

## REPORT ON THE COOMET ACTIVITIES

Reporting period: from 1 January 2021 to 15 October 2022

The activities of COOMET were performed in all main fields and subject areas of cooperation provided for in the Memorandum of Understanding.

The report was prepared based on the materials submitted by COOMET Committee members, Chairs of structural bodies and national secretariats of the countries, participating in the cooperation.

### 1. GENERAL CHARACTERISTICS OF THE ACTIVITIES

#### 1.1. COOMET members

Information about the membership of countries in COOMET and participation in the Metre Convention is given in the table below:

No	Country	Membership of the country in COOMET, year of signing of the Memorandum	Participation in the Metre Convention, year of signing
1.	<b>Armenia</b>	Full member, 2007	-
2.	<b>Azerbaijan</b>	Full member, 2007	Associate member of CGPM, 2015
3.	<b>Belarus</b>	Full member, 1992	Member of the Metre Convention, 2020
4.	<b>Bosnia and Herzegovina</b>	Associate member, 2013	Associate member of CGPM, 2011
5.	<b>Bulgaria</b>	Full member, 1991	Member of the Metre Convention, 1911
6.	<b>China</b>	Associate member, 2016	Member of the Metre Convention, 1977
7.	<b>Cuba</b>	Associate member, 1991	Associate member of CGPM, 2000*
8.	<b>Germany</b>	Associate member, 1991	Member of the Metre Convention, 1875
9.	<b>Georgia</b>	Full member, 2006	Associate member of CGPM, 2008
10.	<b>Kazakhstan</b>	Full member, 1998	Member of the Metre Convention, 2008
11.	<b>Kyrgyzstan</b>	Full member, 2000	-
12.	<b>Lithuania</b>	Full member, 1995	Member of the Metre Convention, 2015
13.	<b>Moldova</b>	Full member, 1997	Associate member of CGPM, 2007
14.	<b>Russia</b>	Full member, 1991	Member of the Metre Convention, 1875
15.	<b>Slovakia</b>	Full member, 1993	Member of the Metre Convention, 1922
16.	<b>Tajikistan</b>	Full member, 2009	-
17.	<b>Turkey</b>	Associate member, 2014	Member of the Metre Convention, 1875
18.	<b>Ukraine</b>	Full member, 1992	Member of the Metre Convention, 2018
19.	<b>Uzbekistan</b>	Full member, 2004	Associate member of CGPM, 2018

*\*Note – Cuba was a CGPM Associate and participated in the implementation of the CIPM MRA since 2000, however Cuban NMIs/DIs have currently lost (from 01.01.2022) the status of signatories to those Arrangements.*

Romania terminated its membership in COOMET in October 2021, limiting itself to cooperation in EURAMET; DPR of Korea also withdrew from COOMET (based on the Resolution of the 32<sup>nd</sup> online COOMET Committee meeting, 26.10.2021).

## 1.2. New COOMET Committee members

During the reporting period new COOMET Committee members were appointed:

No	Country	Name, position	Email
1.	Azerbaijan	<b>Mr. Azer Tengiz oğlu GURBANOV</b> Legal Entity of Public Law "Azerbaijan Institute of Metrology" (AzMI) Advisor to Director General	azer.gurbanov@metrology.gov.az
2.	Bulgaria	<b>Mrs. Snezhana SPASOVA</b> Bulgarian Institute of Metrology (BIM) President	s.spasova@bim.government.bg
3.	Germany	<b>Dr. Frank LIENESCH</b> Physikalisch-Technische Bundesanstalt (PTB) Head of Division 9 "Legal and International Metrology"	Frank.Lienesch@ptb.de
4.	China	<b>Dr. Yuning DUAN</b> National Institute of Metrology of the People's Republic of China (NIM) Vice-Director	duanyun@nim.ac.cn
5.	Kyrgyzstan	<b>Mr. Almazbek BAYALIEV</b> Center for Standardization and Metrology under the Ministry of Economy and Commerce of the Kyrgyz Republic (CSM) Head of Metrology Directorate	a.bayaliev@nism.gov.kg
6.	Moldova	<b>Mr. Alexei PIANIH</b> Public institution "National Institute of Metrology" (INM-MD) Director	office@inm.gov.md
7.	Russia	<b>Mr. Evgeny LAZARENKO</b> Federal Agency on Technical Regulating and Metrology (Rosstandart) Deputy Head	elazarenko@rst.gov.ru
8.	Tajikistan	<b>Mr. Mansur Hudzhavali SAFARZODA</b> Agency on Standardization, Metrology, Certification and Trade Inspection under the Government of the Republic of Tajikistan (Tajikstandard) Deputy Director	smansur78@mail.ru

## 1.3. Information on the implementation of the COOMET Work Program (COOMET projects)

There are totally **861 COOMET projects**<sup>1</sup> as of 15 June 2022.

**39 new projects** were proposed during the reporting period: **19** of them in the field of "Legal Metrology" (translation of OIML publications and update of COOMET recommendations), **4** in the fields of "Information and Training", **3** in each of the fields of "General Metrology" and "Reference Materials", **2** in each of the fields of "Electricity and Magnetism", "Physical Chemistry" and "Thermometry and Thermal Physics", **1** in each of the fields of "Acoustics, Ultrasound, Vibration", "Flow Measurements", "Mass and Related Quantities" and "Ionizing Radiation and Radioactivity".

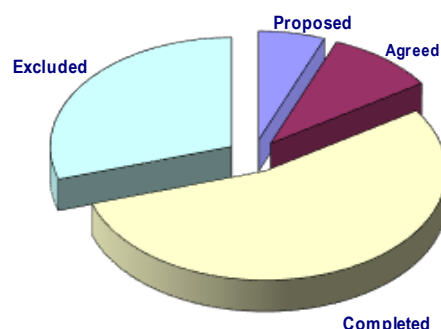
**10 of the proposed projects** are related to carrying out COOMET comparisons of measurement standards for physical units (1 of them is a key comparison, 6 are supplementary and 3 are pilot comparisons), **1 project** is aimed at the preparation of COOMET reference materials.

<sup>1</sup> The reporting period for projects did not change.

**10 projects** (823/BY/21, 828/RU/21, 829/UA/21, 830/BY/21, 831/UZ/21, 841/BY/21, 853/UA/22, 860/RU/22, 861/BY/22, 857/RU/22) are aimed at the preparation and update of COOMET publications.

The list of proposed COOMET projects (during the reporting period) is given in *Annex 1* to the report.

During the reporting period **29 projects** were agreed, **30 completed**, **19 excluded** (complete lists of the projects, the status of which changed during the reporting period, are also given in *Annex 1* to this report).



Project status	Number of projects
Proposed	51
Agreed	84
Completed	469
Excluded	257
<b>Total</b>	<b>861</b>

### 1.3 Holding of COOMET bodies meetings

Due to the force majeure resulting from the Covid-19 pandemic almost all COOMET events during the reporting period were held online using the Zoom platform.

During the reporting period the following meetings of **COOMET steering bodies** were held:

- 31<sup>st</sup> meeting of the **COOMET Committee** (15 to 17 June 2021, online);
- 32<sup>nd</sup> extraordinary meeting of the **COOMET Committee** (26 October 2021, online)
- 27<sup>th</sup> meeting of the COOMET **Presidential Council** (10 to 11 March 2021, online);
- 28<sup>th</sup> meeting of the COOMET **Presidential Council** (24 to 25 November 2021, online);
- 29<sup>th</sup> meeting of the COOMET **Presidential Council** (13 June 2022, online);
- 30<sup>th</sup> meeting of the COOMET **Presidential Council** (30 June 2022, online);
- 31<sup>st</sup> meeting of the COOMET **Presidential Council** (28 September 2022, online);

In 2020-2021 meetings of the following **COOMET structural bodies** were held:

- 20<sup>th</sup> meeting of the Joint Committee for Measurement Standards (3 June 2021, online);
- 21<sup>st</sup> meeting of the JCMS (10 February 2022, online);
- 22<sup>nd</sup> meeting of the JCMS (10 February 2022, online);
- **TC 1.1** "General Metrology" (15 October 2021, online);
- **TC 1.2** "Acoustics, Ultrasound and Vibration" (29 September 2021, online);
- **TC 1.3** "Electricity and Magnetism" (5 to 6 October 2021, online);
- **TC 1.4** "Flow Measurement" (24 March 2021, online; 16 November 2021, online);
- **TC 1.5** "Length and Angle" (10 to 11 November 2021, online);
- **TC 1.7** "Photometry and Radiometry" (12 to 14 October 2021, Moscow, Russia and online);
- **TC 1.8** "Physical Chemistry" (28 to 29 October 2021, online);
- **TC 1.9** "Ionizing Radiation and Radioactivity" (22 to 23 November 2021, online);
- **TC 1.10** "Thermometry and Thermal Physics" (17 to 18 November 2021, online);
- **TC 1.11** "Time and Frequency" (29 November 2021, online);
- **TC 1.12** "Reference Materials" (25 to 26 August 2021, Yekaterinburg, Russia and online; 12 September 2022, Yekaterinburg, Russia and online);
- **TC 2** "Legal Metrology" (7 to 8 April 2021, online; 27 to 28 September 2021, online);

- **TC 3.1** "Quality Forum Technical Committee" (18 November 2021, online; 21 July 2022, online);
- **Quality Forum** (18 November 2021, online; 21 July 2022, online);
- **TC 4** "Information and Training" (10 February 2021, online; 9 November 2021, online).

COOMET Secretariat maintains the Schedule of meetings of COOMET bodies on an ongoing basis. The information is posted and regularly updated on the COOMET web-site ([www.coomet.org](http://www.coomet.org)) and COOMET portal ([www.coomet.net](http://www.coomet.net)).

The Schedule of meetings of COOMET bodies for 2022 and the List of planned training events under the auspices of COOMET for 2022-2023 are given *Annex 2*.

*Note: owing to the current force-majeure international situation, information about the dates, format (or venues) of a number of TC meetings is being specified.*

## 1.4 Holding of events under the auspices of COOMET

1) During the reporting period the **following online events** were held under the auspices of COOMET:

- webinar on the exchange of working experience with KCDB 2.0 for the Chairs of COOMET TCs (26 January 2021);
  - webinar "Role of measurement uncertainty in conformity assessment decisions in legal metrology" (6 April 2021);
  - 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);
  - webinar "Main fields of digital transformation in metrology" – for young metrologists of COOMET (22 October 2021);
  - training webinar "Metrology of stable isotopes" (29 October 2021),
- as well as the joint EURAMET – COOMET training course on small volume comparisons (18 to 19 October 2021).

