



**COOMET-22/04**

# **Report of COOMET Secretariat 2011**

## REPORT OF COOMET SECRETARIAT (as of 31 December 2011)

The activity of COOMET in 2011 was carried out in all main areas and subject fields of cooperation stipulated in the Memorandum of Understanding.

### 1. General characteristic of the activity

The report was prepared based on the materials submitted by COOMET Committee members, Chairpersons of Structural Bodies and National COOMET Secretariats of member countries.

#### 1.1. Information on the implementation of COOMET projects

There are **548 proposed projects** as of 31 December 2011.

The lists of agreed, proposed, completed and deleted projects of COOMET as well as statistical information on the status of projects, dynamics of the number of proposed projects by years, distribution of projects by the fields of cooperation and by coordinating countries are given in *Appendix 1*.

The work on **79 agreed projects** (6 of which are on-going) was carried out in 2011.

**79 proposed projects** are under agreement. **34 new projects** were proposed in 2011: **9** for “Reference Materials”, **5** for “Mass and Related Quantities”, **per 3** for “Electricity and Magnetism”, “Length and Angle”, “Physical Chemistry”, “Information and Informational Technologies”, **per 2** for “Acoustics, Ultrasound, Vibration”, “Flow Measurement”, “Thermometry and Thermal Physics”, “Legal Metrology”, **1** for “General Metrology”.

During the reporting period **17 projects** were proposed by Russia, **11** by Ukraine, **3** by Belarus, Armenia, Kazakhstan and Uzbekistan proposed **1** project each.

**18 proposed projects** are related with regional comparisons of measurement standards of physical units, **7 projects** are aimed at the development of reference materials. **4 projects** are aimed at the organization and holding of meetings of the Structural Bodies as well as events within COOMET, **3 projects** aim at the development of COOMET documents. Training of the specialists of measuring, calibration and testing laboratories as well as the developing and maintaining the database on COOMET reference materials are covered by **1 project** each.

During the reporting period **28 projects** were agreed, **16** of them are related with comparisons in various subject fields (AUV, EM, M, PR, QM, T) included into the Programme of Comparisons of Measurement Standards of COOMET NMIs.

The total **number of projects completed** during the reporting period is **25**. They are aimed at carrying out comparisons of measurement standards of COOMET NMIs, developing reference materials and holding meetings of Structural Bodies and COOMET events (the detailed list of completed projects is given in part 3 of *Appendix 1* to this report).

In accordance with the decision of the 20<sup>th</sup> Meeting of COOMET Committee by means of the simplified procedure **35** projects were deleted in 2011 by reason of their completeness and non-actuality.

#### 1.2. Implementation of the CIPM MRA

**4417** CMC lines declared by NMIs of COOMET member countries were published in the KCDB as of 31 December 2011, including by countries and types of measurements:

Country	Total	AUV	L	TF	T	PR	M	EM	RI	QM
Belarus	158	8	13	31	27	3	2	12	51	11
Bulgaria	192	30	9	16	24	8	24	69	7	5
Germany	1671	76	92	25	69	74	209	263	266	597
Georgia	0									
Kazakhstan	13		3	4			6			
Cuba	88						12		76	
Lithuania	91		9	16	12		21	33		
Moldova	0									
Russia	1472	72	20	36	137	44	59	325	329	450
Romania	253	8	18	9	37	16	30	98	34	3
Slovakia	402	6	22	16	72	11	53	79	76	67
Ukraine	168	23	25	17	24		4	53	1	21

Belarus, Georgia, Kazakhstan, Cuba, Moldova, Russia, Ukraine declare their CMCs through COOMET (the total number of published CMCs is 1899). The rest of the countries make their declaration through EURAMET.

