform is currently being tested by a few Working Groups to produce initial drafts, and is planned to be widely offered to our technical community by the end of 2022. Ultimately, the tool is meant to be used from the preparatory stage through to publication of our standards, incorporating the commenting phases of the drafts with the final compilation of the comment-resolution. In parallel, the more recent SMART initiative – Standards Machine-Applicable, Readable and Transferable – is exploring ways to produce standards with machine-readable, and ultimately machine-interpretable, content.

The ISO work is guided by its ten-year strategy, developed jointly between our members, our partners and our stakeholders. Its latest edition, the "[ISO Strategy 2030](#)", sets out our vision and mission, and identifies three goals for the current decade: ISO standards used everywhere, meeting global needs, and all voices heard. The Strategy serves as the basis for the "[ISO Action Plan for developing countries 2021-2025](#)", which provides a framework for strengthening ISO members through capacity building.

ISO will hold its "ISO Week 2021" on 20-24 September 2021. The event, which will be entirely online, will combine the Council Meeting and General Assembly with workshops and breakouts for our members and partners to exchange views. The three themes of this years' week are: innovation for facing the future, diversity and inclusion to hear and engage every voice, and climate and governance.

ISO and metrology

CASCO, Committee on conformity assessment — Update

[CASCO](#) is the committee responsible for conformity assessment matters in ISO. It develops international standards and policy for conformity assessment. It currently runs 6 working groups (WGs) with 3 of them revising some of the key CASCO documents.

CASCO initiated the revision of ISO/IEC 17043:2010, *Conformity assessment - General requirements for proficiency testing*. The document reached the Committee Draft 2 (CD2) ballot stage with the main changes covering the harmonization with the revisions of ISO/IEC 17025, including technical requirements and structure; the harmonization with the revision of ISO 13528:2015 in terms of terminology; the incorporation of requirements from ISO/CASCO PROC 33 and inclusion of the requirement that testing activities, calibration activities and proficiency test item production conform to the relevant requirements of appropriate ISO conformity assessment standards (ISO 15189 introduced as reference for medical field). The revision of ISO/TS 22003:2013, specifying additional requirements for bodies carrying out auditing and certification of food safety management systems (FSMS), resulted in the development of two parts. Part 2 specifically covers the approach based on product and process certification, using ISO/IEC 17065 as the base standard. Both Parts 1 and 2 reached the Draft International Standard (DIS) stage. Finally, CASCO is revising one of its guides, ISO/IEC Guide 60, *Conformity assessment - Code of good practice*. The guide will become ISO/IEC 17060. It recommends good practices for conformity assessment and is intended for a large audience covering regulators, trade officials, participants, members and owners of conformity assessment systems and schemes, and users of conformity assessment. The document reached the Draft International Standard (DIS) stage.

ISO/TC 12, Quantities and units — Update

[ISO/TC 12](#) is responsible for formally describing and maintaining the International system of quantities (ISQ) in the ISO 80000-series, *Quantities and units*. The IEC 80000-series, on electrotechnical subjects, is under the responsibility of IEC/TC 25. In conducting its work, ISO/TC 12 liaises with the BIPM and the JCGM (Joint Committee for Guides in Metrology) in an effort to harmonize the ISO 80000-series, the SI and the VIM (*International vocabulary of metrology*). The latest revisions of ISO 80000-2 to ISO 80000-12, covering different fields of science and technology, were published in 2019-2020. The revision of ISO 80000-1, *General*, under Working Group 21 (WG 21) is progressing: the Committee Draft was approved end July 2021 with some comments. WG 21 will hold a meeting on September 16 to address the CD comments and prepare the draft to proceed to DIS (Draft International Standard). Compared with the previous edition of ISO 80000-1 (2009), the terms and definitions Clause, as well as the SI- and CODATA-related content, have been replaced with references to the VIM, the SI Brochure and CODATA, respectively. Following the recommendations of a Task Force (ISO/TC 12/TF 1) that was charged with reviewing the need for corrections in the published Parts of the 80000-series, ISO/TC 12 decided, at its last meeting held 2021-05-26, to issue a Corrected Version for ISO 80000-2, *Mathematics*, and ISO 80000-12, *Condensed matter physics*, to correct a few misprints. The remaining published Parts in the 80000-series will wait for their Systematic Review (SR) in 2024, for the Committee to collect feedback from the ISO member bodies and to consider any need for revisions. Such SR exercise, which typically takes place 5 years after publication, has been advanced to 2022 for ISO 80000-3, *Time and space*, in order to collect an earlier feedback about the potential need to revise this Part. ISO/TC 12 also decided that IEC 80000-15, *Logarithmic quantities and their units*, currently under development, needs be completed before considering

any revision of ISO 80000-8, *Acoustics*, since the two parts should be coordinated. ISO/TC 12, together with [ISO/TC 215](#) (*Health informatics*) and the ISO Central Secretariat, took part to the BIPM workshop "The International System of Units (SI) in FAIR digital data" that took place on 22-26 February 2021. The ISO speakers gave an update on the ISO/TC 12 and ISO/TC 215 study on quantities and units in e-health, and presented a general overview on the digital transition in ISO. The next Plenary of ISO/TC 12 should take place Q2 2022.

