



REPORT ON THE COOMET ACTIVITIES ¹

Reporting period: from 1 April 2019 to 31 March 2020.

The activities of COOMET were conducted 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, Chairpersons of Structural Bodies and National Secretariats of the member countries of cooperation.

1. GENERAL CHARACTERISTICS OF THE ACTIVITIES

1.1. COOMET member

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

№	Country	Membership of the country in COOMET, year of signing of the Memorandum	Participation in the Metre Convention, year of signing
1.	Armenia	Full member, 2007	-
2.	Azerbaijan	Full member, 2007	Associated member of CGPM, 2015
3.	Belarus	Full member, 1992	Member of the Metre Convention, 2020
4.	Bosnia and Herzegovina	Associated member, 2013	Associated member of CGPM, 2011
5.	Bulgaria	Full member, 1991	Member of the Metre Convention, 1911
6.	China	Associated member, 2016	Member of the Metre Convention, 1977
7.	Cuba	Associated member, 1991	Associated member of CGPM, 2000
8.	DPR of Korea	Associated member, 2002	-
9.	Germany	Associated member, 1991	Member of the Metre Convention, 1875
10.	Georgia	Full member, 2006	Associated member of CGPM, 2008
11.	Kazakhstan	Full member, 1998	Member of the Metre Convention, 2008
12.	Kyrgyzstan	Full member, 2000	-
13.	Lithuania	Full member, 1995	Member of the Metre Convention, 2015
14.	Moldova	Full member, 1997	Associated member of CGPM, 2007
15.	Romania	Full member, 1991	Member of the Metre Convention, 1884
16.	Russia	Full member, 1991	Member of the Metre Convention, 1875
17.	Slovakia	Full member, 1993	Member of the Metre Convention, 1922
18.	Tajikistan	Full member, 2009	-
19.	Turkey	Associated member, 2014	Member of the Metre Convention, 1875
20.	Ukraine	Full member, 1992	Member of the Metre Convention, 2018
21.	Uzbekistan	Full member, 2004	Associated member of CGPM, 2018

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

There are totally **809 projects** as of 31 March 2020.

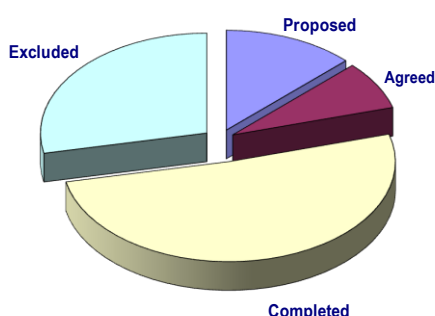
The lists of agreed, proposed, completed and excluded COOMET projects (during the reporting period) are given in *Annex 1* to the report.

¹ in view of the issues, submitted for electronic voting, which is being held among COOMET Committee members from 30.04.2020 to 25.05.2020 by the decision of COOMET Presidential Council

30 new projects were proposed during the reporting period: **6** of them in the field of "Physical chemistry", **5** in the fields of "General Metrology" and "Photometry and radiometry", **4** in the field of "Electricity and magnetism", **2** in each of the fields of "Acoustics, ultrasound, vibration", "Mass and Related Quantities" and "Thermometry and thermal physics", **1** in each of the fields of "Length and Angle", "Reference Materials", "General Metrology"/ "Information and training" and "Legal Metrology".

22 of the proposed projects are related to carrying out COOMET comparisons of measurement standards for physical units (7 of them are supplementary and 15 are pilot comparisons), **3** projects are aimed at the preparation and update of COOMET publications, **2** projects – at the arrangement and holding of structural bodies meetings and events within COOMET, **1** project is aimed for each of the following: arrangement and holding of events on training specialists within COOMET, translation of CIPM MRA documents and their adaption for COOMET and analytical review in the field of legal metrology.

During the reporting period **23 projects** were agreed, **18 – completed**, **15 – excluded** (a complete list of the projects, the status of which was changed during the reporting period, is given in *Annex 1* to this report).



Project status	Number
Proposed	103
Agreed	63
Completed	413
Excluded	228
Deferred	2
Total	809

1.3.1 Preparation and publication of CMCs, including comparisons

7531 CMC entries of COOMET member countries were published in the KCDB as of 31 March 2020, including those by countries:

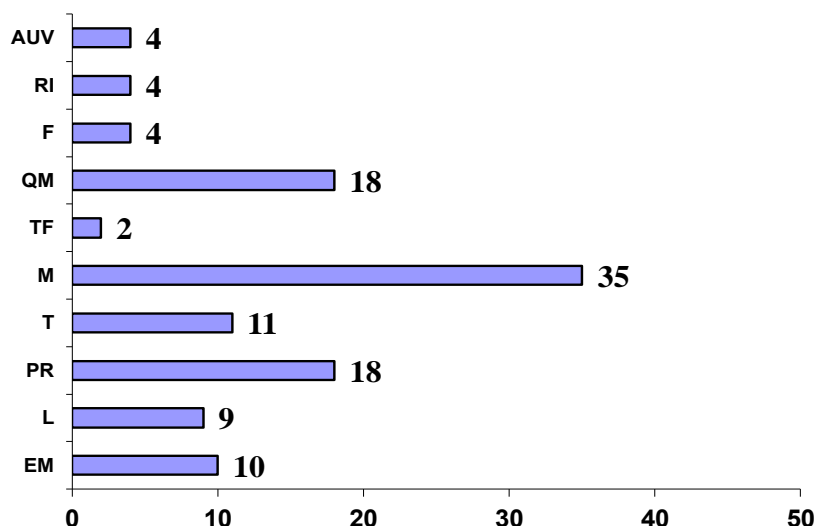
Country	Total
Azerbaijan	1
Belarus	248
Bulgaria	226
Bosnia and Herzegovina	67
Germany	1531
Georgia	32
Kazakhstan	69
China	1578
Cuba	113