More detailed information about the held events is available on the COOMET portal:

<https://www.coomet.net/activities/information-and-training/information-about-past-training-activities/>

2) On 20 to 21 April 2021 the **IX International Competition "The Best Young Metrologist of COOMET"** was held online, involving representatives of other RMOs.

In total, there were 18 works submitted from: COOMET (Belarus, Kazakhstan, Germany, Russia, Ukraine), EURAMET (Italy) and SIM (Colombia, Mexico).

The Scientific Committee included representatives from international (BIPM, BIML) and regional (COOMET, AFRIMETS, EURAMET, SIM) metrology organizations.

More detailed information about the results of the competition is available on the COOMET webportal:

<https://www.coomet.net/activities/international-competition-the-best-young-metrologist-of-coomet/competition-2021/>

## 2. STRATEGY AND INSTITUTIONAL STATUS OF COOMET. AMENDMENTS TO THE FUNDAMENTAL DOCUMENTS

### 2.1 COOMET Strategy and institutional status of COOMET

During the reporting period four online meetings of the Working Group for Preparation of the COOMET Development Strategy (hereinafter – WG for Strategy) were held: on 29 June 2021; on 8 October 2021; on 24 November 2021; on 17 February 2022.

An extraordinary 32<sup>nd</sup> COOMET Committee meeting was held on 26 October 2021 to discuss preliminarily a cluster of issues related to changing the institutional status of COOMET and funding activities in view of the groundwork of the WG for Strategy.

The activities of the WG for Strategy have been focused on the implementation of the following actions, provided for in the COOMET Development Program for 2020-2022:

**64. (Ind-g.1.1)** Assessment of the possibility of establishment of COOMET as a legal entity or of the appropriateness of gaining another institutional status for COOMET (the issues of the registration of a LE for the needs of COOMET in general or only for the permanent Secretariat were discussed, along with the issue of possible changing the format of membership in COOMET to an association of NMIs/DIs);

**65. (Ind-g.1.2)** Assessment of the possibility of establishment of a permanent Secretariat

**66. (Ind-g.1.3)** Assessment of financing options for COOMET activities (proposals on setting the revenue and expenditure sides of the COOMET budget for various funding models were discussed).

At the Presidential Council meeting (on 13 June 2022) COOMET President V.Hurevich suggested suspending the activities of the COOMET WG for Strategy, given the lack of consensus among WG members at present on the ways to implement task 1.2.3 "Making proposals on the organizational and legal form of COOMET, including financing mechanisms", as well as the force majeure situation in the COOMET region that blocks decision making on the reforming of COOMET activities. The issue is submitted for approval at the 33<sup>rd</sup> COOMET Committee meeting.

## **2.2 Amendments to the fundamental documents of COOMET**

1) According to the resolution of the 31<sup>st</sup> COOMET Committee meeting (15 to 17 June 2021) amendments to document COOMET D2/2021 "COOMET Rules of Procedure" were made (in terms of establishing the possibility of holding COOMET events online and a more detailed procedure for voting on agenda items, possibility and algorithm for making decisions on behalf of the COOMET Committee based on the results of e-voting, as well as refining the procedure of work with COOMET projects and approaches to drawing up and submitting annual reports of COOMET structural bodies.

2) According to the resolutions of the 28<sup>th</sup> COOMET Presidential Council meeting (24 to 25 November 2021) draft amendments to document COOMET D1/2020 "COOMET Memorandum of Understanding" (in terms of establishing Task Groups) were prepared.

The draft amendments will be submitted for approval at the 33<sup>rd</sup> COOMET Committee meeting.

3) A draft Regulation on the COOMET Presidential Council was preliminarily discussed owing to the appropriateness of dividing management functions and actions between the COOMET Committee and COOMET Presidential Council. The agreed amendments are further intended to be reflected in the fundamental documents of COOMET.

4) The discussion took place within the WG for Strategy regarding the status and functions of COOMET as a regional legal metrology organization and refinement of some tasks and functions of the organization in general (inter alia, in terms of excluding those that are not addressed by COOMET), as well as clear distinction of tasks and fields of cooperation throughout document COOMET D1/2021 "COOMET Memorandum of Understanding". The issue was further discussed within the COOMET Presidential Council.

Proposals were prepared on amendments to document COOMET D1/2020 "COOMET Memorandum of Understanding" (in terms of refining the preamble, objectives, tasks and fields of cooperation of COOMET).

The draft amendments will be submitted for approval at the 33<sup>rd</sup> COOMET Committee meeting.

5) At the initiative of the COOMET Vice-President E.Lazarenko (Russia) preliminary discussion took place within the Presidential Council on the appropriateness of making amendments to documents COOMET D2/2021 "COOMET Rules of Procedure" and COOMET D8/2006 "Criteria and Procedure of Admission for New COOMET Members").

Given the recommendations of the Presidential Council on suspending the activities of the WG for Strategy and difference of opinion among Council members, the need was agreed to elaborate the proposals within a **task group on the issues of making amendments to the fundamental COOMET documents** that will have the following objectives:

(1) analysis of the work practice of other regional organizations in terms of forming the membership criteria, powers of full and associated members, procedures for joining the organization and terminating membership in the organization;

(2) preparation of proposals to the COOMET Presidential Council and COOMET Committee on the update of documents COOMET D1, COOMET D2, COOMET D8 (based on the consensus among the members of this task group (hereinafter referred to as TG).

TG lifespan: 2022-2024.

The appropriateness of establishing the above mentioned task group and appointment of its Chair (in case of a positive decision) will be discussed at the 33<sup>rd</sup> COOMET Committee meeting.

### **3. CHANGES IN THE COOMET STRUCTURE. ESTABLISHMENT OF COOMET STRUCTURAL BODIES**

#### **3.1 Changes in the COOMET structure**

1) According to the resolutions of the 31<sup>st</sup> COOMET Committee meeting (15 to 17 June 2021):

- the following SCs were excluded from TC 1.5 "Length and Angle": SC 1.5.1 "Measurement of Long Distances Outdoors", SC 1.5.2 "Length Measurements in the Nanometer Range", SC 1.5.3 "Deformation".
- the following SCs were excluded from TC 2 "Legal Metrology": SC 2.1 "Harmonization of Regulations and Norms in Legal Metrology", SC 2.2 "Technologies of Measuring Devices and Systems in Legal Metrology", SC 2.3 "Legal Metrology Control" and WG for Measuring Systems (with a simultaneous appointment of coordinators of a number of fields).

2) According to the initiatives of the technical committees and recommendation of the COOMET Presidential Council it is suggested that:

- the following SCs should be established within TC 1.7 "Photometry and Radiometry": SC 1.7.1 "Optical Properties of Materials" and SC 1.7.2 "Fiber Optics";
- the following SCs should be established within TC 1.8 "Physical Chemistry": SC 1.8.7 "Particle Characterization" and SC 1.8.8 "Isotope analysis", and the names of two SCs should be changed: SC 1.8.3 "Non-organic Analysis" (instead of "Pure non-organic substances") and SC 1.8.5 "Organic Analysis" (instead of "Organic and non-organic analysis").
- in addition to the earlier optimization of the TC 2 "Legal Metrology" structure, identification of one more field "General Principles of Metrological Control and Supervision" should be endorsed;
- TC 5 "Joint Scientific Research in the Field of Metrology" should be reactivated.

The issues will be submitted for approval at the 33<sup>rd</sup> COOMET Committee meeting.

#### **3.2 Establishment of COOMET structural bodies and their performance evaluation**

1) In 2021-2022 work on update of the memberships of COOMET structural bodies was performed under ongoing COOMET project 274/BY-a/03 "Establishment and organisation of work of COOMET structural and working bodies"

2) According to the resolution of the 28<sup>th</sup> Presidential Council meeting concerning reactivation of TC 5 "Joint Scientific Research in the Field of Metrology" preparatory work was undertaken to form the membership of the TC.

3) A notification letter was received from the Ministry of Economy of Ukraine stating the fact of suspending participation of Ukraine in COOMET structural bodies (ref. 3413-12/68300-07 of 04.10.2022).

A number of COOMET structural bodies (TC 1.2, TC 1.5, TC 1.6, TC 2, TC 4) and subcommittees functioning within these CSBs (SC 1.6.1, SC 1.6.2, SC 4.1) have been headed to date by the representatives of Ukraine.

The decision on suspending the participation of Ukraine in COOMET structural bodies entails making decisions on appointing Acting Chairs of CSBs in accordance with subclause 5.2.3.9 of document COOMET D5/2021 "Model Regulations for COOMET Structural Bodies" and electing new Chairs.



The Presidential Council appointed Acting Chair of TC 1.2, TC 1.6, TC 2, TC 4 (term of office – from 15.10.2022), who will organize CSB meetings and election of new Chairs among the members of their CSBs (see the table below).