## 2. Meetings of COOMET bodies

The following meetings were held in 2011:

- 21<sup>st</sup> meeting of **COOMET Committee**  
(27–28 April 2011, Yerevan, Armenia);
- 16<sup>th</sup> meeting of **COOMET President's Council**  
(17–18 November 2011, Rostov-on-Don, Russia);
- 9<sup>th</sup> meeting of **the Joint Committee for Measurement Standards**  
(26 April 2011, Yerevan, Armenia).

Meetings of the **Technical Committees** of COOMET:

- **TC 1.3** “Electricity and Magnetism”  
(18–19 October 2011, Baku, Azerbaijan);
- **TC 1.4** “Flow Measurement”  
(23–26 October 2011, Ivano-Frankovsk, Ukraine);
- **TC 1.6** “Mass and Related Quantities”  
(27–30 September 2011, Saint-Petersburg, Russia);
- **TC 1.7** “Photometry and Radiometry”  
(5–6 April 2011, Kharkov, Ukraine);
- **TC 1.8** “Physical Chemistry”  
(25–26 May 2011, Saint-Petersburg, Russia);
- **TC 1.10** “Thermometry and Thermal Physics”  
(21–22 September 2011, Minsk, Belarus);
- **TC 1.12** “Reference Materials”  
(3–5 October 2011, Kharkov, Ukraine);
- **TC 2** “Legal Metrology”  
(6–7 September 2011, Tsaghkadzor, Armenia);
- **Quality Forum (QF)** and **TC 3.1** “Technical Committee for Quality Forum”  
(19–20 May 2011, Kyiv, Ukraine);
- **TC 4** “Information and Training”  
(28–29 September 2011, Astana, Kazakhstan).

**TC 1.1** “General Metrology”, **TC 1.2** “Acoustics, Ultrasound, Vibration”, **TC 1.5** “Length and Angle”, **TC 1.9** “Ionizing Radiation and Radioactivity” and **TC 1.11** “Time and Frequency” didn’t hold their meetings in 2011.

The Secretariat keeps and updates a schedule of meetings of COOMET bodies. The schedule for 2012 is given in *Appendix 2*.

### **3. Establishment of the Structural Bodies of COOMET**

In 2011 the activity on the establishment of Structural Bodies of COOMET continued within the on-going COOMET Project 274/BY/03 “Establishment of the Structural Bodies of COOMET”.

The information on the changes of structures, staffs of bodies, nominees for the positions of the chairpersons of their subcommittees submitted for the approval by the COOMET Committee will be considered within the relevant items of the Agenda.

### **4. Information activity**

#### **4.1. Preparation and publication of the COOMET Directory**

The Secretariat updated the information contained in the Directory (as of 31 March 2012). The electronic version of the Directory 2012 can be found on [www.coomet.net](http://www.coomet.net) and [www.coomet.org](http://www.coomet.org) and on the CD included in the set of documents of the meeting.

#### **4.2. Development and registration of COOMET publications**

In accordance with the resolutions of the 21<sup>st</sup> COOMET Committee meeting the following new publications and updated in 2011 were registered:

- **COOMET D9/2011** “COOMET Programme of Comparisons”;
- **COOMET R/RM/17:2011** “Guidelines for Issuing Certificate of Participant of COOMET CRM Interlaboratory Certification”;
- **COOMET R/GM/21:2011** “Use of concepts “error of measurement” and “uncertainty of measurement”. General principles materials”;
- **COOMET I/RM/2:2011** “Register of Certified Reference Materials of Composition and Properties of Substances and Materials Developed within COOMET”.

#### **4.3. Maintenance of the COOMET Website**

The COOMET website ([www.coomet.org](http://www.coomet.org)) is maintained by the experts of VNIIFTRI (Administrator is V. Bugayev); the page of the COOMET Quality Forum is updated by the experts of Slovak Metrology Institute.

The COOMET web-portal ([www.coomet.net](http://www.coomet.net)) is maintained by COOMET Secretariat and on-line editors of the pages of COOMET member countries and Technical Committees of COOMET.

