



## **2022 ANNUAL REPORT of the COOMET TC 1.1 “General Metrology”**

### **1 General description of cooperation including information on carrying out the COOMET Strategy and COOMET Development Program**

Representatives of the following countries participate in the TC 1.1 work: Azerbaijan, Armenia, Belarus, Bulgaria, Kazakhstan, Cuba, Kyrgyzstan, Moldova, Russia, Slovakia, Tajikistan, and Uzbekistan.

The main tasks of TC 1.1 are the following:

- Scientific research within the framework of COOMET topics on key issues of general metrology, primarily on issues of processing and interpretation of COOMET comparisons data and introducing the concept of uncertainty in expressing the accuracy of measurements and analysis,
- Scientific and methodological support of key and supplementary comparisons of national measurement standards in terms of processing comparison data, as well as establishing degrees of equivalence of measurement standards and confirming Calibration and Measurement Capabilities of the COOMET NMIs, and
- Analysis of normative documents issued by international organizations in the field of general metrology and its practical application in the COOMET member-countries.

A TC 1.1 representative participates in the activities of the COOMET Task Group on Digital Transformation in Metrology.

In 2022, TC 1.1 members participated in the following activities provided by the COOMET Development Program for 2020–2022:

- Assessment scientific and technical level of the following COOMET documents and recommendations within the TC 1.1 scope: COOMET R/GM/19:2016; COOMET R/GM/14:2016; COOMET R/GM/20:2009; COOMET R/GM/21:2011; COOMET R/GM/31:2016; and COOMET R/GM/32:2017 (item 79 (Ind-g.2.6) “Assessment of scientific and technical level of COOMET publications, preparation of schedules for updating COOMET publications for CSB and its implementation”). Based on the work results, was extended the term of COOMET R/GM/14:2016 *Guidelines for data evaluation of COOMET Key Comparisons*.
- Implementation of the Revision Plan and updating of COOMET recommendations. In 2022, work began on updating COOMET R/GM/31:2016 and COOMET R/GM/32:2017.
- Development of concept for using digital technology when providing metrology services by NMIs of COOMET Member States (item (Ind-g.3.6)).

### **2 Results of the meeting**

The 16<sup>th</sup> meeting of the TC 1.1 “General Metrology” was held online on October 17, 2022. Representatives from Russia, Belarus, Armenia, Azerbaijan, Kyrgyzstan, Kazakhstan, and Uzbekistan participated in the meeting. The decisions taken are given in Section 3.



### 3 TC 1.1 projects and their status

One project was completed in 2022.

**796/UA/19** Development of the COOMET Recommendation on expression of expanded uncertainty of measurements (*kurtosis method*).

COOMET Recommendation On expression of expanded uncertainty of measurements (*kurtosis method*) was approved by the COOMET Committee in 2022 as [COOMET R/GM/35:2022](#).

See [http://www.coomet.org/DB/isapi/cmt\\_docs/2023/01/Doc/Recomendation\\_R\\_GM\\_35\\_2022\\_RU.pdf](http://www.coomet.org/DB/isapi/cmt_docs/2023/01/Doc/Recomendation_R_GM_35_2022_RU.pdf)

[https://www.coomet.net/fileadmin/user\\_files/DOCUMENTS/PUBLICATIONS/Recommendations/R\\_35/Recommendation\\_R\\_GM\\_35\\_2022\\_RU.pdf](https://www.coomet.net/fileadmin/user_files/DOCUMENTS/PUBLICATIONS/Recommendations/R_35/Recommendation_R_GM_35_2022_RU.pdf)

#### Ongoing topics

**791/UZ/19** Development of the COOMET Recommendation “Methods and approaches for metrological certification of measurement procedures”

The project’s status is “Proposed”.

TC 1.1 Meeting decisions:

- To ask the Coordinator to send to the TC 1.1 Deputy Chairperson (n.a.burmistrova@vniim.ru) the national document of Uzbekistan “Methods and approaches of metrological certification of measuring techniques”.
- To ask the TC 1.1 Deputy Chairman to disseminate the document among the TC 1.1 members with a request to familiarize themselves with its content and assess their interest in its implementation and the expediency of developing a COOMET recommendation based on it.
- In case of positive decision, to ask TC 1.1 members to join project 791/UZ/19 in the prescribed manner.

**302/RU-a/04** Development and updating of the COOMET Recommendation *Guidelines for evaluation of the COOMET supplementary comparison data* (COOMET R/GM/19).

**336/RU-a/05** Development and updating of the COOMET Recommendation *Guidelines for evaluation of the COOMET key comparison data* (COOMET R/GM/14).

Work on the topics is ongoing. Updating is carried out within the COOMET Recommendations updating program. It is expedient to update R/GM/19:2016 and R/GM/14:2016 taking into account the proposals for updating JCRB G 11 which are currently being discussed as part of the corresponding JCRB Focus Group work.

TC 1.1 Meeting decision:

- To ask TC 1.1 members to familiarize themselves with COOMET R/GM/19:2016 *Guideline on COOMET supplementary comparison evaluation* and submit their comments and proposals for its updating. In case there are no comments or proposals, to consider it expedient to keep the current edition of COOMET R/GM/19:2016 and to assess its scientific and technical level no later than 2028 (in 5 years' time in accordance with the requirements of COOMET D4/2022).

At present, it has been decided that there is no need to update COOMET R/GM/14:2016. This information was submitted to the COOMET Secretariat for including it into the Schedule for updating COOMET publications.

**727/RU-a/17** Development of the COOMET Information Material *Data modeling of national measurement standards comparisons*.

Work on the topic continues. Thus far, there were several publications of TC 1.1 on the subject. BELGIM experts in cooperation of D.I. Mendeleyev Institute for Metrology published a Russian translation of JCGM GUM-6:2020.

**850/DE/21** Development of a harmonized approach to using digital calibration certificates in the COOMET Member States.

Within the topic, it is proposed to develop a harmonized approach to using digital calibration certificates (DCCs), which would cover the following aspects:

- Development of a general approach to technology and overall structure of DCCs,
- Development of good practice for specific measurands,
- Participation in international activities related to the further development of DCCs, and
- Development of a common approach to using DCCs.

The work continues.

**825/RU-a/21** Development of the COOMET Concept on issues of digitalization in metrology.

In 2022, several meetings of the Working Group were held, and a Draft Concept on digital transformation in metrology was prepared. Discussion of the Draft Concept continues.

**234/BY-a/01** Development and updating of lists of the COOMET Technical Experts on CMC Review and COOMET Technical Experts on evaluation of the COOMET NMIs/DIs QMS.

The topic is ongoing. In 2022, the COOMET Secretariat together with TC 1.2 – TC 1.12 Chairpersons updated the lists of COOMET Technical Experts on CMC Review and COOMET Technical Experts on evaluation of COOMET NMIs/DIs QMS'.

**693/UA-a/16** Development of Recommendations on justification of a measurement model (measurement equation).

Due to Ukraine suspending its participation in CSB and currently there are no preliminary results of work on this projects, it was proposed to exclude 693/UA-a/16 topic from the COOMET Work Program. The TC members supported this proposal.

#### **4 Cooperation with international and regional organizations**

Participation in the JCRB Focus Groups on amending the G11 document and in the CCQM KCRV Statistics Working Group.

#### **5 Time and place of the next meeting**

The next TC 1.1 meeting is planned in October 2023. Format and venue of the meeting to be confirmed.

Anna G. Chunovkina

TC 1.1 Chairperson