Structural body	Chair (NMI, country)	Current situation
TC 1.2 "Acoustics, Ultrasound, Vibration"	Mr. Anatoliy Volodchenko (BelGIM, Belarus) <b>Resigned early as the Chair in January 2022 owing to his transfer to another job.</b>	Presidential Council appointed the Acting Chair of TC 1.2 (from January 2022): Mr. Aleksandr Kosterov (DP NDI "Systema", Ukraine). The approval of his candidature was expected to take place at Committee-33. <b>Notice of the Ministry of Economy of Ukraine.</b>  In connection with the receipt of the notice, <b>the Presidential Council appointed the Acting Chair of TC 1.2 (from 15.10.2022): Mr. Aleksandr Isaev (VNIIFTRI, Russia), TC 1.2 member.</b> At the next meeting a new Chair will be elected. The candidature of the new Chair will be presented to the Committee for approval in 2023.
TC 1.6 "Mass and Related Quantities"	Mrs. Irina Kolozinskaya (NSC "Institute of Metrology", Ukraine) <b>Notice of the Ministry of Economy of Ukraine.</b>	In connection with the receipt of the notice, <b>the Presidential Council appointed the Acting Chair of TC 1.6 (from 15.10.2022): Mrs. Viktoriya Bogdanova (VNIIM, Russia), Deputy Chair of TC 1.6.</b> At the next meeting a new Chair will be elected. The candidature of the new Chair will be presented to the Committee for approval in 2023.
TC 2 "Legal Metrology"	Dr. Yuriy Kuzmenko (SE "Ukrmetrteststandrt", Ukraine) <b>Notice of the Ministry of Economy of Ukraine.</b>	In connection with the receipt of the notice, <b>the Presidential Council appointed the Head of COOMET Secretariat as the Acting Chair of TC 2.</b> At the next meeting a new Chair will be elected. The candidature of the new Chair will be presented to the Committee for approval in 2023.
TC 4 "Information and Training"	Prof. Pavel Neyezhmakov (NSC "Institute of Metrology", Ukraine) <b>Notice of the Ministry of Economy of Ukraine.</b>	In connection with the receipt of the notice, <b>the Presidential Council appointed the Head of COOMET Secretariat as the Acting Chair of TC 4.</b> At the next meeting a new Chair will be elected. The candidature of the new Chair will be presented to the Committee for approval in 2023.

4) The candidatures of the new Chairs of some TCs will be presented for approval to the COOMET Committee in 2022 (and the candidature of the TC 1.7 Chair for whom it is appropriate to extend the term office) - see the table below.

Structural body	Chair (NMI, country)	Current situation
TC 1.5 "Length and Angle"	Mr. Aleksandr Kostrikov (NSC "Institute of Metrology", Ukraine) <b>Notice of the Ministry of Economy of Ukraine.</b> <b>Expiration of the term of office – in 2022. A new Chair was elected.</b>	<b>It is suggested that the candidature of a new TC Chair (Mr. Konstantin Chekirda (VNIIM, Russia)) be approved.</b> Term of office: 2022 – 2026 (maximum possible period in view of a ONE-TIME extension of the term of office is until year 2030)

Structural body	Chair (NMI, country)	Current situation
TC 1.7 "Photometry and Radiometry"	Mr. Anatoli Bescupschi (INM-MD, Moldova) Expiration of the first term of office – in 2022. Voting on the extension of the term of office was held within the TC.	<b>It is suggested that the term of office be extended for 4 years.</b> (maximum possible period in view of a ONE-TIME extension of the term of office is until year 2026)
TC 1.10 "Thermometry and Thermal Physics".	Prof. Anatoliy Pokhodun (VNIIM, Russia) Resigned early as the Chair for health reasons since July 2022. A new Chair has been previously elected.	Presidential Council appointed the Acting Chair of TC 1.10 (from June 2022): Mr. Petr Krivonos (BelGIM, Belarus). <b>It is suggested that the candidature of a new TC Chair be approved.</b> Term of office: 2022 – 2026 (maximum possible period in view of a ONE-TIME extension of the term of office is until year 2030)
TC 1.11 "Time and Frequency"	Prof. Vitaliy Palchikov (VNIIFTRI, Russia) Expiration of the term of office – in 2022.	Presidential Council recommends to the COOMET Committee to extend the term of office of the current Chair for one year subject to mandatory election of a new Chair before the end of 2022. <b>The candidature of the new Chair will be presented to the Committee for approval in 2023.</b>
TC 3.1 "Quality Forum Technical Committee"	Mrs. Natalia Muravskaya (VNIIOFI, Russia) Expiration of the term of office – in 2022. Termination of employment at the NMI.	Presidential Council appointed the Acting Chair of TC 3.1 (from January 2022): Mrs. Nino Mikanadze (GEOSTM, Georgia). A new Chair should be elected by the end of 2022. <b>The candidature of the new Chair will be presented to the Committee for approval in 2023.</b>
TC 5 "Innovative research in metrology"	-	Presidential Council recommends the COOMET Vice-President coordinating the issues of research (Evgeny Lazarenko, Rosstandart, Russia) for the position of TC 5 Chair. <b>It is suggested that the candidature of the Chair be approved.</b> Term of office: 2022 – 2026 (maximum possible period in view of a ONE-TIME extension of the term of office is until year 2030)

5) The candidatures of the new Chairs of some SCs within TC 1.7 "Photometry and Radiometry" and TC 1.8 "Physical Chemistry" (see clause 3.1) will be presented for approval to the COOMET Committee in 2022, along with the candidatures of a number of SCs for whom extension of the terms of office is suggested (SC 1.8.1 "Electrochemistry", SC 1.8.2 "Metals and Alloys").

The offices of the Chairs of SC 1.6.1 "Mass", SC 1.6.2 "Force", SC 4.1 "Capacity Building in Training and Knowledge Transfer" and SC 4.2 "COOMET Informational Resources" (in connection with appointment of a new administrator of the COOMET website) will be considered at the regular meetings of TC 1.6 and TC 4 respectively. The candidatures of the new Chairs will be presented to the Committee for approval in 2023.

6) Work on the update of the Regulations on CSBs (in view of the updated document COOMET D5/2021) continued. The following documents will be submitted to the COOMET Committee for approval in 2022:

- document COOMET D5.1 "Regulation on the COOMET Joint Committee for Measurement Standards (JCMS)" (replacing COOMET D5.1/2018);
- document COOMET D5.2 "Regulation on the COOMET Technical Committee "Acoustics, Ultrasound, Vibration" (TC 1.2)" (replacing COOMET D5.2/2003);
- document COOMET D5.15 "Regulation on the COOMET Technical Committee "Electricity and Magnetism" (TC 1.3)" (replacing COOMET D5.15/2006);
- document COOMET D5.4 "Regulation on the COOMET Technical Committee "Length and Angle" (TC 1.5)" (replacing COOMET D5.4/2012);
- document COOMET D5.5 "Regulation on the COOMET Technical Committee "Photometry and Radiometry" (TC 1.7)" (replacing COOMET D5.5/2003);



- document COOMET D5.6 "Regulation on the COOMET Technical Committee "Physical Chemistry" (TC 1.8)" (replacing COOMET D5.6/2014);
- document COOMET D5.10 "Regulation on the COOMET Technical Committee "Thermometry and Thermal Physics" (TC 1.10)" (replacing COOMET D5.10/2004);
- document COOMET D5.11 "Regulation on the COOMET Technical Committee "Time and Frequency" (TC 1.11)" (replacing COOMET D5.11/2006);
- document COOMET D5.7 "Regulation on the COOMET Technical Committee "Reference Materials" (TC 1.12)" (replacing COOMET D5.7/2013);
- document COOMET D5.12 "Regulation on the COOMET Technical Committee "Legal Metrology" (TC 2)" (replacing COOMET D5.12/2013).

7) According to the resolutions of the 31<sup>st</sup> COOMET Committee meeting, the COOMET Secretariat conducted online surveys to assess the effectiveness of CSBs (respondents – COOMET Committee members (level 1) and CSB members (level 2)).

The summary results were discussed at PC-28 (in November 2021). Recommendations for CSBs were made.

The survey results (level 1) were sent to COOMET Committee members.

The survey results of levels 1 and 2, as well as recommendations of the Presidential Council were sent specifically to each TC Chair to be analyzed and used in work.

#### 4. DEVELOPMENT OF COOPERATION WITH CEEMS

1) According to the resolution of the 31<sup>st</sup> COOMET Committee meeting (15 to 17 June 2021) the following COOMET criteria for COOMET member countries to be classified as countries with emerging metrology systems (CEEMS) were defined:

- lack of the status of the "Member of the Metre Convention" or "CGPM Associate" of the country;
- lack of published CMC entries;
- non-participation in key or supplementary comparisons, registered in the KCDB.

2) On 11 February 2022 an online working COOMET meeting was held to discuss possible ways to support CEEMS. COOMET President V.Hurevich, Vice-President E.Lazarenko, Vice- President Z.Bedaydarov, Head of Secretariat N.Liakhova, as well as delegations of COOMET member countries that decided to be classified as CEEMS (Armenia, Kyrgyzstan, Tajikistan and Uzbekistan) took part in the meeting.

During the meeting the following issues were discussed: technical assistance, training and information support for CEEMS, cooperation under external projects, as well as proposals on enhancing the participation of CEEMS in the work of COOMET structural bodies and on the organization of further COOMET cooperation activities with CEEMS in general.

In the 3<sup>rd</sup> quarter of 2022 a survey was conducted to identify the needs of CEEMS in terms of carrying out comparisons and calibrations of measurement standards, holding of training seminars and traineeships. In October 2022 a survey was initiated among other COOMET member countries to identify their possibilities of providing assistance to CEEMS (in view of their needs); possible external sources of funding for working programs and projects for CEEMS countries will also be sought.

Until the end of year 2022 preparation of a COOMET Work Program on the issues of CEEMS is suggested with an indication of specific actions and timeframes for their implementation. Information about the work implementation will be presented at the COOMET Committee meeting in 2023.

The Presidential Council recommends creation of a **task group on CEEMS support**.

## 5. IMPLEMENTATION OF THE CIPM MRA

### 5.1 Preparation and publication of CMCs, including comparisons

7347 CMC entries of COOMET member countries were published in the KCDB as of 15 October 2022, including those by countries:

Country	Total
Azerbaijan	32
Belarus	296
Bulgaria	227
Bosnia and Herzegovina	82
Germany	1458
Georgia	65
Kazakhstan	72

Country	Total
Lithuania	57
Moldova	76
Russia	1788
Slovakia	382
Turkey	612
Uzbekistan	0
Ukraine*	313

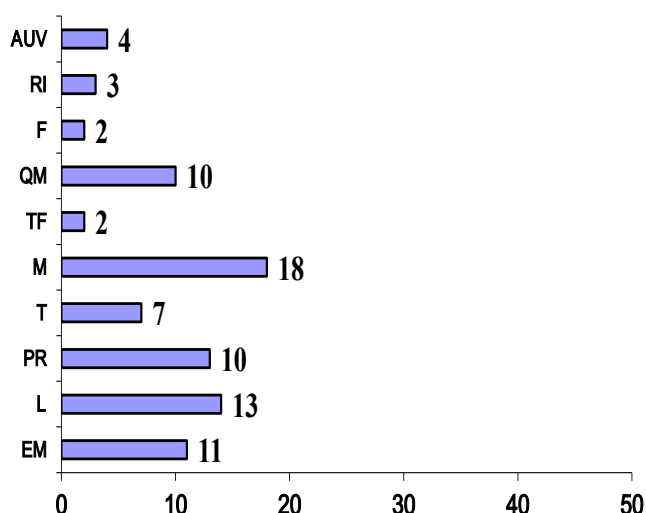
\* A notification letter was received from the Ministry of Economy of Ukraine stating the intent to acquire full membership in EURAMET and transfer the spheres of activities related to the CIPM MRA from COOMET to EURAMET, without mentioning specific dates (ref. 3413-12/67464-07 of 29.09.2022). The Presidential Council in conjunction with JCMS discusses actions required to avoid suspension of activities on the implementation of the CIPM MRA.