The COOMET Project Database, information on COOMET Committee members, Chairpersons of structural bodies, COOMET publications were updated in 2011. The CMC database was updated in accordance with Appendix C of KCDB.

#### **4.4. Reports and information on the COOMET activity**

The COOMET Secretariat prepared **presentations and reports on the COOMET activity** for the following meetings:

- 26<sup>th</sup> meeting of JCRB  
(21–22 March 2011, Paris, France);

- 27<sup>th</sup> meeting of JCRB  
(14–15 September 2011, Vienna, Austria);
- 46<sup>th</sup> meeting of CIML  
(11–14 October 2011, Prague, Czech Republic);
- Round Table of Regional Legal Metrology Organizations  
(11 October 2011, Prague, Czech Republic);
- 5<sup>th</sup> General Assembly of EURAMET  
(6–10 June 2011, Sarajevo, Bosnia and Herzegovina);
- 27<sup>th</sup> General Assembly of APMP  
(8–9 December 2011, Kobe, Japan);
- meeting of Board of Directors of NCSLI  
(21, 27 August 2011, Gaylord, Maryland, USA);
- meeting of the Technical Committee for Quality of APMP  
(5 December 2011, Kobe, Japan);
- meeting of Developing Economies' Committee (DEC) of APMP  
(4 December 2011, Kobe, Japan);
- 39<sup>th</sup> meeting of EASC  
(11–12 May 2011, Turkmenbashi, Turkmenistan).

In accordance with the information received by the COOMET Secretariat articles about the events held under the aegis of COOMET appeared in 2011 in the national publications of Belarus, Kazakhstan, Russia and Ukraine.

## **5. Participation of COOMET representatives in International and National Metrology Events**

In 2011 official representatives of COOMET took part in the meetings of the following International Metrology Organizations where they presented information on the COOMET activities:

- 26<sup>th</sup> meeting of JCRB  
(21–22 March 2011, Paris, France)  
*COOMET representatives: N. Zhagora (Belarus), V. Krutikov, S. Komissarov, A. Chunovkina (Russia), M. Halaj (Slovakia), P. Neyezhmakov (Ukraine);*
- 27<sup>th</sup> meeting of JCRB  
(14–15 September 2011, Vienna, Austria)  
*COOMET representatives: N. Zhagora (Belarus), V. Krutikov, S. Komissarov, A. Chunovkina (Russia), M. Halaj, E. Kromkova (Slovakia), P. Neyezhmakov (Ukraine);*
- 46<sup>th</sup> meeting of CIML  
(11–14 October 2011, Prague, Czech Republic)  
*COOMET representatives: L. Isaev, S. Kononogov, S. Komissarov (Russia), P. Neyezhmakov (Ukraine);*
- Round Table of Regional Legal Metrology Organizations  
(11 October 2011, Prague, Czech Republic)  
*COOMET representatives: L. Isaev, S. Komissarov (Russia), P. Neyezhmakov (Ukraine);*
- 27<sup>th</sup> General Assembly of APMP  
(8–9 December 2011, Kobe, Japan)  
*COOMET representative: P. Neyezhmakov (Ukraine);*

- International Conference of NCSLI  
(22–25 August 2011, Gaylord, Maryland, USA)  
*COOMET representatives: V. Sapritskiy (Russia), P. Neyezhnikov (Ukraine).*

COOMET representatives participated in the meetings of CIPM Consultative Committees (CC) and their Working Groups (WG) in the following subject fields:

meeting of CCAUV, CCEM, CCQM, CCTF, meeting of Consultative Committee for Thermometry, meeting of RMO Working Group on CMC – CCAUV RMO WG and Working Group for strategic planning, CCAUV SPWG, meetings of the following Working Groups: for Flow measurement (WGFF-2011), CCM for hardness and pressure, CCPR WG-KC, for key comparisons and CMC quality, for gas analysis, for analysis of organic substances, for analysis of nonorganic substances, for bio-analysis, WG8.