Country	Total
Lithuania	78
Moldova	43
Russia	1752
Romania	233
Slovakia	378
Turkey	526
Uzbekistan	0
Ukraine	275

Azerbaijan, Belarus, Georgia, Kazakhstan, Cuba, Russia, Uzbekistan, Ukraine report their CMCs through COOMET– a total of **2 548 CMCs** were published. Other countries submit their CMCs through EURAMET or APMP.

All COOMET comparisons are given in **COOMET Document P2/2020** "COOMET Program of Comparisons" (approved as of 27.11.2019). Interactive version of the Program is available on the COOMET web-site http://www.coomet.org/tc_prj/2019/D9_EN.htm

COOMET Program of comparisons for year 2020 (as of 31.03.2020) contains **125 current projects**. Distribution of COOMET projects by the fields of cooperation is shown in the diagram.



In years 2019-2020 COOMET Secretariat in conjunction with the Chairpersons of TC 1.2 – TC 1.11 carried out work on the update of the list of COOMET Technical experts on CMC review.

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

1.3.2 Recognition of QMS of COOMET NMIs/DIs

The main resolutions of the 27th TC 3.1 meeting and 20th Quality Forum meeting (30 September – 2 October 2019, Gebze, Turkey):

- Written presentations of BelGIM (Belarus), KazInMetr (Kazakhstan), VNIIOFI (Russia), VNIIM (Russia), UNIIM (Russia), Ukrmetrteststandart (Ukraine) related to ISO 17034:2016 were adopted.
- Oral presentations for QMS, including items on the implementation of plans for transition to a new version of ISO 17034:2016 of the above NMIs/DIs were heard and adopted. These NMIs/DIs, having COOMET recognition in accordance with ISO Guide 34 successfully implemented plans for transition to ISO 17034:2016. Confirmations of recognition of QMS of the above NMIs/DIs in accordance with ISO 17034:2016 were drawn up without changing the period of validity of the previously issued recognitions.

Recognition of QMS of NMIs/DIs (ISO 17034)

NMI /DI	Status QMS	Conformation of recognition	Date	Valid date	Metrological areas
BelGIM (Belarus)	recognized	QSF-R59	10.05.2016	10.05.2021	Gases, pH, Electrolytic conductivity
KazInMetr (Kazakhstan)	recognized	QSF-R60	15.02.2017	15.02.2022	Gases, pH
Ukrmetrteststandart (Ukraine)	recognized	QSF-R61	10.05.2016	10.05.2021	Gases, pH, Electrolytic conductivity
UNIIM (Russia)	recognized	QSF-R62	15.06.2017	15.02.2022	High purity chemicals, Non-organic solutions, Organic solutions, Food, Advanced materials, Surfaces, films and nanomaterials
VNIIM (Russia)	recognized	QSF-R63	27.08.2015	27.08.2020	Gases, Non-organic solutions, Organic solutions, Electrolytic conductivity
VNIIOFI (Russia)	recognized	QSF-R64	27.08.2015	27.08.2020	Non-organic solutions, Metals and alloys, Biological fluids and materials

The main resolutions of the 28th TC 3.1 meeting and 21st Quality Forum meeting (24-27 February 2020, Berlin, Germany):

- Annual reports on QMS of COOMET NMIs/DIs for year 2019 were adopted.
- Reports of all NMIs/DIs on the plans for transition to a new version of ISO/IEC 17025:2017 were heard and adopted.
- Written presentations of the following NMIs/DIs were discussed and adopted: VNIIOFI, VNIIM, VNIIMS, VNIIFTRI (Russia), KazInMetr (Kazakhstan), Ukrmetrteststandart, NSC "Institute of Metrology" (Ukraine).
- Auditors on peer reviews of QMS of the above NMIs/DIs were appointed
- Oral presentations for QMS, including items on the implementation of plans for transition to a new version of ISO/IEC 17025:2017 of the above NMIs/DIs were heard and adopted. The mentioned NMIs/DIs were admitted for peer reviews in 2020.
- It was agreed that at the following Quality Forum meeting (September 2020, Uzbekistan) oral presentations of QMS of all remaining NMIs/DIs on transition to a new version of ISO/IEC 17025:2017 in accordance with the Policy and Plan of COOMET for the transition to ISO 17034:2016 and ISO/IEC 17025:2017, will be made.