Azerbaijan, Belarus, Georgia, Kazakhstan, Cuba, Russia, Uzbekistan, Ukraine declare their CMCs through COOMET– a total of **2 566 CMCs** were published. Other countries submit their CMCs through EURAMET or APMP.

Cuba was a CGPM Associate and participated in the implementation of the CIPM MRA since 2000, however Cuban NMIs/DIs have currently lost (from 01.01.2022) the status of signatories to those Arrangements, hence the CMCs of Cuban NMIs/DIs were greyed out.

All COOMET comparisons are given in **COOMET program P2/2022** "COOMET Program of Comparisons" (approved as of 25.11.2021). An interactive version of the Program is available on the COOMET website [http://coomet.org/tc\\_prij/2021/D9\\_EN.htm](http://coomet.org/tc_prij/2021/D9_EN.htm).

The COOMET Program of comparisons for year 2022 (as of 15.10.2022) contains **80 current projects**. Distribution of COOMET projects by the fields of cooperation is shown in the diagram.



In years 2021-2022 the COOMET Secretariat in conjunction with the Chairs of TC 1.2 – TC 1.11 has carried out work on the update of the list of COOMET technical experts on CMC review (under ongoing project 234/BY-a/01).

The information was published on the pages of JCMS and TC 1.2 – TC 1.11.

In 2021 - 2022 the Joint Committee for Measurement Standards has monitored COOMET comparisons, which have lasted for over 5 years. The results will be presented under item 5 of the agenda of the Plenary Session of the 33<sup>rd</sup> COOMET Committee meeting.

## 5.2 Review and recognition of the QMS of COOMET NMIs/DIs

1) In 2021 a brand new algorithm of peer reviews of the QMS of the NMIs/DIs of Russia, Kazakhstan, Belarus and Ukraine was realized, for which the period of validity of the Confirmations of Recognition expired. According to recommendation COOMET R/AQ/34:2021 "Temporary Rules and Procedure for Peer Reviews of Quality Management Systems of National Metrology Institutes/Designated Institutes (QMS of NMIs/DIs) During the COVID-19 Pandemic", hybrid peer reviews were conducted, which implied that a COOMET auditor and one or two technical experts visited institutes; other technical experts took part in peer reviews by evaluating the submitted documents and working with the laboratories of the institutes under review online using video broadcasting.

For the NMIs of Russia, Kazakhstan, Belarus and Ukraine new Confirmations of Recognition of the QMS in accordance with ISO/IEC 17025:2017 and ISO 17034:2016 were issued.

The information about the QMS of NMIs/DIs of COOMET member countries recognized within COOMET is given below.

### Recognition of the QMS of NMIs/DIs (ISO/IEC 17025)

NMI/DI	Conformation of recognition	Date of issue	Period of validity	Types of measurements
VNIIM (Russia)	QSF-R79	04.03.2021	04.03.2026	AUV, EM, L, RI, T, M, QM
VNIOFI (Russia)	QSF-R76	04.03.2021	04.03.2026	PR, QM
VNIIFTRI (Russia)	QSF-R78	04.03.2021	04.03.2026	AUV, EM, RI, T, M, QM, TF
VNIIMS (Russia)	QSF-R75	04.03.2021	04.03.2026	L, EM
BelGIM (Belarus)	QSF-R82	20.11.2020	30.09.2026	AUV, EM, RI, T, M, QM, TF, L, PR
NSC "IM" (Ukraine)	QSF-R86	27.02.2020	30.09.2026	EM, RI, T, M, TF, L, PR
SE "Ukrmetrteststandart" (Ukraine)	QSF-R84	27.02.2020	30.09.2026	AUV, EM, M, L, PR, QM
SE "NDI Systema" (Ukraine)	QSF-R72	20.11.2020	01.06.2023 (extended by the decision of the Presidential Council)	AUV
INIMET (Cuba)	QSF-R67	20.11.2020	04.10.2023	M, L, QM, T, TF
CENTIS-DMR (Cuba)	QSF-R66	20.11.2020	04.10.2023	RI
CPHR (Cuba)	QSF-R65	20.11.2020	04.10.2023	RI

NMI/DI	Conformation of recognition	Date of issue	Period of validity	Types of measurements
SE «Ivano-Frankivskstsndartmetrologia» (Ukraine)	QSF-R73	20.11.2020	04.10.2023	M
KazStandard (Kazakhstan)	QSF-R81	15.04.2021	15.04.2026 (peer review in 2022-2023)	EM, M, L, PR, QM, T
INM (Moldova) (since 17.07.2019 – implementation of the CIPM MRA through EURAMET)	QSF-R52	31.01.2018	31.01.2023	EM, T, RI, M, L, PR
GeoSTM (Georgia)	QSF-R74	28.01.2021	04.10.2023	EM, M, T, RI, L
AzMI(Azerbaijan)	QSF-R71	20.11.2020	31.01.2023	T, RI, EM, M

### Recognition of the QMS of NMIs/DIs (ISO 17034)

NMI/DI	Conformation of recognition	Date of issue	Period of validity	Types of measurements
VNIIM (Russia)	QSF-R80	04.03.2021	04.03.2026	Gases, Non-organic solutions, Organic solutions, Electrolytic conductivity, High purity chemicals, Food, Advanced materials, Surfaces, Films and Nanomaterials
VNIIOFI (Russia)	QSF-R77	04.03.2021	04.03.2026	Non-organic solutions, Metals and alloys, Biological fluids and materials
BelGIM (Belarus)	QSF-R83	02.10.2019	30.09.2026	Gases, pH, Electrolytic conductivity, radionuclides
SE "Ukrmetrteststand art" (Ukraine)	QSF-R85	02.10.2019	30.09.2026	Gases, pH, Electrolytic conductivity, High purity chemicals, Food, Organic solutions
KazStandard (Kazakhstan)	QSF-R60	02.10.2019	31.12.2022 (extended at the decision of the Presidential Council)	Gases, pH

2) In 2021-2022 TC 3.1 has carried out work on the update of the list of COOMET auditors on peer reviews of the QMS of COOMET NMIs/DIs. It is suggested that proposals on new COOMET auditors are submitted at the Committee meeting in 2022.

In 2020-2021 the COOMET Secretariat in conjunction with the Chairs of TC 1.2 – TC 1.12 and TC 3.1 updated the list of COOMET technical experts on review of CMCs of COOMET NMIs/DIs (under ongoing project 234/BY-a/01). The information will be published on the pages of the Quality Forum/TC 3.1.

## 6. OTHER ISSUES OF COOPERATION IN THE FIELD OF MEASUREMENT STANDARDS

1) At the 31st COOMET Committee meeting (15 to 17 June 2021) "COOMET Roadmap for the Implementation of Decisions Related to the Redefinition of the Basic Units of the International System of Units (SI) for 2021-2025" was updated and approved as program COOMET P6/2021. Given that it has been previously decided that the Roadmap should be updated every six month, it was refined in early 2022. The information will be presented under item 5.2 of the agenda of the Plenary Session of the 33<sup>rd</sup> COOMET Committee meeting.

2) Approaches to drawing up of a Plan for preparation of COOMET recommendations containing requirements for calibration of various groups of measuring instruments (Guidelines for Calibration) were discussed within

the JCMS; the discussion continued at the JCMS meeting in September 2022. JCMS will present the information at the Presidential Council meeting in February 2023.

3) In 2021-2022 work was performed on the implementation and update of program COOMET P5 "Program of joint CRM development within COOMET" (version of 2022 will be submitted for approval at the 33<sup>rd</sup> COOMET Committee meeting).

At the 33<sup>rd</sup> COOMET Committee meeting 15 RM types produced within COOMET will be submitted for recognition as COOMET CRMs, along with proposals on the update of information material COOMET/II/RM/2 "Register of Certified Reference Materials of Composition and Properties of Substances and Materials, Developed within COOMET" (in terms of excluding 17 COOMET CRM types and update of other data on CRMs).

A new COOMET project 858/RU/22 "Recognition (registration) of RMs included in Annex C of the CIPM MRA (in the BIPM KCDB Database) as COOMET CRMs" was proposed.

## 7. DIGITALIZATION IN METROLOGY

1) COOMET representatives took part in the CIPM seminar "The International System of Units (SI) in FAIR digital data" (22-26 February 2021, online), and acted as the Chairs and Moderators of discussion of some topics. COOMET Vice-President, CIPM member, P. Neyezhnikov (Ukraine) gave a presentation "COOMET and digital transformation", Deputy Chair of JCMS gave a presentation "Short analysis of F.A.I.Rness data in the KCDB".

2) Working Group for project 825/RU-a/21 "Development of a COOMET concept for digitalization in metrology" was transformed at the proposal of the Presidential Council into a COOMET **Task Group on the issues of digital transformation in metrology** (the proposal is submitted for approval to the COOMET Committee).

In 2021-2022 five online meetings of the WG took place (02.07.2021, 27.08.2021, 12.11.2021, 17.12.2021, 08.09.2022).

A draft COOMET Concept For The Issues Of Digital Transformation In Metrology is under discussion within the TG, which covers the following aspects:

- review of electronic documents in metrology and formulation of requirements to their formats and structure;
  - use of FAIR+T data;
  - use of digital technology in COOMET activities;
  - use of cloud and grid technology in metrology in COOMET member countries;
  - preparation of recommendations on the structure of and requirements for digital objects that are constituent parts of the digital platforms of COOMET member countries;
  - development of common approaches to the creation and maintenance of national information funds in the field of ensuring the uniformity of measurements in COOMET member countries,
- as well as discussion of a Roadmap for the concept implementation.