COOMET representatives also participated in the meetings of RMOs' structural bodies: TCQS APMP, Developing Economies' Committee (DEC) and TCQM APMP, TCs for time and frequency, photometry and radiometry, length, TCQS EURAMET, TC AUV EURAMET, meetings of WG5 and WG17 IEC/TC 29, WG6, WG8, WG9 and WG14 IEC/TC 87, TC EURAMET for hardness and pressure.

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

- 33<sup>rd</sup> meeting of NTCMetr and 9 meeting of RG NTCMetr for theoretical metrology (RG TM)  
(19–20 April 2011, Astana, Kazakhstan);
- 14<sup>th</sup> meeting of directors of BIPM NMIs  
(25 May 2011, Sevres, France);
- meeting of VAMAS  
(May 2011, Rio de Janeiro, Brazil);
- 34<sup>th</sup> meeting of ISO/REMCO  
(12–15 July 2011, Delft, the Netherlands);
- meeting of Board of Directors of NCSLI  
(21, 27 August 2011, Gaylord, Maryland, USA);
- 2<sup>nd</sup> meeting of WG for the organization and holding intergovernmental interlaboratory comparison tests to check the qualification of testing laboratories (RG MSI NTCMetr)  
(24–25 August 2011, Bishkek, Kirgizstan);
- 35<sup>th</sup> General Assembly of ISO  
(21–23 September 2011, Delhi, India);
- 1<sup>st</sup> meeting of the WG under NTCMetr for actualization of normative legal documents on weight measuring instruments (RG PV NTCMetr)  
(29 September 2011, Saint-Petersburg, Russia);
- 10<sup>th</sup> meeting of RG NTCMetr on theoretical metrology (RG TM)  
(19 October 2011, Mendeleyevo, Russia);
- 75<sup>th</sup> General Assembly of IEC  
(24–28 October 2011, Melbourne, Australia),

as well as in a number of International and National Conferences and Workshops on metrological problems among which are:

- International Workshop “Ensuring Traceability of Measurements in National Metrological Institutes and Accredited Calibration and Testing Laboratories”  
(20 January 2011, Kiev, Ukraine);
- X All-Ukrainian Information and Training and Consultative workshop “Management in Medicine. Quality Assessment of Medical Equipment. Problems of Control of Output Parameters of Medical Equipment. Validation of Medical Equipment”  
(26–28 January 2011, Lvov, Ukraine);
- Meeting of European External Action Service  
(2–4 February 2011, Brussels, Belgium);
- IMEKO Conference “Metrological Traceability in the Globalization Age”  
(6–8 April 2011, Paris, France);
- 4<sup>th</sup> All-Russian Conference of COOMET Member Countries on Thermal Measurements, TEMPERATURE 2011  
(19–21 April 2011, Saint-Petersburg, Russia);
- CCQM Workshop “Role of Reliable and Traceable Microbiological Measurements to Provide Quality and Food Safety”  
(April 2011, Paris, France);
- 2<sup>nd</sup> International Workshop “Spectrometry of Ionizing Measurements in Radiation Control and Monitoring”  
(13 May 2011, Minsk, Belarus);
- VII International Conference “Problems of Industrial Heat Engineering”  
(23–27 May 2011, Kiev, Ukraine);
- 3<sup>rd</sup> Workshop on the Project EMRP JRP 3.1 “Long distance measurement in air”  
(27 May 2011, Prague, Czech Republic);
- European Frequency and Time Forum (EFTF)  
(May 2011, San Francisco, USA);
- Testing aiming at type approval of measuring instruments  
(26–27 July 2011, Auckland, New Zealand);
- 11<sup>th</sup> Ukrainian Conference on Space Research  
(29 August – 2 September 2011, Evpatoria, Ukraine);
- III All-Russian Scientific Conference with International Participation “Reference Materials in Measurements and Technologies”  
(12–17 September 2011, Yekaterinburg, Russia);
- 21<sup>st</sup> International Symposium “Metrology and Metrological Assurance 2011”  
(September 2011, Sozopol, Bulgaria);
- International Conference of NEWRAD  
(September 2011, USA);
- International Conference “MacroScale 2011”  
(4–6 October 2011, Vabern, Switzerland);
- International Scientific and Practical Conference Devoted to 20<sup>th</sup> Anniversary of the Independence of Ukraine “Standardization, Metrology and Certification: Integration into the International Cooperation”  
(14–15 October 2011, Astana, Kazakhstan);
- 1<sup>st</sup> International Scientific Conference “Measurements, Control and Diagnostics in Technical Systems”  
(October 2011, Vinnitsa, Ukraine);