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

NMI/DI	Status QMS	Conformation of recognition	Date	Valid date	Metrological areas
VNIIOFI (Russia)	recognized	QSF-R34	27.08.2015	27.08.2020	PR, QM
VNIIFTRI (Russia)	recognized	QSF-R36	27.08.2015	27.08.2020	AUV, EM, RI, T, M, QM, TF
VNIIMS (Russia)	recognized	QSF-R38	27.08.2015	27.08.2020	L, EM
VNIIM (Russia)	recognized	QSF-R39	27.08.2015	27.08.2020	AUV, EM, L, RI, T, M, QM
BelGIM (Belarus)	recognized	QSF-R40	10.05.2016	10.05.2021	AUV, EM, RI, T, M, QM, TF, L, PR
SE "Ukrmetrteststandard" (Ukraine)	recognized	QSF-R42	10.05.2016	10.05.2021	AUV, EM, M, L, PR, QM
NSC "Institute of Metrology" (Ukraine)	recognized	QSF-R44	10.05.2016	10.05.2021	EM, RI, T, M, TF, L, PR
SNIIM (Russia)	recognized	QSF-R45	15.02.2017	15.02.2022	EM
SE "NDI Systema" (Ukraine)	recognized	QSF-R46	15.02.2017	15.02.2022	AUV
UNIIM (Russia)	recognized	QSF-R47	15.02.2017	15.02.2022	EM, T, L, QM, M
VNIIR (Russia)	recognized	QSF-R49	15.02.2017	15.02.2022	M
KazInMetr (Kazakhstan)	recognized	QSF-R50	15.02.2017	27.08.2020	EM, M, L, QM, T, TF
NMI (Moldova)	recognized	QSF-R52	31.01.2018	31.01.2023	EM, T, RI, M, L, PR
AzMI(Azerbaijan)	recognized	QSF-R53	31.01.2018	31.01.2023	T, RI, EM, M
SE «Ivano-Frankivsktsndartmetr ologia» (Ukraine)	recognized	QSF-R54	04.10.2018	04.10.2023	M
CENTIS-DMR (Cuba)	recognized	QSF-R55	04.10.2018	04.10.2023	RI
INIMET (Cuba)	recognized	QSF-R56	04.10.2018	04.10.2023	M, L, QM, T, TF
CPHR (Cuba)	recognized	QSF-R57	04.10.2018	04.10.2023	RI
GeoSTM (Georgia)	recognized	QSF-R58	04.10.2018	04.10.2023	EM, M, T, RI, L

Note: owing to the force majeure the periods of validity of the confirmations of recognition of QMS of VNIIOFI, VNIIM, VNIIMS, VIIFTRI (Russia), KazInMetr (Kazakhstan) were extended until 01.03.2021 by the decision of COOMET Presidential Council.

In year 2020 TC 3.1 carried out work on the update of the list of COOMET auditors on the review of CMC of COOMET NMIs/DIs. In years 2019-2020 COOMET Secretariat in conjunction with the Chairpersons of TC 1.2 – TC 1.12 and TC 3.1 carried out work on the update of the list of COOMET Technical experts on the review of CMC of COOMET NMIs/DIs. The information will be published on the pages of Quality Forum/TC 3.1.

2. HOLDING OF COOMET BODIES MEETINGS

During the reporting period the following meetings were held:

- 29th **COOMET Committee meeting** (3-4 April 2019, Dresden, Germany);
- 24th **COOMET Presidential Council meeting** (26-28 November 2019, Tbilisi, Georgia);
- 17th meeting of the **Joint Committee for Measurement Standards** (3-4 April 2019, Dresden, Germany);

Meetings of COOMET **Technical Committees**:

- **TC 1.1** "General Metrology" (1 July 2019, VNIIM, Saint-Petersburg, Russia);
- **TC 1.2** "Acoustics, Ultrasound and Vibration" (27–29 August 2019, VNIIFTRI, Mendeleevo, Russia);
- **TC 1.3** "Electricity and Magnetism" (22–24 October 2019, INM-MD, Kishenev, Moldova);
- **TC 1.4** "Flow Measurement" (2–4 September 2019, Kazan, Russia);
- **TC 1.5** "Length and Angle" (17-20 September 2019, GEOSTM, Tbilisi, Georgia);
- **TC 1.6** "Mass and Related Quantities" (01-02 October 2019, VNIIM, Saint Petersburg, Russia);
- **TC 1.7** "Photometry and Radiometry" (10-12 September 2019, SMU, Bratislava, Slovakia);
- **TC 1.8** "Physical Chemistry" (22–23 May 2019, VNIIM, Saint Petersburg, Russia);
- **TC 1.9** "Ionizing Radiation and Radioactivity" (17–19 September 2019, INM-MD, Kishinev, Moldova);
- **TC 1.10** "Thermometry and Thermal Physics" (27–29 August 2019, East-Siberian branch of FSUE "VNIIFTRI", Irkutsk, Russia);
- **TC 1.11** "Time and Frequency" (10–11 October 2019, TÜBİTAK UME, Gebze, Turkey);
- **TC 1.12** "Reference Materials" (25 September 2019, BelGIM, Minsk, Belarus);
- **TC 2** "Legal Metrology" (12 September 2019, Kiev, Ukraine);
- **TC 3.1** "Quality Forum Technical Committee" (26–27 March 2019, Kishenev, Moldova).
- **Quality Forum and TC 3.1** "Quality Forum Technical Committee" (30 September – 02 October 2019, TÜBİTAK UME, Gebze, Turkey);
- **Quality Forum and TC 3.1** "Quality Forum Technical Committee" (25-27 February 2020, PTB, Berlin, Germany);
- **TC 4** "Information and Training" (2–3 October 2019, AzMI, Baku, Azerbaijan).