The draft COOMET Concept and Roadmap will be submitted by the TG Chair (A.Pankov, VNIIM, Russia) to the Presidential Council in February 2023. Further review and approval of these documents by the COOMET Committee in 2023 is assumed.

3) Work has commenced under COOMET project 850/DE/21 "Development of a harmonized approach to use digital calibration certificates in COOMET member countries" that has been now suspended though.

## 8. JOINT SCIENTIFIC RESEARCH

1) In accordance with the actions of the COOMET Strategy for 2020-2025 and COOMET Development Program for 2020-2022 (item 56. *(Ind-f.1.1) Assessment of interest of the COOMET member countries NMIs/DIs in innovative scientific projects*; 57. *(Ind-f.1.2) Preparation of table of metrological activity areas of the COOMET member countries NMIs/DIs, where specific NMIs/DIs are active*; 58. *(Ind-f.1.3) Identification of promising areas in innovative research in the field of metrology within the COOMET*), in 2021 a preliminary survey among COOMET member countries was conducted and the results were processed. The information

was presented at the COOMET Presidential Council meetings (10 to 11 March 2021, 24 to 25 November 2021).

Presidential Council requested the Vice-President, coordinating activities on joint research within COOMET (E.Lazarenko, Russia) to initiate in 2022 preparation and discussion of a draft concept of innovative COOMET research, and to arrange for assessment of possible funding sources and requirements of internal/external donors. The work continues.

## 9. LEGAL METROLOGY

1) In 2021 discussion was held on optimization of the structure of TC 2 "Legal Metrology". It was decided to organize interaction within TC 2 on a number of fields of activities instead of subcommittees (see 3.1 of the report):

- "Measuring devices in legal metrology";
- "Measuring systems in legal metrology";
- "Medical equipment with measuring functions";
- "Conformity assessment of measuring instruments";
- "Digitalization in legal metrology".

At the TC 2 meeting (in September 2021) one more field of activities was suggested: "General principles of metrological control and supervision".

2) In 2021 updated information about the legal metrology systems in COOMET member countries in view of the latest changes in the legislation was made available on the COOMET web portal:

<https://www.coomet.net/activities/legal-metrology/lm-in-coomet-countries/>

3) Implementation of the COOMET Plan for translation of OIML publications into Russian has begun (the activities were also taken into account in the Work Program of TC2 for 2021-2023 (COOMET P3/2021).

4) Discussion took place within the WG for Strategy and Presidential Council on the refinement of tasks and fields of cooperation in legal metrology (in the form of amendments and supplements to document COOMET D1/2020 "COOMET Memorandum of Understanding").

## 10. INFORMATION ACTIVITIES

### 10.1. Preparation and publication of the COOMET Directory

During 2021-2022 the Secretariat has updated on an ongoing basis the information in the COOMET Directory. The current version of the Directory (as of 31 March 2022) can be found on [www.coomet.net](http://www.coomet.net) and [www.coomet.org](http://www.coomet.org). Update of the Directory in view of the amendments received from countries in September-October 2022 is being completed.

### 10.2. Preparation and registration of COOMET publications

1) According to the **resolutions of the 31<sup>st</sup> COOMET Committee meeting** (15 to 17 June 2021) the Secretariat registered and published the updated versions of the following publications:

- document COOMET D5:2021 "Model Regulations for COOMET Structural Bodies" (updated, replacing COOMET D5:2010);
- program COOMET P6/2021 "COOMET Roadmap for the Implementation of Decisions Related to the Redefinition of the Basic Units of the International System of Units (SI) for 2020-2025";
- program COOMET P3/2021 "Work Program of TC 2 "Legal Metrology" for 2021-2023";
- program COOMET P4/2021 "Work Program of TC 4 "Information and Training" for 2021-2023";
- recommendation COOMET R/AQ/34:2021 "Temporary Rules and Procedure for Peer Reviews of Quality Management Systems of National Metrology Institutes/Designated Institutes (QMS of NMIs/DIs) During the COVID-19";



- recommendation COOMET R/GM/11:2021 "Regulations on Comparisons of Measurement Standards of COOMET National Metrology Institutes and Designated Institutes" (replacing COOMET R/GM/11:2017);
- recommendation COOMET R/GM/12:2021 "Rules of Maintaining of the COOMET Program of Comparisons" (replacing COOMET R/GM/12:2015);
- recommendation COOMET R/GM/7:2021 "Procedure for an Intraregional Review of Calibration and Measurement Capabilities of COOMET NMIs and DIs and an Interregional Review of Calibration and Measurement Capabilities of NMIs and DIs of Other Regional Metrology Organizations" (replacing COOMET R/GM/7:2014, with the title refined);
- information material COOMET I/GM/11:2021 "On Remote Calibration of Standards of COOMET NMIs";
- information material COOMET I/LM/10:2021 "Organization of the Sphere of State Regulation in the Field of Legal Metrology in COOMET Member Countries";
- document COOMET D5.18/2021 "Regulation on the COOMET Quality Forum";
- document COOMET D5.8/2021 "Regulation on the COOMET Technical Committee "General Questions Concerning Measurement (General Metrology)" (TC 1.1)" (replacing COOMET D5.8/2004);
- document COOMET D5.3/2021 "Regulation on the COOMET Technical Committee "Flow Measurement" (TC 1.4)" (replacing COOMET D5.3/2003);
- document COOMET D5.14/2021 "Regulation on the COOMET Technical Committee "Ionizing Radiation and Radioactivity" (TC 1.9)" (replacing COOMET D5.14/2006);
- document COOMET D5.13:2021 "Regulation on the COOMET Technical Committee "Information and Training" (TC 4)" (replacing COOMET D5.13/2015);

2) The following COOMET publications (new and updated) were prepared within CSBs along with the COOMET publications, mentioned in items 2.2, 3.2, 6.3 of the report, which are submitted to the COOMET Committee for approval:

№	Title	COOMET project status/number	CSB
1.	Recommendation COOMET R/GM/___:2022 "Expression of expanded measurement uncertainty (kurtosis method)"	new / project 796/UA/19);	TC 1.1
2.	Recommendation COOMET R/GM/18:2022 "Procedure of the International Competition "The Best Young Metrologist of COOMET"	replacing COOMET R/GM/18:2020)	TC 4
3.	Information material COOMET I/TR/___:2022 "Education & training systems for metrologists of COOMET member countries"	new / 731/BY-a/17	TC 4

3) The works are performed in accordance with the Schedule of updates of COOMET publications for 2021-2024, approved by the COOMET Committee in 2021.

The issue of cancellation of the following COOMET publications is submitted for consideration to the COOMET Committee at the 33<sup>rd</sup> meeting:

- recommendation COOMET R/GM/23:2014 ""Procedure of Organization and Publishing the Data about Calibration and Measuring Services of COOMET National Metrological Institute on COOMET Web Resources", prepared under project 404/RU-a/07 (based on the decision of TC 4);
- information material COOMET I/GM/4:2005 ""Analysis of the Problem of Introduction of the Guide to the Expression of Uncertainty in Measurement in COOMET Member Countries", prepared under project 279/RU-a/03 (based on the decision of TC 1.1).

### 10.3. COOMET web resources

1) Before May 2021 the COOMET website ([www.coomet.org](http://www.coomet.org)) was maintained by the specialists of VNIIFTRI (administrator – A.Ivanov). In May 2022 the COOMET website ([www.coomet.org](http://www.coomet.org)) was transferred to the information and technology platform of VNIIMS (Russia) and its administration was handed over to the specialists of the mentioned institute.

I. Krasavin, Head of the Monitoring and Forecasting Center of VNIIMS ([admin\\_coomet@vniims.ru](mailto:admin_coomet@vniims.ru)) was appointed a new administrator of the COOMET website.

2) Maintenance of the COOMET webportal ([www.coomet.net](http://www.coomet.net)) is carried out by the COOMET Secretariat and online editors of the pages of COOMET technical committees. In 2021 the web portal was upgraded owing to transition to a new version of typo3.

Webinars to train how to work on the typo3 platform were held for online editors of the pages of technical committees on the COOMET web portal (1<sup>st</sup> flow: 30 August, 1 and 3 September 2021; 2<sup>nd</sup> flow: 6, 8, 10 September 2021).

3) In years 2021-2022 ongoing update of the information has been carried out, which is provided on the COOMET web resources (information about COOMET Committee members, Chairs of structural bodies, COOMET publications, newsfeed, database on COOMET projects, COOMET Program of Comparisons etc.).

4) By the decision of the COOMET Committee (15 to 17 June 2021) a new Chair of the WG-Web was appointed (A.Kuzin, VNIIMS, Russia). Three online meetings of the WG-Web were held (on 10 February, 15 November 2021, 5 July 2022) to discuss further actions on the creation of a new single information resource of COOMET.

In 2022 discussion of a concept for the creation of a new single information resource of COOMET took place. Currently draft terms of reference for the creation of a single resource are under discussion. The draft Concept and terms of reference will be presented by the WG Chair to the Presidential Council in February 2023.

#### 10.4. Reports and information about COOMET activities

1) In 2021-2022 **presentations and reports on COOMET activities were prepared** to the following meetings:

- 43<sup>rd</sup> JCRB meeting (15 to 17 March 2021, online);
- 44<sup>th</sup> JCRB meeting (14 to 16 September 2021, online);
- 45<sup>th</sup> JCRB meeting (16 to 17 March 2022, online);
- Round table of Regional Legal Metrology Organizations (30 September 2021, online);
- Round table of Regional Legal Metrology Organizations (27 September 2022, online);
- 2<sup>nd</sup> WELMEC e.V. Committee meeting (4 to 5 November 2021, online);
- 37<sup>th</sup> APMP General Assembly (25 November 2021, online);
- 15<sup>th</sup> EURAMET General Assembly (8 to 9 June 2021, online);
- 12<sup>th</sup> SIM General Assembly (12 November 2021, online);
- 21<sup>st</sup> GULFMET General Assembly (9 June 2021, online);
- 23<sup>rd</sup> GULFMET General Assembly (20 June 2022, online);
- 14<sup>th</sup> AFRIMETS General Assembly (26 July 2021, online);
- 15<sup>th</sup> AFRIMETS General Assembly (19 July 2022, online).