- International Conference on VLBI (Very Long Baseline Radio Interferometry) (October 2011, Beijing, China);
- International Scientific and Technical Conference “Metrological Assurance of Energy Accounting in Ukraine” (1–2 November 2011, Kiev, Ukraine);
- International Conference on Precise Time And Time Intervals (November 2011, Los Angeles, USA);
- APMP Symposium (6 December 2011, Kobe, Japan);
- IMEKO TC 16 Conference “Pressure and Vacuum”.

**In 2011 COOMET Secretariat prepared and distributed among the participants of the cooperation the following documents:**

- schedule of meetings of governing bodies of international organizations for 2012;
- schedule of meetings of governing and working bodies of regional organizations for 2012;
- schedule of international conferences, symposiums and workshops on metrological problems for 2012.

The information can be found on COOMET web-portal ([www.coomet.net](http://www.coomet.net)) and on COOMET web-site ([www.coomet.org](http://www.coomet.org)).

## **6. Training and professional development of experts in metrology**

The following events were held in 2011:

### **6.1. Conferences and workshops under the aegis of COOMET**

- Training Workshop for the Preparation of the Planned Pilot Supplementary Comparison in the Field of Ionizing Radiation within COOMET Project 445/DE/08 (23–25 May 2011, Braunschweig, Germany);
- Training Workshop for the Preparation of the Pilot Comparison in the Field of Mass Measurements (23–25 May 2011, Astana, Kazakhstan);
- Training Workshop “Experience and Achievements on Legal Metrology” (7–8 September 2011, Erevan, Armenia);
- IV International Competition “Best Young Metrologist of COOMET – 2011” (15–17 June 2011, Moscow, Russia).

### **6.2. Training and on-the-job training of experts**

In accordance with information received by the Secretariat the following events on raising the proficiency level of experts in metrology were held in the reporting period:

- International Training Workshop “Metrological Tasks Associated with Shipment and Delivery of Natural Gas” (17–21 October 2011, Kiev, Ukraine).

In conclusion, I would like to thank all of the participants in COOMET activities who provided the COOMET Secretariat with the information for this report.