COOMET Secretariat prepared a Schedule of meetings of COOMET bodies and a List of planned training events under the auspices of COOMET for 2020 (the information is given in *Annex 2*).

Note: owing to the force majeure related to the Covid-19 pandemic, information about the dates and venues of a number of TC meetings is being specified and some meetings and seminars were postponed.

Information is posted and regularly updated on the COOMET portal (www.coomet.net) and COOMET web-site (www.coomet.org).

3. COOMET STRATEGY, CHANGE IN THE COOMET STRUCTURE AND ESTABLISHMENT OF COOMET STRUCTURAL BODIES

3.1 COOMET Strategy and amendments to the COOMET Memorandum of Understanding

During the reporting period three meetings of the Working Group for Preparation of the COOMET Development Strategy were held (4 April 2019, Dresden, Germany; 7 June 2019, Kazan, Russia; 26 November 2019, Tbilisi, Georgia).

Based on the proposals of the Working Group members a draft COOMET Strategy for 2020-2025 and a draft Roadmap for its implementation, as well as a draft Development Program of COOMET for 2020-2022 were prepared. These documents were submitted to COOMET Committee members for consideration.

Based on the recommendation of COOMET Presidential Council it is proposed to make amendments and additions to the COOMET Memorandum of Understanding in terms of refining approaches to the establishment of structural and working bodies of COOMET and terms of office of the Chairpersons of COOMET Technical Committees and Subcommittees. These proposals were submitted for electronic voting among COOMET Committee members.

3.2 Change in the COOMET structure

Based on the recommendation of COOMET Presidential Council it is proposed to:

- 1) exclude the following SCs from TC 1.4 "Flow Measurement": SC 1.4.1 "Gas Flow Measurement", SC 1.4.2 "Flow Measurement of Oil and Oil Products", SC 1.4.3 "Flow Measurement of Liquefied Gas";
- 2) include new subcommittees into TC 1.8 "Physical Chemistry": SC 1.8.4 "Gas Analysis", SC 1.8.5 "Organic and Non-organic Analysis", SC 1.8.6 "Bioanalysis"
- 3) exclude SC 3.1 "NMI Quality Management Systems" from TC 3.1 "Quality Forum Technical Committee".

These proposals were submitted for electronic voting among COOMET Committee members.

3.3 Establishment of COOMET structural bodies

In years 2019–2020 work was carried out on the update of memberships of COOMET structural bodies within the on-going COOMET Project 274/BY-a/03 "Establishment and organization of activities of COOMET structural bodies" (taking into account proposed changes in the COOMET structure under 3.2).

Updated memberships of COOMET structural bodies, as well as candidacies of new Chairpersons of a number of TCs and SCs and candidacies of those Chairpersons of a number of TCs and SCs, whose terms of office are proposed to be extended, are also submitted for electronic voting among COOMET Committee members.

4. INFORMATION ACTIVITIES

4.1. Preparation and publication of the COOMET Directory

The Secretariat updated the information contained in the COOMET Directory (as of 31 March 2020). The electronic version of the COOMET Directory 2020 can be found on www.coomet.net and www.coomet.org.

4.2. Preparation and registration of COOMET publications

1) In accordance with the resolutions of the 29th COOMET Committee meeting Secretariat registered new and updated versions of the following publications:

- Document COOMET D7/2019 "Regulation on giving the distinguished title of "Honorary metrologist of COOMET" (updated).
- COOMET Recommendation R/AQ/9:2019 "Recommendations on the evaluation of quality management systems of National metrology institutes/Designated institutes" with Annexes (updated);
- COOMET Recommendation R/AQ/13:2019 "Rules and Procedure for the evaluation of quality management systems of National metrology institutes/Designated institutes" with Annexes (updated);
- COOMET Information Material I/LM/8:2019 "Overview on the progress with prepackages control in COOMET member countries" (new);
- COOMET Information Material I/LM/9:2019 "Metrological Supervision performed by metrological services of legal entities. General Principles" (new).

2) At the instruction of COOMET Presidential Council COOMET Secretariat prepared in years 2019-2020 an updated version of COOMET D5 "Model Regulations for COOMET Structural Bodies" (replacing COOMET D5:2010), which was submitted to the Chairpersons of COOMET structural bodies and to COOMET Committee members for consideration.

At the instruction of COOMET Presidential Council TC4 "Information and Training" in conjunction with COOMET Secretariat prepared in years 2019-2020 an updated version of COOMET Recommendation R/GM/18 "Procedure of the International Competition "The Best Young Metrologist of COOMET"" (replacing COOMET R/GM/18:2013), which was sent to COOMET Committee members for discussion.

These publications were submitted for electronic voting among COOMET Committee members.

4.3. COOMET Web-resources

The COOMET website (www.coomet.org) is maintained by the experts of VNIIFTRI (administrator - A. Ivanov). Maintenance of the COOMET web portal (www.coomet.net) is carried out by the COOMET Secretariat and online editors of the pages of technical committees.