2) A **thematic issue of the journal "Measurement Techniques"**, dedicated to the 30<sup>th</sup> anniversary of the COOMET establishment (№7-2021) was prepared and issues. The articles prepared by the specialists of COOMET NMIs not included in the thematic issue, were published in the next issue of the journal.

3) A COOMET poster to the World Metrology Day was prepared.

#### 10.5. WMD-2022

The specialists of NSC "Institute of Metrology" (Ukraine) prepared a COOMET poster to the World Metrology Day 2022 (tagline: "Metrology in the digital era").

#### 10.6. PR

1) In 2021 an **official YouTube channel of COOMET** was created:

[https://www.youtube.com/channel/UCyqRp\\_86A8lQZXMNkd11g](https://www.youtube.com/channel/UCyqRp_86A8lQZXMNkd11g)

2) In 2021 a **facebook page of the COOMET Secretariat** was created.

## 10.7. Translations

The CIPM MRA Brochures by the BIPM were translated into Russian. The translation is available on the COOMET information resources:

<https://www.coomet.net/ru/publikacii/perevody-na-russkii-jazyk/mkmv/mbmv/>

The original brochure in English and its translation will be sent to COOMET countries.

## 11. PARTICIPATION OF COOMET REPRESENTATIVES IN INTERNATIONAL METROLOGICAL EVENTS

1) In 2021-2022 official representatives of COOMET **took part in the meetings of the following international and regional organizations**, working in the field of metrology, **where they presented information about the COOMET activities**:

- 43<sup>rd</sup> JCRB meeting (15 to 17 March 2021, online):  
*COOMET representatives – V.Hurevich, COOMET President (Belarus), P. Neyezhmakov, COOMET Vice-President (Ukraine), S Golubev, COOMET Vice-President (Russia), N. Mikanadze, COOMET Vice-President (Georgia), A. Chunovkina, Chair of JCMS (Russia);*
- 44<sup>th</sup> JCRB meeting (14 to 16 September 2021, online):  
*COOMET representatives – V.Hurevich, COOMET President (Belarus), P. Neyezhmakov, COOMET Vice-President (Ukraine), E.Lazarenko, COOMET Vice-President (Russia), N. Mikanadze, COOMET Vice-President (Georgia), A. Chunovkina, Chair of JCMS (Russia);*
- 45<sup>th</sup> JCRB meeting (16 to 17 March 2022, online):  
*COOMET representatives – V.Hurevich, COOMET President (Belarus), P. Neyezhmakov, COOMET Vice-President (Ukraine), E.Lazarenko, COOMET Vice-President (Russia), N. Mikanadze, COOMET Vice-President (Georgia), A. Chunovkina, Chair of JCMS (Russia); N.Zviagin. Deputy Chair of JCMS (Russia), N.Liakhova, Head of COOMET Secretariat (Belarus);*
- Round table of Regional Legal Metrology Organizations (30 September 2021, online);  
*COOMET representatives – Y.Kuzmenko, TC 2 Chair (Ukraine), V.Hurevich, COOMET President (Belarus), F.Lienesch, COOMET Vice-President (Germany);*
- Round table of Regional Legal Metrology Organizations (27 September 2022, online);  
*COOMET representatives – V.Hurevich, COOMET President (Belarus), A.Pankov (Russia);*
- 2<sup>nd</sup> WELMEC e.V. Committee meeting (4 to 5 November 2021, online);  
*COOMET representative – Y.Kuzmenko, TC 2 Chair (Ukraine);*
- 37<sup>th</sup> APMP General Assembly (25 November 2021, online);  
*COOMET representative – Y.Kustikov (Russia);*
- 15<sup>th</sup> EURAMET General Assembly (8 to 9 June 2021, online);  
*COOMET representative – P. Neyezhmakov, COOMET Vice-President (Ukraine);*
- 12<sup>th</sup> SIM General Assembly (12 November 2021, online);  
*COOMET representative – V.Hurevich, COOMET President (Belarus);*
- 21<sup>st</sup> GULFMET General Assembly (9 June 2021, online);  
*COOMET representative – V.Hurevich, COOMET President (Belarus);*
- 23<sup>th</sup> GULFMET General Assembly (20 June 2022, online);  
*COOMET representative – V.Hurevich, COOMET President (Belarus);*
- 14<sup>th</sup> AFRIMETS General Assembly (26 July 2021, online);  
*COOMET representative – N.Mikanadze, COOMET Vice-President (Georgia);*
- 15<sup>th</sup> AFRIMETS General Assembly (19 July 2022, online);  
*COOMET representative – N.Mikanadze, COOMET Vice-President (Georgia).*

2) Representatives of metrological institutions of COOMET member countries also participated in the following **meetings of international and regional organizations**:

- 21st meeting of Directors of national metrology institutes and representatives of the member states of the Metre Convention (21 to 22 October 2021, online);
- 110<sup>th</sup> CIPM meeting, (22 to 24 June 2021, 18 to 20 October 2021, online);
- meeting of Working Group 2: International vocabulary of metrology of the Joint Committee for Guides in Metrology (JCGM-WG2: VIM);
- meetings of CIPM Consultative Committees (CCAUV, CCEM, CCL, CCT, CCTF) and related Working Groups;
- meeting of the CIPM Task Group on the Digital SI (10 March 2021, online);
- 56<sup>th</sup> meeting of the International Committee of Legal Metrology (18,19, 22 October 2021, online);
- 57<sup>th</sup> meeting of the International Committee of Legal Metrology (18,19, 22 October 2022, online);
- meeting of the OIML Presidential Council (2021-2022, quarterly);
- 6<sup>th</sup> meeting of the OIML Certification System Management Committee (24 to 25 March 2021, online) and 7<sup>th</sup> meeting of the OIML Certification System Management Committee (22 to 23 March 2022, online);
- 59<sup>th</sup> meeting of the Euro-Asian Council for Standardization, Metrology and Certification (EASC) (14 July 2021, online) and 60<sup>th</sup> meeting of the Euro-Asian Council for Standardization, Metrology and Certification (EASC) (8 to 9 December 2021, online);
- 53<sup>th</sup> meeting of STCMetr (21 May 2021, online); 54<sup>th</sup> meeting of STCMetr (9 November 2021, online), 55<sup>th</sup> meeting of STCMetr (8 June 2022, online) and different WGs of STCMetr;
- APMP seminar "Foster Asia-Pacific Metrology Collaboration in a Digital World" (23 November 2021, online);
- meetings of EURAMET TCs (TC AUV TC-IM, TC-T, TC-Q, TC-IR, TC-PR, TC-F etc.);

3) Representatives of metrological institutions of COOMET member countries took part in a number of important international conferences.

## **12. ACTIVITIES TO PROVIDE TRAINING AND ENHANCE SKILLS OF SPECIALISTS IN METROLOGY**

1) During the reporting period representatives of CSBs and NMI of COOMET member countries participated in various training international and national seminars/programs, as well as in a number of training events under the CBKT:

- 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
- KCDB 2.0 - TC Chairs in Chemistry and Biology - 26 January 2022, online
- KCDB 2.0 - Comparisons - 8 February 2022, online
- KCDB 2.0 - CMC-Writers-GP - 15 March 2022, online
- KCDB 2.0 - TC Chairs - 16 June 2022, online
- KCDB 2.0 - CMC Writers in Chemistry and Biology – 11 October 2022, online

2) According to the COOMET Development Program for 2020-2022 preparation of an internal procedure to assess the training needs and to plan training events within COOMET started under COOMET project 829/UA/21. The work continues.

3) TC 4 "Information and Training" in conjunction with the COOMET Secretariat prepared a Plan of training events under the auspices of COOMET for 2021 and 2022-2023 (the plan is published and updated on the COOMET Activities/Calendar page of the web portal).

More detailed information about a series of training events of COOMET (planned and held) is posted on the COOMET webportal:

<https://www.coomet.net/activities/information-and-training/list-of-past-training-activities-within-coomet/>

Information about the held training activities is posted on the COOMET web portal at:

<https://www.coomet.net/activities/information-and-training/information-about-past-training-activities/>

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

A COOMET page has been launched on the BIPM e-learning platform (<https://e-learning.bipm.org/>) since June 2022, where COOMET courses are made available.

The platform is intended to facilitate the process of e-learning and to enhance cooperation on capacity building and knowledge transfer in metrology.

COOMET Secretariat has published:

- a training course, containing information about COOMET activities (in Russian and in English);
- a training course "Mutual Recognition Arrangement (CIPM MRA) (in Russian)".

See <https://e-learning.bipm.org/course/index.php?categoryid=8> (user pre-authorization on the platform is required).

In view of the above mentioned capabilities of the BIPM e-learning platform, discussion has currently started within TC 4 "Information and Training" regarding the procedure for issuing COOMET certificates for the courses in the e-learning format.

The COOMET team is actively working on the creation of other training courses under the auspices of our RMO.