Pavel Neyezhmakov  
Head of COOMET Secretariat



## Appendix 1

**DESCRIPTION OF THE SCOPE OF COOMET COOPERATION****1. List of agreed COOMET projects**  
(as of 31 December 2011)

#	Project ID	Subject field	Name
1.	12/RU-a/92	TF	ERP determination on the basis of data from observatories of COOMET countries
2.	15/RU-a/92	TF	Intercomparisons of the National Time Scales.
3.	17/RU-a/92	TF	Research into the primary caesium standards
4.	168/RU-a/98	PR	A status of a measurement standards base in the field of photometry and radiometry for the countries - members of COOMET
5.	169/UA-a/98	RI	Rn - 222 volume activity in air measurement means comparison
6.	174/RU-a/99	TF	A status of a measurement standards base in the field of time and frequency for the countries - members of COOMET
7.	175/RU-a/99	RI	A status of a measurement standard base in the field of ionizing radiation and radioactivity for the countries - members of COOMET
8.	186/RU-a/99	RM	Development of the Programme of RM joint production within COOMET
9.	228/UA-a/01	T	Comparisons of national standards of the unit of combustion energy
10.	230/SK-a/01	AS	Interpretation and implementation of the quality systems of COOMET members RMOs in conformity with the ISO 17025 (INSISK)
11.	234/BY-a/01	AUV	Setting up a COOMET Working Group with the purpose to participate in the review of CMC data in the subject field "AUV"
12.	235/RU-a/01	M	Mutual Comparisons of the National and Secondary Standards of Pressure in the Field of Low Absolute Pressure in the Range $10^{-2}$ -1000 Pa
13.	257/SK-a/02	M	Mutual Comparisons of the results of calibration of 1 kg stainless steel mass standards
14.	271/RU-a/03	GM	Elaboration of the Program of COOMET comparisons and calibrations
15.	274/BY-a/03	IA	Establishment and organisation of work of COOMET Structural bodies
16.	278/UA-a/03	L	Conducting of comparisons of line scales comparators
17.	285/RU-a/03	T	Regional comparisons of national standards for temperature measurements in the range from the triple point of mercury to the zinc freezing point
18.	302/RU-a/04	GM	Development of the schemes for conducting and of algorithms for data processing of the supplementary COOMET comparisons arranged with the aim to support the CMCs of NMIs
19.	305/RU-a/04	GM	Metrology of nanotechnology
20.	308/RU-a/04	AUV	Key Comparison of the National Measurement Standards of the vibration parameters units (in regard to the vibration acceleration) in the frequency range from 40 Hz to 5 kHz
21.	318/RU-a/04	RI	Regional comparison COOMET.R(I)-K1 of national measurement standards of the Kerma in air for the energy of gamma radiation Co-60
22.	319/RU-a/04	RI	Comparison measurements of radionuclide volume sources
23.	331/LT-a/05	M	International Comparisons of the National Pressure Standards in the Field of Gauge Pressure in the range (10 - 100) MPa
24.	336/RU-a/05	GM	Development of the guidelines for COOMET KC data evaluation
25.	344/UA-a/05	EM	Keeping and maintenance of the State Standards of electrical power and power factor in order to provide an uniformity of measurements
26.	345/UA-a/05	EM	Keeping and maintenance of the State Standards of electrical capacitance and tangent of losses in order to provide an uniformity of measurements
27.	347/RU-a/05	GM	Possibility of simultaneous usage of concepts "errors of measurements" and "uncertainty of measurements" in different metrological tasks
28.	348/RU-a/05	GM	Analysis of the types and levels of the financial supporting of the National Standards keeping and development
29.	358/RU-a/06	RM	Development of CRMs for oxygenate content in petrol (4 types)
30.	362/RU-a/06	QM	Pilot comparisons in the field of measuring the aqueous glucose solutions