In years 2019-2020 ongoing update of the information was carried out, which is provided on the COOMET web-resources (database on COOMET projects, information about COOMET Committee members, Chairpersons of structural bodies, COOMET Publications, news feed etc.) and in the database on CMC based on Annex C of KCDB.

4.4. Reports and information about COOMET activities

During the reporting period **presentations and reports on COOMET activities were prepared** to the following meetings:

- 41st JCRB meeting (10-11 September, 2019, Dubai, UAE);
- Round table of Regional Legal Metrology Organizations (22 -25 October, 2019, Bratislava, Slovakia);
- 13th EURAMET General Assembly (21 -24 May 2019, Boras, Sweden);
- 35th APMP General Assembly (5-6 December 2019, Sydney, Australia);
- SIM General Assembly (26-27 September 2019, Santa Cruz, Bolivia);
- WELMEC Committee meeting (10-11 April, Brno, Czech Republic);
- 55th meeting of the Euro-Asian Council for Standardization, Metrology and Certification (27-28 June 2019, Pyatigorsk, Russian Federation);
- NSCLI Board of Directors meeting (25-26 August 2019, Ohio, USA).

5. PARTICIPATION OF COOMET REPRESENTATIVES IN INTERNATIONAL METROLOGICAL EVENTS

In 2019 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 COOMET activities:

- 41st JCRB meeting (10-11 September 2019, Dubai, UAE):
representatives of COOMET – P. Neyezhnikov, COOMET Vice-President (Ukraine), S Golubev, COOMET Vice-President (Russia), N. Mikanadze, COOMET Vice-President (Georgia), N.Zviagin, JCMS Deputy Chairperson (Russia),
- Round table of Regional Legal Metrology Organizations (22 -25 October, 2019, Bratislava, Slovakia);
representative of COOMET – P.Ulbig, COOMET Vice-President (Germany);
- 13th EURAMET General Assembly (21 -24 May 2019, Boras, Sweden);
representative of COOMET – P. Neyezhnikov. COOMET Vice-President (Ukraine);
- 35th APMP General Assembly (5-6 December 2019, Sydney, Australia);
representative of COOMET – K.Popov (Russia);
- WELMEC Committee meeting (10-11 April, Brno, Czech Republic);
representative of COOMET – Z.Dzemec, COOMET Committee member (Bosnia and Herzegovina);
- 55th meeting of the Euro-Asian Council for Standardization, Metrology and Certification (27-28 June 2019, Pyatigorsk, Russian Federation);
representative of COOMET – V.Hurevich, COOMET President (Belarus);
- NSCLI Board of Directors meeting (25-26 August 2019, Ohio, USA).
representative of COOMET – P. Neyezhnikov, COOMET Vice-President (Ukraine).

At the 55th meeting of the Euro-Asian Council for Standardization, Metrology and Certification (27-28 June 2019, Pyatigorsk, Russian Federation) an updated Protocol of Cooperation and Interaction in the field of metrology between COOMET and EASC was signed.

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

- 20th meeting of Directors of national metrology institutes (hereinafter referred to as NMIs) and representatives of the member states of the Metre Convention (17-18 October 2019, Sevres, Paris, France);
- 108th CIPM meeting, part 2 (October, 2019);
- 54th CIML meeting (22 -25 October, 2019, Bratislava, Slovakia);
- 56th meeting of Euro-Asian Council for Standardization, Metrology and Certification (EASC) (13 November, 2019, Shymkent, Kazakhstan);
- 49th meeting of STCMetr (23-24 April, 2019, Brest, Belarus) and 50th meeting of STCMetr (30-31 October, 2019, Tashkent, Uzbekistan), as well as different WGs of STCMetr;
- meetings of CIPM Consultative Committees (CCL, CCP, CCT) and related Working Groups,
- meetings of EURAMET TCs etc.

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

- COOMET–BIPM workshop "CIPM MRA review outcomes: comparisons and CMCs" for the Chairpersons of TC 1.1 – TC 1.12, TC 3.1 (2 April 2019, Dresden, Germany);
- Seminar on the current issues of metrology in the field of acoustics, ultrasound and vibration (27-29 August 2019, Mendeleevo, Russia) jointly with the TC 1.2 meeting;
- Seminar on current issues in the field of humidity measurements (27-29 August 2019, Irkutsk, Russia) jointly with the TC 1.10 meeting;
- Seminar "Determination of reverification intervals in legal metrology" (11 September 2019, Kiev, Ukraine) jointly with the TC2 meeting;
- COOMET seminar "Redefinition of the International System of Units (SI)" (3 October 2019, VNIIM, Saint Petersburg, Russia).

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

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

6. ACTIVITIES TO PROVIDE TRAINING AND RAISING PROFICIENCY LEVELS OF EXPERTS IN METROLOGY

During the reporting period representatives of NMIs of COOMET member-countries participated in the following seminars/training programs:

- COOMET seminar on the implementation of a new version of ISO 17034:2016 (14 May 2019, Moscow, Russia);
- training course "New frontiers for metrology: from biology and chemistry to quantum and data science" at the International School of Physics "Enrico Fermi" (4–10 July 2019, Varenna, Italy);
- COOMET seminar "Small volumes "piston pipettes" and "multi dispensers" (23–25 July 2019, Wolfen, Germany);
- COOMET seminar "CIPM MRA review outcomes: comparisons and CMCs" (10 September 2019, Bratislava, Slovakia) jointly with the meeting of TC 1.7 "Photometry and Radiometry";
- COOMET seminar "Drawing up CMC entries, passing intra- and interregional review to publish new and modify existing CMC entries" (22–24 October 2019, Kishenev, Moldova) jointly with the meeting of TC 1.3 "Electricity and Magnetism";
- BIPM training course "Optimizing the CIPM MRA - the KCDB 2.0" (4–8 November 2019, BIPM, Sevres, France).