Other ISO Committees — Update

In addition to with CASCO and ISO/TC 12, the BIPM is in liaison with the following ISO Committees where the following ongoing work might be of interest to the CCU.

ISO/TC 43/SC 3, *Acoustics - Underwater acoustics*

The following new projects are at initial stages of development:

- ISO/NP 17208-3, *Underwater acoustics - Quantities and procedures for description and measurement of underwater noise from ships - Part 3: Requirements for measurements in shallow water*. This third part to the standard will complement the existing 2 parts, which cover measurement of radiated noise level in deep water, and the calculation of source level from deep-water data.
- ISO/AWI 7605, *Underwater acoustics - Measurement of underwater ambient sound*.
- ISO/NP 7447, *Underwater acoustics - Measurement of radiated underwater sound from percussive pile driving - In-situ determination of the insertion loss of barrier control measures underwater*.

ISO/TC 85/SC 2, *Nuclear energy, nuclear technologies, and radiological protection - Radiological protection*

The BIPM actively contributes to the work of WG 17 (Radioactivity measurements) and WG 22 (Dosimetry and related protocols in medical applications of ionizing radiation). The following standards are under development in the committee at early stages:

- ISO/AWI 18589-3, *Measurement of radioactivity in the environment - Soil - Part 3: Test method of gamma-emitting radionuclides using gamma-ray spectrometry*.
- ISO/AWI 8529-3, *Reference neutron radiations - Part 3: Calibration of area and personal dosimeters and determination of response as a function of energy and angle of incidence*.
- ISO/AWI 24426, *Radiological protection - Format of input data for the statistical description of occupational exposure to ionizing radiation*.
- ISO/AWI 23557, *Calibration, quality assurance and use of radionuclides calibrators in nuclear medicine*
- ISO/AWI 23548, *Measurement of radioactivity - Test method using alpha spectrometry*.
- ISO/CD 20956, *Radiological protection - Low dose rate calibration of instruments for environmental monitoring*.
- ISO/CD 20043-2, *Measurement of radioactivity in the environment - Guidelines for effective dose assessment using environmental monitoring data - Part 2: Nuclear emergency exposure situation*.

- ISO/CD 20045, *Measurement of radioactivity in the environment - Air: tritium - Test method using sampling by bubbler.*

ISO/TC 146/SC 3, Air quality - Ambient atmospheres

The next Committee Plenary will be held September 30. The BIPM has a point in the Agenda to present its recent request to revise ISO 13964:1998 (*Air quality - Determination of ozone in ambient air - Ultraviolet photometric method*) and ISO 10313:1993 (*Ambient air - Determination of the mass concentration of ozone - Chemiluminescence method*) to amend the value for the ozone absorption cross section to the newly published value, referred to as the CCQM.O3.2019 value.

ISO/TC 212, Clinical laboratory testing and in vitro diagnostic test systems

The revision of the following standards was initiated in February 2021; both projects are at early stages of development:

- ISO/AWI 15193, *In vitro diagnostic medical devices - Measurement of quantities in samples of biological origin - Requirements for content and presentation of reference measurement procedures.*
- ISO/AWI 15194, *In vitro diagnostic medical devices - Measurement of quantities in samples of biological origin - Requirements for certified reference materials and the content of supporting documentation.*

ISO/TC 334, Reference materials

This new Committee, replacing the former ISO/REMCO, will have its next meeting on 16 November 2021. Focus will be to plan the revision of the REMCO Guides as International Standards, with a project plan. The committee should also confirm its title and scope, and approve a strategic business plan.

Survey on the Impact of the Revised SI on Liaison Organizations of the CCU

ISO circulated the CCU Survey to CASCO, ISO/TC 12 and ISO/TC 334, and the result, from a total of 27 respondents, was submitted to the CCU. Overall, the respondents felt that the BIPM and CIPM information campaign to implement the revised SI was effective; the work of about a half of the respondents was impacted by the revision of the SI.

JCGM - International Vocabulary of Metrology (VIM), and Guide to the Expression of Uncertainty in Measurement (GUM)

ISO is a member of the JCGM and actively contributes to the work of its two Working Groups. The Committee Draft of the fourth revision of the VIM, known as VIM 4/CD (the ISO and IEC reference number is ISO/IEC CD Guide 99), was circulated for comments to the TMB (Technical Management Board), CASCO, and a few Technical Committees including ISO/TC 12, [ISO/TC 69](#) (*Application of statistical methods*) and ISO/TC 334. In parallel, ISO promoted amongst its members the JCGM/WG 2 Webinar that

took place on 6 May 2021 to explain the significant changes in this revision of the VIM. At the closure of the CD commenting period, more than 580 comments were collected and forwarded to the JCGM and its WG2. There were many general comments, some of which express some concerns about the new VIM. The entry "quantity" (1.1) got the highest number of comments. Concerning the JCGM/WG 1, the document JCGM GUM-6:2020 has been published jointly with the IEC as ISO/IEC Guide 98-6:2021, *Uncertainty of measurement — Part 6: Developing and using measurement models*.

We thank the BIPM/CCU for its contributions to the technical work of ISO and look forward to continuing our co-operation.

Mercè Ferrés, ISO/CS
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