#	Project ID	Subject field	Name
31.	386/RU-a/07	RI	Standardization of Cs-137 radionuclide solution
32.	387/UA-a/07	T	Comparison of national standards of the unit of temperature at the fixed points of silver, gold and copper freezing
33.	395/BY-a/07	T	Regional comparisons of national measurement standards of the triple point of water for temperature measurements
34.	397/RU-a/07	M	The key comparison of national standards of absolute pressure in average pressure
35.	404/RU-a/07	IT	The development of the procedure and technology for the presentation on the COOMET web-site of data on calibration and management capabilities (CMC) of metrological centers (laboratories) not published on the BIPM web-site
36.	406/UA-a/07	F	Comparisons of mass and volume units national standards
37.	409/UA-a/07	EM	Comparison of the basic reference standard of the units of maximum values of the strength of impulse electric and magnetic fields of Ukraine (ІЭМІУ) and the national standard of the units of maximum values of the strength of impulse electric and magnetic fields of the Russian Federation ГЭТ148-93
38.	411/RU-a/07	EM	Key comparisons of reference instruments measuring high voltage alternating current
39.	412/UA-a/07	F	Realization of reference gas flow meter's test rigs comparisons in flow range: (4-160) m <sup>3</sup> /h
40.	417/UA-a/08	T	Supplementary comparisons of national standards of the unit of temperature at the fixed points of gallium melting, indium, tin and zinc freezing
41.	418/RU-a/08	RM	Development of CRM for composition of ilmenite concentrate (SO-35)
42.	426/BY-a/08	LM	Development of recommendation regarding realization of interlaboratory comparisons (PT schemes) for verification laboratories for assessing their technical competence
43.	434/BY-a/08	AUV	Comparison of national standards for sound pressure (Pa) in air using calibration of working standard microphones
44.	449/RU-a/08	EM	Key comparisons of DC measuring reference instruments
45.	452/SK-a/09	F	Comparison of cold water flow calibration laboratories in a range of flow rates (3 - 20) m <sup>3</sup> /h
46.	469/RU-a/09	EM	International supplementary comparisons of the inductance standards for the working frequencies up to 10 MHz
47.	474/RU-a/09	RM	Development of CRM for composition of copper
48.	482/BY-a/09	AUV	Comparison of measurements of velocity of longitudinal ultrasonic wave propagation in solid media by impulse method
49.	495/RU-a/10	T	The pilot thermal conductivity comparison in the range from 0.03 to 0.05 W•m <sup>-1</sup> •K <sup>-1</sup> at temperature from 10 to 40 °C
50.	496/BY-a/10	RM	Revision of Recommendation COOMET R/RM/17:2007 "Guidelines for issuing Certificate of the participant of COOMET CRM inter-laboratory certification"
51.	502/RU-a/10	RM	International comparison tests of CRMs for composition of copper oxide (OM-2, OM-7)
<b>As is reported from 1 of January 2011 to 31 of December 2011</b>			
52.	366/RU-a/06	PR	Comparison of reference materials of whiteness
53.	368/BY-a/06	PR	Bilateral comparisons of the units of luminous intensity and illumination
54.	375/RU-a/06	QM	"Pilot comparisons "Determination of gene-modified objects in food
55.	399/RU-a/07	GM	Methodology for uncertainty evaluation of measurement results obtained by data processing software
56.	420/RU-a/08	GM	Development of the Recommendation for uncertainty evaluation in calibration
57.	422/RU-a/08	GM	Development of the COOMET recommendation "Calibration techniques. General requirements"
58.	429/CU-a/08	PR	Comparisons of measurement standards of the units of spectral regular transmittance in the (250 to 900) nm wavelength range
59.	438/RU-a/08	PR	International comparisons of national measurement standards of the unit of refractive index
60.	439/RU-a/08	PR	International comparisons of national measurement standards of the unit of an angle of rotation of a plane of polarization