On 5–6 June 2019, in Kazan, Russian Federation the VIII International Competition “The Best Young Metrologist of COOMET” was held.

More detailed information about all training events of COOMET is posted on the COOMET portal:

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

Further details on the separate fields of cooperation is provided in the reports of the Heads of COOMET Structural Bodies (COOMET Secretariat sent these materials on 26.03.2020; the reports are also published on the COOMET portal: <https://www.coomet.net/activities/coomet-committee-meetings/>).

DESCRIPTION OF THE SCOPE OF THE COOMET WORK PROGRAM

**1. List of proposed COOMET projects
(for the period from 1 April 2019 to 31 March 2020)**

No	Project ID	Subject field	Title
1.	780/RU/19	T	Comparisons of national reference gas calorimeters using samples of gas mixtures
2.	781/UZ-a/19	PR	Bilateral pilot comparison of spectral regular transmittance from 400 to 1000 nm
3.	782/RU/19	AQ	Pilot comparisons in the field of measuring of the mass fraction of moisture and protein in the grain
4.	783/UZ/19	EM	Pilot comparisons of the amplitude modulation coefficient of high-frequency oscillations
5.	784/RU/19	AQ	Pilot comparison "Water content in crude oil"
6.	785/RU/19	PR	Supplementary comparison of Laser Power Responsivity at wavelengths of 0,532; 1,064 and 10,6 μm
7.	786/RU-a/19	AUV	Comparisons of the results of amplitude-phase calibrations of hydrophones in the frequency range from 10 kHz to 500 kHz
8.	787/UZ/19	T	Pilot comparisons in the area of platinum resistance thermometers calibration in fixed points from triple point of water (0,01 $^{\circ}\text{C}$) to freezing point of aluminum (660,323 $^{\circ}\text{C}$)
9.	788/UZ/19	M	Pilot comparison of the unit kinematic viscosity of a liquid at temperatures 20 $^{\circ}\text{C}$ (250-400 mm^2/s), 25 $^{\circ}\text{C}$ (50-100 mm^2/s), 40 $^{\circ}\text{C}$ (20-70 mm^2/s), 60 $^{\circ}\text{C}$ (5-20 mm^2/s)
10.	789/UZ/19	M	Pilot comparisons of fluid density in the range of from 600 to 1000 kg/m^3
11.	790/UZ/19	AUV	Supplementary comparison on calibration of sound calibrators
12.	791/UZ/19	GM	Development of COOMET recommendations "Methods and approaches of metrological attestation of measurement procedures"
13.	792/RU/19	GM	Preparation for and holding of the seminar on the topic "Redefinition of the International System of Units (SI)" with the participation of COOMET TC Chairs and representatives of COOMET NMIs (3 October 2019, D.I. Mendeleev Institute for Metrology VNIIM, St.Petersburg, Russia)
14.	793/RU/19	RM	Organization and conduct of the 24 th meeting of COOMET Technical Committee 1.12 "Reference Materials"(TC 1.12 "RMs")
15.	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"
16.	795/UA/19	GM	Updating of Recommendation COOMET R/GM/15:2007: "Rules of Completing the Form of Calibration Certificates Issued by National Metrology Institutes within the CIPM MRA"
17.	796/UA/19	GM	Development of COOMET Recommendations on the expression of expanded measurement uncertainty (kurtosis method)
18.	797/BY/19	LM	Review of approaches to the metrological support of medical measuring instruments
19.	798/BY/19	EM	Pilot comparisons of the volumes of digital information transmitted via the Internet and telephony channels
20.	799/UA/20	EM	Supplementary comparisons of electric field strength measurements
21.	800/BY/20	L	Calibration of lengths of reference linear geodetic base lines
22.	801/BY/20	PR	Supplementary comparisons of measurement standards for polarization mode dispersion in optical fiber
23.	802/UZ/20	EM	Pilot comparisons in the field of measuring DC and AC voltage and current, electrical resistance

No	Project ID	Subject field	Title
24.	803/UA/20	GM/IT	The organisation and holding the BIPM-COOMET Workshop on the KCDB 2.0 within the BIPM Capacity Building & Knowledge Transfer Programme (CB&KT)
25.	804/UZ/20	PR	Pilot comparisons of measurement standards of attenuation and average power of a signal in optical fiber
26.	805/UA/20	PR	Supplementary comparison on spectrally-selective transmitting material
27.	806/RU/20	AQ	Pilot comparisons in the field of measuring the mass fraction of aluminum in pure aluminum
28.	807/RU/20	AQ	Pilot comparisons in the field of measuring the mass fraction of magnesium in pure magnesium
29.	808/RU/20	AQ	Pilot comparisons in the field of measuring the mass fraction of nickel in pure nickel
30.	809/RU/20	AQ	Pilot comparisons in the field of measuring the mass fraction of titanium in pure titanium

