



ANNUAL REPORT of COOMET TC 4 “Information and Training” for 2021

1 General characteristic of cooperation, including information about the implementation of the COOMET Strategy, COOMET Development Program and Work Program of TC 4

Representatives of the following COOMET member countries take part in TC 4 activities: Azerbaijan, Armenia, Belarus, Bulgaria, Germany, Georgia, Kazakhstan, China, Cuba, Kyrgyzstan, Moldova, Russia, Tajikistan, Uzbekistan, Ukraine.

During the reporting period, the work within TC was carried out based on the TC 4 Work Program for 2021–2023. There are three subcommittees in the TC:

- SC 4.1 “Capacity Building in Training and Knowledge Transfer”;
- SC 4.2 “COOMET Informational Resources”;
- SC 4.3 “Raising Proficiency Level and Work with Young Metrologists”.

In 2021 document COOMET D5.13/2021 "Regulation on the COOMET Technical Committee "Information and Training" (TC 4)" was updated (replacing COOMET D5.13/2015).

The TC 4 representative take part in the activities of the COOMET Task Group on the Issues of Digital Transformation in Metrology.

In 2021 the Working Group for the Creation of a New Single Information Resource of COOMET (WG-Web) continued its activities.

TC 4 in conjunction with the COOMET Secretariat ensures management and maintenance of the COOMET web site (www.coomet.org), as well as COOMET data server (DB of COOMET projects, DB of COOMET comparisons, DB of CMCs, DB of COOMET RMs, etc.) on an ongoing basis. Information is posted on the COOMET web portal (www.coomet.net) by the COOMET Secretariat and online editors of COOMET structural bodies.

An annual survey is conducted within TC 4 on the needs of COOMET members in training seminars on the topical issues of metrology in different subject fields of cooperation and on the available resources/possibilities to hold training seminars in COOMET NMIs/DIs. A Plan for training activities of COOMET for 2021-2022 was prepared based on the survey conducted in 2021 and was published on the COOMET web resources.

In 2021 a number of activities, provided for in the COOMET Development Program for 2020-2022 and Work Program of TC 4 for 2021-2022, were discussed, namely:

- discussion of a format for monitoring actual traineeships of experts of NMIs/DIs of COOMET member countries and monitoring CEEMS participation in training activities and traineeships within COOMET, BIPM CBKT programs and programs of other partners;
- discussion of task groups and targeted content for online information exchange on the COOMET web resources with respect to the activities of TC 4;
- drawing up of a list of fundamental documents on metrology of international metrology organizations for which translation into Russian is required;
- inspection of the scientific and technical level of COOMET documents and recommendations in the field of TC 4 activities (D6/2013, D10/2013, D11/2016, R/IT/24:2014, R/IT/27:2015) and their update etc.

2 Overview of implemented projects and their results

In 2021 work was conducted on the following registered projects:

543/RU-a/11 Development and administration a database of RM of COOMET

Ongoing joint project of TC 1.12 “Reference Materials” and TC 4 “Information and training”. The aims of the project are to develop a structure of the document, collect and examine data on reference materials of COOMET, publish them on the website as a database, maintain the database of reference materials.

117 types of COOMET RMs have currently been registered in the database.

811/BY-a/20 Development of the policy and procedures for holding official COOMET meetings and events under the auspices of COOMET in the form of videoconferences/webinars based on the organization and holding of test (pilot) videoconferences involving experts from COOMET member countries

Under the project test (pilot) videoconferences/webinars involving members of the working group and other interested participants from different countries were held.

Based on the test results it was recommended to use the Zoom service for holding online COOMET events which provided for the possibility to organize simultaneous interpretation into two languages and to conduct polling during online meetings. Under the project brief instructions were developed for the participants of videoconferences/webinars.

829/UA/21 Preparation of an internal procedure for the assessment of training needs and planning of training activities within COOMET

Under the project, preparation of an internal procedure for the assessment of training needs and planning of training activities within COOMET began, including a questionnaire on the needs of COOMET members in training seminars on the topical issues of metrology in different subject fields of cooperation and on the available resources/possibilities to hold training seminars in COOMET NMIs/DIs. Work is carried out according to item 44 of the COOMET Development Program for 2020-2022 (Ind-e.1.1).

In 2021 work was completed on project **731/BY-a/17** "Review of national education & training systems for the NMIs and metrologists of the COOMET member countries". An information material "Training systems for metrologists in COOMET member countries" was prepared, which will be submitted for approval to the COOMET Committee in 2022.

3 Results of the TC meeting

The 18th meeting of TC 4 "Information and Training" was held on 9 November 2021 online.

The meeting was attended by 17 specialists from 10 COOMET member countries, Chairs of subcommittees, TC 4 Members, as well as their representatives. Representative of the International Bureau of Weights and Measures (BIPM) Chingis Kuanbayev attended the meeting as a guest.

9 items of the agenda have been considered at the meeting, including:

- On the authorities of the Chair of SC 4.1 "Capacity Building in Training and Knowledge Transfer";
- Information about the implementation of TC 4 Work Program for 2021–2023
- On COOMET publications within TC 4;
- Information about the BIPM e-learning platform and COOMET participation in it;
- Information on available e-learning modules of other organizations etc.

During the meeting, TC 4 members supported the proposal of the Chair of TC 4 P. Neyezhnikov about extending the term of office of Y. Bunayeva as the Chair of SC 4.1 for the next 4 years.

Moreover, the developed information material "Training systems for metrologists in COOMET member countries" was approved and recommended for approval to the COOMET Committee.