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**Further details on separate fields of cooperation is provided in the reports of COOMET structural bodies.**



## CHARACTERIZATION OF THE COOMET WORK PROGRAM

### 1. List of proposed COOMET projects (for the period from 1 January 2021 to 15 June 2022)

No	Project number	Field	Project title
	<b>2021</b>		
1.	<b>823/BY/21</b>	LM	Update of COOMET Recommendation R/LM/25:2015 "Procedure for recognizing technical devices as measuring instruments"
2.	<b>824/RU/21</b>	QM	Pilot comparisons «Determination of sulfur in isooctane»
3.	<b>825/BY/21</b>	GM	Development of a COOMET concept for digitalization in metrology
4.	<b>826/MD/21</b>	T	Supplementary comparisons of standards for the relative humidity unit
5.	<b>827/RU/21</b>	LM	Translation of the UNIDO-OIML Brochure "Certification of measuring instruments"
6.	<b>828/RU/21</b>	GM	Update of the COOMET Recommendations R/GM/7:2014, COOMET R/GM/11:2017, COOMET R/GM/12:2015
7.	<b>829/UA/21</b>	IT	Preparation of an internal procedure for the assessment of training needs and planning of training activities within COOMET
8.	<b>830/BY/21</b>	LM	Update of the COOMET Recommendation R/LM/28:2016 "Template procedure for testing of software of measuring instruments"
9.	<b>831/UZ/21</b>	LM	Update of COOMET Recommendation R/LM/8:2002 "Layout, presentation, drawing up and contents of Measuring instrument type specification for national register of measuring instruments".
10.	<b>832/UZ/21</b>	LM	Translation of Recommendation OIML R 75-3:2006 "Heat meters. Part 3: Test Report Format"
11.	<b>833/RU-a/21</b>	IR	Supplementary comparisons of the national standards of radioactivity
12.	<b>834/RU/21</b>	LM	Translation of OIML D1:2020 "National metrology systems – Developing the institutional and legislative framework"
13.	<b>835/RU/21</b>	LM	Translation of OIML D11:2013 "General requirements for measuring instruments - Environmental conditions"
14.	<b>836/RU/21</b>	LM	Translation of OIML D31:2019 "General requirements for software controlled measuring instruments"
15.	<b>837/RU/21</b>	LM	Translation of OIML R125:1998 "Measuring systems for the mass of liquids in tanks"
16.	<b>838/BY/21</b>	LM	Translation of Document OIML D 30:2020 "Guide for the application of ISO/IEC 17025 to the assessment of Testing Laboratories involved in legal metrology"
17.	<b>839/BY/21</b>	LM	Translation of Document OIML D 32:2018 "Guide for the application of ISO/IEC 17065 to assessment of certification bodies in legal metrology"
18.	<b>840/BY/21</b>	LM	Translation of Guide OIML G 14:2011 "Density measurement"
19.	<b>841/BY/21</b>	LM	Update of the COOMET Recommendation R/LM/26:2015 "General requirements for the competence of verification laboratories"
20.	<b>842/UA/21</b>	LM	Translation of the OIML publication: OIML R 137-1/2:2012 "Gas meters. Part 1: Metrological and technical requirements. Part 2: Metrological controls and performance tests" and Amendment to OIML R 137-1/2 (2014)
21.	<b>843/UA/21</b>	LM	Translation of the OIML publication: OIML R 137-3:2014 "Gas meters. Part 3: Test report format"
22.	<b>844/UA/21</b>	LM	Drawing up a List of adopted rules, guides, recommendations in the field of legal metrology of other RLMOs, which are of interest to COOMET member countries, and agreement on the possibility of their application in COOMET member countries
23.	<b>845/KG/21</b>	LM	Translation of Document ILAC-G24/OIML D 10:2007 "Guidelines for the determination of calibration intervals of measuring instruments".
24.	<b>846/RU/21</b>	AUV	Regional key comparisons in the field of ultrasound power measurement in water



No	Project number	Field	Project title
25.	847/AZ/21	LM	Translation of OIML Document D 33:2019 "Reference standard liquids (Newtonian viscosity standard for the calibration and verification of viscometers)"
26.	848/UA/21	LM	Development of a COOMET Recommendation "Procedure for establishing reverification intervals for measuring systems used in the field of legal metrology"
27.	849/RU/21	QM	Content of metals in blood serum
28.	850/DE21	GM	Development of a harmonized approach to use digital calibration certificates in COOMET member countries
29.	851/RU21	T	Supplementary comparisons of measurement standards of dew point temperature
30.	852/RU21	F	Supplementary comparisons of national standards in the field of gas flow and volume at gas flow rate from 0.4 to 100 m <sup>3</sup> /h
	2022		
31.	853/UA/22	IT	Updating of document COOMET D11/2016 "The Procedure of Using the COOMET Logo"
32.	854/UA/22	M	Supplementary three-party comparisons in the field of mass measurements
33.	855/RU/22	EM	Pilot comparisons in the field of high DC current measurements
34.	856/RU/22	RM	Development of CRM for composition of Siberian pine needles (HSS-1) ( <i>Pinus sylvestris</i> )
35.	857/RU/22	RM	Revision of recommendation COOMET R/RM/4:2008 "Procedure for Joint Development, Recognition and Registration of Certified Reference Materials within COOMET"
36.	858/RU/22	RM	Recognition (registration) of RMs included in Annex C of the CIPM MRA (in the BIPM KCDB Database) as COOMET CRMs"
37.	859/TR/22	EM	Supplementary comparison of high current transformer measuring systems
38.	860/RU/22	IT	Update of document COOMET R/IT/24:2014 "Educational programs and practical training programs of experts of National Metrological Institutes cooperating in COOMET"
39.	861/BY/22	IT	Update of Recommendation COOMET R/IT/27:2015 "Procedure for preparing certificates of training, study visits and up-skilling within the framework of COOMET"

**Total: 39 new projects**  
**(1 of them moved to agreed projects, 1 completed)**

**2. List of agreed COOMET projects**  
(for the period from 1 January 2021 to 15 June 2022)

No	Project number	Field	Project title
	<b>2021</b>		
1.	790/UZ-a/19	AUV	Supplementary comparison on calibration of sound calibrators
2.	783/UZ-a/19	EM	Pilot comparisons of the amplitude modulation coefficient of high-frequency oscillations
3.	798/BY-a/19	EM	Pilot comparisons of the volumes of digital information transmitted via the Internet and telephony channels
4.	821/RU-a/20	EM	Pilot comparisons of DC high voltage reference measuring systems in the voltage range of $\pm (1...100)$ kV
5.	825/RU-a/21	GM	Development of a COOMET concept for digitalization in metrology
6.	600/RU-a/13	IR	Development of calibration procedure of PGe spectrometers for efficiency vs. gamma – radiation energy
7.	833/RU-a/21	IR	Supplementary comparisons of the national standards of radioactivity
8.	829/UA-a/21	IT	Preparation of an internal procedure for the assessment of training needs and planning of training activities within COOMET
9.	524/RU-a/11	L	Key comparison of the national standards unit of the plane angle
10.	629/RU-a/13	LM	Preparation of the information material on the organization of the sphere of state regulation in the field of legal metrology based on the study of the experience of different countries
11.	735/RU-a/17	PR	Relative reflection density of samples
12.	743/UA-a/18	PR	Supplementary comparisons by the color of reflection
13.	772/RU-a/18	QM	Key comparisons "Carbon dioxide in the urban air at the level of (480-800) $\mu\text{mol/mol}$ "
14.	775/RU-a/19	QM	Pilot comparison on determination of KCl solution electrolytic conductivity at the level of 10 $\mu\text{Sm/sm}$ and 25 $\text{Sm/m}$
15.	806/RU-a/20	QM	Pilot comparison in the field of measuring the mass fraction of aluminum in pure aluminium
16.	807/RU-a/20	QM	Pilot comparison in the field of measuring the mass fraction of magnesium in pure magnesium
17.	808/RU-a/20	QM	Pilot comparison in the field of measuring the mass fraction of nickel in pure nickel
18.	809/RU-a/20	QM	Pilot comparison in the field of measuring the mass fraction of titanium in pure titanium
19.	771/MD-a/18	T	Pilot comparisons in the area of platinum resistance thermometers calibration in fixed points from triple point of mercury (-38.8344 °C) to melting point of gallium (29.7646 °C)
20.	780/RU-a/19	T	Pilot comparisons of national reference gas calorimeters using samples of gas mixtures
21.	787/UZ-a/19	T	Pilot comparisons in the area of platinum resistance thermometers calibration
22.	826/MD-a/21	T	Supplementary comparisons of standards for relative humidity unit
	<b>2022</b>		
23.	813/RU-a/20	EM	Supplementary comparison of measuring current transformers (CTs)
24.	831/UZ-a/21	LM	Update of COOMET Recommendation R/LM/8:2002 "Layout, presentation, drawing up and contents of Measuring instrument type specification for national register of measuring instruments"
25.	764/UA-a/18	M	Supplementary comparisons in the field of mass measurements
26.	788/KZ-a/19	M	Pilot comparisons of the unit kinematic viscosity of a liquid at temperatures: 20 °C (250-400 $\text{mm}^2/\text{s}$ ), 25 °C (50-100 $\text{mm}^2/\text{s}$ ), 40 °C (20-70 $\text{mm}^2/\text{s}$ )
27.	789/KZ-a/19	M	Pilot comparisons of fluid density in the range of from 600 to 1000 $\text{kg/m}^3$
28.	804/UZ-a/20	PR	Pilot comparisons of measurement standards of attenuation and average power of a signal in optical fiber
29.	785/RU-a/19	PR	Supplementary comparisons of laser power responsivity at wavelengths of 0,532; 1,064 and 10,6 $\mu\text{m}$

**Total: 29 agreed projects (2 of them completed)**

### Ongoing agreed COOMET projects

No	Project number	Field	Project title
30.	<b>230/GE-a/01</b>	AQ	Interpretation, implementation and application of a quality management system by COOMET national metrology institutions in compliance with ISO/IEC 17025 and ISO 17034
31.	<b>234/BY-a/01</b>	AUV	Drawing up and update of the lists of COOMET technical experts on CMC review and COOMET technical experts on evaluation of quality management systems of COOMET NMIs/DIs
32.	<b>302/RU-a/04</b>	GM	Development and update of the COOMET Recommendation "Guideline on COOMET supplementary comparison evaluation" (COOMET R/GM/19)
33.	<b>336/RU-a/05</b>	GM	Development and update of the COOMET Recommendation "Guidelines for Data Evaluation of COOMET Key Comparison" (COOMET R/GM/14)
34.	<b>274/BY-a/03</b>	IT	Establishment and organization of work of COOMET Structural and working bodies
35.	<b>168/MD-a/98</b>	PR	The state of the measurement standard base of COOMET member countries in the field of photometry and radiometry
36.	<b>175/RU-a/99</b>	RI	A status of a measurement standard base in the field of ionizing radiation and radioactivity for the countries - members of COOMET
37.	<b>543/RU-a/11</b>	RM	Development and administration a database of RM of COOMET
38.	<b>186/RU-a/99</b>	RM	Development of the Programme of RM joint production within COOMET
39.	<b>398/RU-a/07</b>	TF	Key comparisons of national standards of time and frequency with the Russian UTC (SU) scale