Total: 30 new projects
(the status of 2 of them was changed to agreed, 2 of them were completed)

**2. List of agreed COOMET projects
(for the period from 1 April 2019 to 31 March 2020)**

No	Project ID	Subject field	Title
1.	618/RU-a/13	AQ	Pilot comparison in the field of Ni-based alloy elemental analysis
2.	654/RU-a/14	AQ	Pilot comparison measurement in the field of human serum (category 10.1): Cholesterol in human serum
3.	754/RU-a/18	AQ	Pilot comparisons in the field of measurements of porosity and permeability of rock
4.	755/RU-a/18	AQ	Pilot comparisons in the field of measurements of porosity (pore size, specific pore volume) of aluminium oxide using mercury intrusion
5.	756/RU-a/18	AQ	Pilot comparisons in the field of measurements of oxygen and nitrogen mass fractions in the steel.
6.	786/RU-a/19	AUV	Comparisons of the results of amplitude-phase calibrations of hydrophones in the frequency range from 10 kHz to 500 kHz
7.	680/RU-a/16	F	Comparisons of national standards in the field of gas flow rate and volume, gas flow rates from 20 to 6500 m ³ /h
8.	175/RU-a/99	IR	A status of a measurement standard base in the field of ionizing radiation and radioactivity for the countries - members of COOMET
9.	731/BY-a/17	IT	Review of national education & training systems for the NMIs and metrologists of the COOMET member countries
10.	590/UA-a/12	L	Comparison of precision rangefinder settings
11.	740/UA-a/18	LM	Translation of WELMEC 7.2:2018 "Software Guide" (Measuring Instruments Directive 2014/32/EU)"
12.	546/UA-a/11	M	Supplementary comparisons of submultiply and multiply units of kilogram
13.	651/RU-a/14	M	Supplementary bilateral comparison of national reference instruments for nanoindentation
14.	665/UA-a/15	M	Supplementary bilateral comparison in the field of mass measurements
15.	694/MD-a/16	M	Comparison of mass standards with nominal values of 100 mg, 20 g, 1 kg and 10 kg
16.	711/TR-a/16	M	Comparison of absolute pressure in the range 0,3 mPa to 0,9 Pa
17.	712/TR-a/16	M	Comparison of absolute pressure in the range 0,03 Pa to 13 Pa
18.	767/GE-a/18	M	Bilateral supplementary comparison in the small volumes
19.	741/RU-a/18	PR	Spectral Irradiance, from 250 nm to 2500 nm
20.	781/UZ-a/19	PR	Bilateral pilot comparison of spectral regular transmittance from 400 to 1000 nm
21.	704/RU-a/16	T	Comparisons of temperature national standards at the triple point of mercury
22.	744/RU-a/18	T	Comparisons in the field of measurements of combustion energy of coals with different sulphur content
23.	777/BY-a/19	T	Pilot comparisons of standards for relative humidity units

**Total: 23 agreed projects
(3 of them were completed)**

**3. List of completed COOMET projects
(for the period from 1 April 2019 to 31 March 2020)**

№	Project ID	Subject field	Title
1.	583/RU/12	AQ	Pilot comparison: determination of dissolved oxygen in water concentration at the wide range
2.	754/RU-a/18	AQ	Pilot comparisons in the field of measurements of porosity and permeability of rock
3.	755/RU-a/18	AQ	Pilot comparisons in the field of measurements of porosity (pore size, specific pore volume) of aluminium oxide using mercury intrusion
4.	782/RU/19	AQ	Pilot comparisons in the field of measuring of the mass fraction of moisture and protein in the grain
5.	646/RU/14	AUV	Comparisons of the unit of underwater particle velocity
6.	709/RU-a/16	EM	Conduct additional bilateral comparisons of standards of harmonic distortion
7.	710/RU/16	EM	Conduct additional bilateral comparisons of standards of pulse voltage
8.	779/MD/19	IR	Arranging and holding of the 16th COOMET Technical Committee TC 1.9 "Ionizing Radiation and Radioactivity"
9.	774/UA/19	IT	The organisation and holding the Workshop within the BIPM Capacity Building & Knowledge Transfer Programme (CB&KT) for the Chairpersons of TC 1.1 – TC 1.12, TC 3.1 due to the expected revision of the CIPM MRA
10.	765/UA/18	L	The bilateral comparison of length standards for measuring end measures in the range up from 0,5 mm to 100 mm
11.	563/RU/12	L	Comparisons of length etalons in the field of roundness measurements.
12.	440/RU/08	L	International comparison of stabilized He-Ne/I ₂ lasers at 633 nm
13.	602/BY/13	LM	Preparation of an overview on the progress with prepackages control in COOMET member countries
14.	667/RU/15	LM	Development of Recommendations for metrological supervision performed by metrological services of legal entities
15.	703/UA-a/16	LM	The analysis of approaches to the metrological control of measuring systems
16.	653/RU/14	PR	Spectral Irradiance, from 200 nm to 350 nm
17.	793/RU/19	RM	Organization and conduct of the 24 th meeting of COOMET Technical Committee 1.12 "Reference Materials"(TC 1.12 "RMs")
18.	777/BY-a/19	T	Pilot comparisons of standards for relative humidity units