4 Training activities:

4.1 The following training activities were organized and held:

- COOMET webinar "The role of measurement uncertainty in conformity assessment decisions in legal metrology", 6 April 2021, online, jointly with TC 2 "Legal Metrology";
- COOMET webinar "The practice of implementation of the documents of the CIPM MRA and COOMET publications on carrying out and evaluation of results of calibration and comparison", 15 October 2021, online, jointly with JCMS;
- EURAMET – COOMET training course on small volume comparisons, 18 to 19 October 2021, online, jointly with TC 1.6 "Mass and Related Quantities";
- COOMET webinar "Main fields of digital transformation in metrology", 22 October 2021, online;

- COOMET webinar “Metrology of stable isotopes”, 29 October 2021, online, jointly with TC 1.8 “Physical Chemistry”.

Information about the held training events is available on the COOMET portal at <https://www.coomet.net/ru/deyatelnost/informaciya-i-obucheniye/informaciya-o-proshedshikh-obuchajushchikh-meroprijatijakh/>.

4.2 One of TC 4 tasks is coordination of participation of specialists from NMIs of COOMET member countries, especially from countries with emerging metrology systems (CEEMS), in training activities realized under the BIPM CBKT Program and programs of other partners.

In 2021 specialists from NMIs of COOMET member countries took part in the following events:

KCDB 2.0 – Comparisons, 3 February 2021, online

KCDB 2.0 - TC Chairs in General Physics, 15 June 2021, online

KCDB 2.0 - TC Chairs in Ionizing Radiation, 15 June 2021, online

KCDB 2.0 - CMC Writers in General Physics, 29 March 2021, online

KCDB 2.0 - CMC Writers in Ionizing Radiation, 30 March 2021, online

KCDB 2.0 - CMC Writers in Chemistry and Biology, 14 October 2021, online

2021 BIPM - TÜBİTAK UME Project Placement, 6 September – 17 October 2021, TÜBİTAK UME, Turkey

5 Results of IX International Competition "The Best Young Metrologist of COOMET"

The IX International Competition "The Best Young Metrologist of COOMET" was held online on 21 to 22 April 2021.

Representatives of other Regional metrology organizations joined the competition. In total, there were 18 works submitted from: COOMET (Belarus, Kazakhstan, Germany, Russia, Ukraine), EURAMET (Italy) and SIM (Colombia, Mexico).

The Scientific Committee of the competition included the representatives of International (BIPM, BML) and Regional (COOMET, AFRIMETS, EURAMET, SIM) metrology organizations.

Members of the Scientific Committee conducted a comprehensive assessment of the works of the applicants for the high title of winners and prize-winners of the IX International Competition "The Best Young Metrologist of COOMET".

The evaluation of the work was carried out according to five criteria, grouped into two categories - the innovation of the work (relevance and scientific novelty, implementation of the results) and presentation skills and design.

After careful and objective consideration the members of the Scientific Committee defined the winners of the competition:

- Gianluca Milano (EURAMET, INRIM, Italy) for the best report in the field of scientific and fundamental metrological activity;
- Mutaib Zackaria (COOMET, PTB, Germany) for the best report in the field of applied metrological activity.

Special awards for the 2nd and 3rd place went to:

- Gleb Belotelov (COOMET, VNIIFTRI, Russia) - 2nd place;
- Rustam Tukhvatullin (COOMET, VNIIR-branch of VNIIM named after D. I. Mendeleev, Russia) - 3rd place.

6 Issues of interaction with international and regional organizations in this field of cooperation

During the 17th online meeting of TC 4 (10 to 11 February 2021):

- an officer of the International Liaison and Communication Department of the BIPM C. Kuanbayev presented information to the meeting participants about the BIPM Capacity Building and Knowledge Transfer (CB&KT) Program and about participation of COOMET representatives in this Program;
- the Chair of the EURAMET Technical Committee for Interdisciplinary Metrology (TC-IM) M. Dobre presented information about the activities of the EURAMET TC-IM;
- an officer of the EURAMET Secretariat, T. Tasic, presented information about the EURAMET activities in the field of capacity building and knowledge transfer.

During the 18th online meeting of TC 4 (9 November 2021) an officer of the International Liaison and Communication Department of the BIPM C. Kuanbayev presented information about the BIPM e-learning platform and prospects of COOMET for participating in it.

Note: In February 2022 a Practical Arrangement between the BIPM and COOMET on cooperation in delivering capacity building and knowledge transfer activities using the BIPM e-learning platform was signed.

TC4 representatives took part in the Annual meeting of the EURAMET Technical Committee for Interdisciplinary Metrology (TC-IM), 25 March 2021, online.

7 Work on information support of the CIPM MRA

Information about the CIPM MRA implementation in COOMET member countries is posted on the pages of www.coomet.net and www.coomet.org.

To implement the CIPM MRA on the part of COOMET structural bodies database of COOMET comparisons and database of CMCs are maintained on an ongoing basis alongside with drawing up and maintenance of the COOMET Program of comparisons online on the COOMET website.

In November 2021 the number of key and supplementary COOMET comparisons, the number of completed and published COOMET comparisons, the number (and percentage) of piloted COOMET comparisons by NMIs/DIs of COOMET were analyzed as part of the report on the implementation of the Program of Comparisons to the COOMET Presidential Council.

8 Next TC 4 meeting

The next 19th meeting of TC 4 will be held in Uzbekistan in late October – early November 2022 in case of a favorable situation in the world.

Pavel Neyezhnikov

Chair of TC 4