**3. List of completed COOMET projects**  
**(for the period from 1 January 2021 to 15 June 2022)**

No	Project number	Field	Project title
	<b>2021</b>		
1.	706/RU-a/16	AUV	Comparison of longitudinal ultrasonic wave propagation velocity in solid media
2.	682/RU/16	EM	Pilot comparisons of standards of pulse electric and magnetic field intensity units with pulse rise time in the range from 20 ps to 10 ns
3.	267/RU/02	EM	Comparison of Standards the units of electromagnetic power flux density (W/m <sup>2</sup> ) at frequencies of 2,45 GHz and 10,0 GHz
4.	406/UA/07	F	Comparisons of mass and volume units national standards
5.	684/MD/16	F	Comparisons of gas flow rate standards
6.	794/RU/19	GM	Translation and adaptation of a suite of new versions of CIPM MRA documents and also a CIPM document "Recommendations from the Working Group on the Implementation and Operation of the CIPM MRA"
7.	828/RU/21	GM	Update of the COOMET Recommendations R/GM/7:2014, COOMET R/GM/11:2017, COOMET R/GM/12:2015
8.	803/UA/20	GM/I T	The organisation and holding the BIPM-COOMET Workshop on the KCDB 2.0 within the BIPM Capacity Building & Knowledge Transfer Programme (CB&KT)
9.	731/BY-a/17	IT	Review of national education & training systems for the NMIs and metrologists of the COOMET member countries
10.	529/RU/11	L	International comparison of interference plants for measuring 20-meter long tapes
11.	751/BY/18	LM	Translation of OIML G 1-106:2012 "Evaluation of measurement data - The role of measurement uncertainty in conformity assessment"
12.	740/UA-a/18	LM	Translation of WELMEC 7.2:2018 "Software Guide" (Measuring Instruments Directive 2014/32/EU)"
13.	747/RU/18	LM	"Translation of OIML R87:2016 "Quantity of product in prepackages"
14.	748/RU/18	LM	Translation of OIML R79:2015 «Labeling requirements for prepackaged products»
15.	749/RU/18	LM	Translation of OIML G21:2017 «Guidance for defining the requirements for a certification system for prepackages»
16.	629/RU-a/13	LM	Preparation of the information material on the organization of the sphere of state regulation in the field of legal metrology based on the study of the experience of different countries
17.	736/RU/17	PR	Diffuse absorbance of transmitted samples
18.	599/RU/13	PR	Comparison of Laser Power Standards at wavelengths of 0,532; 1,064 and 10,6 mkm
19.	756/RU-a/18	QM	Pilot comparisons in the field of measurements of oxygen and nitrogen mass fractions in the steel
20.	784/RU/19	QM	Pilot comparison "Water content in crude oil"
21.	618/RU/13	QM	Pilot comparison in the field of Ni-based alloy elemental analysis
22.	617/RU/13	RM	Development of CRM for composition of wolframite hubnerite concentrate (hard-alloy) – KVG(T)
	<b>2022</b>		
23.	812/RU/20	GM	Development of a COOMET Recommendation on providing the traceability of measurement results/ measurement standards in COOMET
24.	811/BY/20	IT	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
25.	560/UA/12	M	The comparison of the national hardness standards of Rockwell scales
26.	764/UA/18	M	Supplementary comparisons in the field of mass measurements
27.	366/RU-a/06	PR	Comparison of reference materials of whiteness
28.	688/RU/16	PR	Comparison on Polarization Mode Dispersion in Optical Fiber
29.	689/RU/16	PR	Comparison on Wavelength for Fibre Optic
30.	804/UZ-a/20	PR	Pilot comparisons of measurement standards of attenuation and average power of a signal in optical fiber

**Total: 30 completed projects**

**4. List of excluded COOMET projects**  
**(for the period from 1 January 2021 to 15 June 2022)**

No	Project number	Field	Project title
	<b>2021</b>		
1.	<b>773/UA/19</b>	M	Supplementary bilateral comparisons in the field of sub-milligram mass measurement
2.	<b>410/UA/07</b>	RI	COOMET Regional comparisons of National standards of consumed dose unit in water for gamma-radiation Co-60
3.	<b>544/RU/11</b>	T	Regional comparison humidity standards of gases. Dew/frost point temperature -50 °C to +20 °C
4.	<b>17/RU-a/92</b>	TF	Research into the primary caesium standards
5.	<b>174/RU-a/99</b>	TF	A status of a measurement standards base in the field of time and frequency for the countries - members of COOMET
	<b>2022</b>		
6.	<b>295/RU/03</b>	M	Mutual Comparisons of the He leaks in range (10-6-1) m3 . Pa/s
7.	<b>714/UA/17</b>	M	Comparison of standards for the measurement of end measures of length interference method in the range of 200 to 1000 mm
8.	<b>758/CU/18</b>	M	Supplementary bilateral comparison in the field of mass with the aim of detailed values of uncertainty for CMC-entry
9.	<b>769/UA/18</b>	M	Supplementary bilateral comparisons in the field of small volume
10.	<b>614/KG/13</b>	M	Development of methodological recommendations on the theoretical foundations of uncertainty calculation of the mass, conventional mass and their uncertainties in calibration/verification of weights.
11.	<b>537/RU/11</b>	RM	Development of CRMs of ultimate temperature of diesel fuel filterability on a cold filter (2 types)
12.	<b>538/RU/11</b>	RM	Development of CRMs of lead concentration in motor petrol (4 types)
13.	<b>539/RU/11</b>	RM	Development of CRMs of iron concentration in motor petrol (4 types)
14.	<b>659/RU/15</b>	RM	Development of CRM for composition of quartz concentrate (KK DODO deposit vein 233) – KK-233
15.	<b>660/RU/15</b>	RM	Development of CRM for composition of quartz concentrate (KK Vyazov deposit vein 5) – KK-5
16.	<b>661/RU/15</b>	RM	Development of CRM for composition of quartz concentrate (KK Karayan deposit vein 17) – KK-17
17.	<b>662/RU/15</b>	RM	Development of CRM for composition of quartz concentrate (KK Kyshtym deposit vein 175) – KK-175
18.	<b>729/RU/17</b>	RM	Development of CRM for composition (agrochemical parameters) of brown heavy-loamy alkali soil SASoIP-05
19.	<b>733/RU/17</b>	RM	Development of CRM for composition of refined platinum

**Total: 19 excluded projects**

# **SCHEDULE OF MEETINGS OF COOMET STEERING AND STRUCTURAL BODIES IN 2022**

(as of 15 October 2022)

<i>Event</i>	<b>Date</b>	<b>Venue/format</b>
<b>33<sup>rd</sup> COOMET Committee meeting</b>	25-27 October	ONLINE
<b>32<sup>nd</sup> Presidential Council meeting</b>	17 October	ONLINE
<b>31<sup>st</sup> Presidential Council meeting</b>	28 September	held online
<b>30<sup>th</sup> Presidential Council meeting</b>	30 June	held online
<b>29<sup>th</sup> Presidential Council meeting</b>	13 June	held online
<b>22<sup>nd</sup> meeting of the Joint Committee for Measurement Standards</b>	22 September	held online
16 <sup>th</sup> meeting of <b>TC 1.1</b> "General Metrology"	17 October	held online
17 <sup>th</sup> meeting of <b>TC 1.2</b> "Acoustics, Ultrasound, Vibration"	-	postponed to year 2023
16 <sup>th</sup> meeting of <b>TC 1.3</b> "Electricity and Magnetism"	8-10 November	ONLINE
19 <sup>th</sup> meeting of <b>TC 1.4</b> "Flow Measurement"	15 December	ONLINE
19 <sup>th</sup> meeting of <b>TC 1.5</b> "Length and Angle"	28-29 November	combined format (BelGIM, Belarus & ONLINE)
26 <sup>th</sup> meeting of <b>TC 1.6</b> "Mass and Related Quantities"	8 December	ONLINE
19 <sup>th</sup> meeting of <b>TC 1.7</b> "Photometry and Radiometry"	December	ONLINE
<b>TC 1.8</b> "Physical Chemistry"	-	postponed to January 2023
19 <sup>th</sup> meeting of <b>TC 1.9</b> "Ionizing Radiation and Radioactivity"	30 November	ONLINE
19 <sup>th</sup> meeting of <b>TC 1.10</b> "Thermometry and Thermal Physics"	15-16 November	ONLINE
15 <sup>th</sup> meeting of <b>TC 1.11</b> "Time and Frequency"	25 November	ONLINE
27 <sup>th</sup> meeting of <b>TC 1.12</b> "Reference Materials"	12 September	held in combined format (Ekaterinburg, Russia & ONLINE)
23 <sup>th</sup> meeting of <b>TC 2</b> "Legal Metrology"	24 November	ONLINE
26 <sup>th</sup> meeting of <b>Quality Forum</b>	21 July	held online
27 <sup>th</sup> meeting of <b>Quality Forum</b>	21 or 22 November	ONLINE
32 <sup>th</sup> meeting of <b>TC 3.1</b> "Quality Forum Technical Committee"	21 July	held online
33 <sup>th</sup> meeting of <b>TC 3.1</b> "Quality Forum Technical Committee"	21 or 22 November	ONLINE
19 <sup>th</sup> meeting of <b>TC 4</b> "Information and Training"	1 December	ONLINE
<i>Note: Decision on the format of the meetings will be made in view of the situation with the Covid-19 pandemic and the international force majeure situation.</i>		



## PLANNED TRAINING ACTIVITIES OF COOMET IN 2022-2023

<b>№</b>	<b>Proposed subject of the training activity</b>	<b>Possible venue</b>	<b>Date</b>
1.	National time scales, calibration of comparison instruments	ONLINE	November 2022 (as part of TC 1.11 meeting)
2.	The practice of implementation of the CIPM MRA documents regulating the activities of NMIs on the procedure for CMC preparing and calculation of the uncertainty budget (for TC 1.7 and TC 1.4)	ONLINE	December 2022
3.	Metrological support for gas analyzers	VNIIM (Saint Petersburg, Russia) or combined format	January 2023 (as part of TC 1.8 meeting)
4.	COOMET seminar on digital transformation in metrology	being specified	2023
5.	The procedure for verification and calibration of medical measuring instruments	being specified	2023
6.	Metrological support of audiometric equipment	being specified	2023
7.	New methods for low frequency vibration calibration	being specified	2023
8.	Optical method for microphone calibration	being specified	2023