Total: 18 completed projects

**4. List of excluded COOMET projects
(for the period from 1 April 2019 to 31 March 2020)**

№	Project ID	Subject field	Title
1.	683/RU/16	EM	Comparison of the standard of the Russian Federation ГЭТ 202-2012 and the standards of Finland, France and Germany in the field of reproduction and measurement of the pulse current unit over the range from 1 up to 100 kA.
2.	652/UA/14	F	Bilateral comparisons of low pressure gas volume and volume flow standards
3.	685/MD/16	F	Comparisons of liquid flow rate standards
4.	564/RU/12	L	Comparisons of length etalons in the field of sphericity
5.	437/BY/08	LM	Development of a program for generating 'reference' data sets for the purpose of software testing
6.	586/RU/12	M	Pilot comparison in the field of measurements of liquids kinematical viscosity
7.	587/RU/12	M	Pilot bilateral comparison in the field of measurements of liquids kinematical viscosity
8.	588/RU/12	M	Comparison in the field of measurements of liquids kinematical viscosity
9.	677/BY/15	M	Key comparison in field of force measurement from 0 to 5000 N, from 2 to 100 kN, from 1 to 500 kN, from 10 to 2000 kN
10.	619/UA/13	RM	Development of CRM of phase composition of the Guinean and Guyanese bauxites for chemical and XRD analyses
11.	620/UA/13	RM	Development of CRM of disthene-sillimanite concentrate composition for chemical and spectral analysis.
12.	632/UA/14	RM	Development of CRM for composition of the components of raw milk (set)
13.	358/RU/06	RM	Development of CRMs for volumetric (mass) of oxygenate content in petrol (3 types)
14.	521/RU/11	RM	Development of CRMs for composition of calcium and zinc content in oils (3 types)
15.	536/RU/11	RM	Development of CRMs for sulphur trace impurities content in petroleum products (5 types)

Total: 15 excluded projects

SCHEDULE OF MEETINGS OF COOMET STEERING AND STRUCTURAL BODIES IN 2020
(as of 31 March, 2020)

Name of the event	Date	NMI, city, country
30th COOMET Committee meeting	1-2 April POSTPONED	Nyr-Sultan, Kazakhstan
25th meeting of Presidential Council	24-26 November	Germany
18th meeting of Joint Committee for Measurement Standards & COOMET seminar to discuss the draft COOMET Strategy for 2020-2025 and possible fields of joint scientific research	31 March POSTPONED	Nur-Sultan, Kazakhstan
TC 1.1 "General questions concerning measurements (General metrology)"	5-6 October	INM, Kishinev, Moldova
TC 1.2 "Acoustics, ultrasound, vibration"	Autumn	GEOSTM, Tbilisi, Georgia
TC 1.3 "Electricity and magnetism"	13-15 October	TÜBİTAK UME, Gebze, Turkey
TC 1.4 "Flow measurement"	6-8 October	BelGIM, Minsk, Belarus
TC 1.5 "Length and angle"	15-16 September	INIMET, Cuba
TC 1.6 "Mass and related quantities"	September	GEOSTM, Tbilisi, Georgia
TC 1.7 "Photometry and radiometry"	14-18 September	VNIIOFI, Moscow, Russia
TC 1.8 "Physical chemistry"	6-7 October	VNIIM, Sankt-Petersburg, Russia
TC 1.9 "Ionizing radiation and radioactivity"	September	VNIIFTRI, Mendeleevo, Russia
TC 1.10 "Thermometry and thermal physics" & Seminar on humidity	October	VNIIFTRI, Mendeleevo, Russia
TC 1.11 "Time and frequency"	21-22 October	BelGIM, Minsk, Belarus
TC 1.12 "Reference materials"	18 September	UNIIM – branch of VNIIM, Ekaterinburg, Russia
TC 2 "Legal metrology"	POSTPONED to April 2021	<i>being specified</i>
Quality Forum and TC 3.1 "Quality Forum Technical Committee"	25-27 February	PTB, Berlin, Germany
Quality Forum and TC 3.1 "Quality Forum Technical Committee"	September	Uzbekistan
TC 4 "Information and training"	October	Uzbekistan

PLANNED TRAINING ACTIVITIES WITHIN COOMET (2020)

Training Activity	Date	Venue
Online BIPM-COOMET Course on the issues, related to the new platform KCDB 2.0, for Chairpersons of COOMET Technical Committees and technical experts on CMC review	25-27 May 2020	ONLINE
EURAMET-COOMET workshop on pipette dispensers and dispensaries	4-6 March 2020 POSTPONED	GeoSTM, Tbilisi, Georgia
COOMET seminar to discuss the draft COOMET Strategy for 2020-2025 and possible fields of joint scientific research	31 March 2020 POSTPONED	Nur-Sultan, Kazakhstan
COOMET seminar on the issues, related to the new platform KCDB 2.0, for Chairpersons of COOMET Technical Committees and technical experts on CMC review	22-23 April 2020 POSTPONED	BelGIM, Minsk, Belarus
COOMET Seminar "Role of measurement uncertainty in conformity assessment decisions in legal metrology"	POSTPONED to April 2021	being specified
COOMET seminar "COOMET documents in the field of evaluating the results of calibrations and comparisons"	5-6 October 2020	INM, Kishinev, Moldova