#	Project ID	Subject field	Name
61.	461/RU-a/09	PR	Comparisons of measurement standards of the unit of laser power (0.532, 10,6 microns)
62.	463/RU-a/09	RM	Additional certification of CRM 8515-2004 for composition of iron ore (SO-20)
63.	464/RU-a/09	RM	Additional certification of CRM 8516-2004 for composition of manganese ore (SO-21)
64.	466/RU-a/09	RM	Development of CRM for composition of zircon concentrate (SO-36)
65.	483/RU-a/09	QM	Key comparisons of primary standards of concentration of components in gas media - NO in Nitrogen (100 and 1000 $\mu\text{mol/mol}$ )
66.	484/RU-a/09	QM	Key comparisons of primary standards of concentration of components in gas media - SO <sub>2</sub> in Nitrogen (100 and 1000 $\mu\text{mol/mol}$ )
67.	488/RU-a/10	T	Regional comparisons of national standards of the energy of combustion by means of gas mixes
68.	489/RU-a/10	T	Regional comparisons of national standards of the energy of combustion by means of high-purity graphite
69.	500/UA-a/10	TR	Development of COOMET Document "COOMET Web-Portal. General Provisions. Procedure for Maintaining and Submitting Information"
70.	503/RU-a/10	RM	Development of CRM for composition of turf-podzol heavy-loamy soil SADPP -07 (agrochemical parameters)
71.	510/KZ-a/10	TR	To find out the needs of COOMET member-countries in training and probations
72.	512/RU-a/10	M	Supplementary comparisons of national standards of torque
73.	513/DE-a/10	EM	Supplementary bilateral comparison of the measurement of current transformers (CTs)
74.	516/RU-a/11	EM	Pilot comparison of national standard instruments for magnetic loss power in electrotechnical steel at a frequency of 50 Hz
75.	518/UZ-a/11	TR	Training of specialists of measuring, calibration and testing laboratories
76.	531/RU-a/11	AUV	Comparisons of free-field hydrophone calibrations in a lab water tank at low sound frequencies (from 250 Hz to 8 kHz)
77.	540/UA-a/11	QM	Key comparison COOMET.QM-K36. "Electrolytic conductivity 0,5 S/m"
78.	541/RU-a/11	TR	Working out of the recommendations on the content of educational programs and trainings of experts within COOMET
79.	543/AM-a/11	RM TR	Development and administration a database of RM of COOMET

**Total: 79 agreed projects**

## 2. List of proposed COOMET projects (as of 31 December 2011)

#	Project ID	Subject field	Name
1.	252/UA/02	RM	Development of RMs of special carbon steels
2.	255/RU/02	RI	Comparisons of the software (programs - measurement techniques) of scintillate spectrometers for activity measurements
3.	258/RU/02	M	Mutual Comparisons of the results of calibrations of the multiples and submultiples of the kilogram
4.	259/RU/02	M	COOMET comparisons in the field of force measurements
5.	260/UA/02	M	Weighing of vehicles in motion
6.	262/LT/02	M	Development of a data base of the results of finished comparisons in the field of "Mass and related quantities"
7.	267/RU/02	EM	Comparison of Standards the units of electromagnetic power flux density ( $W/m^2$ ) at frequencies of 2,45 GHz and 10,0 GHz
8.	294/RU/03	M	International Comparisons of the National Pressure Standards in the Field of Exressive Pressures in the range (0,05-0,5) MPa
9.	295/RU/03	M	Mutual Comparisons of the He leaks in range $(10^{-6}-1) m^3 \cdot Pa/s$
10.	303/DE/04	M	Bilateral key comparison of National Vickers hardness standards
11.	317/DE/04	M	Bilateral key comparison of national Vickers hardness standards
12.	333/RU/05	M	Intercomparisons of standards in the viscosity field
13.	341/RU/05	M	Key comparison of Brinell and Vickers hardness scales
14.	367/RU/06	QM	Pilot comparison in the field of blood elements studies
15.	370/RU/06	L	Interlaboratory comparison of length standards in the nanometer range
16.	371/KZ/06	M	Bilateral key comparisons of national Rockwell and Rockwell superficial hardness scales standards
17.	389/RU/07	RI	Comparison of the well-type ionization chamber (IC) calibrations factors for the medical radionuclides ("Dosecalibrators")
18.	398/RU/07	TF	Comparisons of the National Standards of Time and Frequency with RF scale UTC(SU)
19.	410/UA/07	RI	COOMET Regional comparisons of National standards of consumed dose unit in water for gamma-radiation Co-60
20.	414/UA/08	RM	Revision of COOMET Document R/RM/5:2002 "COOMET Recommendation. Contents and rules for drawing up documentation on reference materials developed within COOMET"
21.	423/RU/08	RI	Standardization of Eu-152 radionuclide solution
22.	425/BY/08	LM	Development of a template of test procedure for software of measuring instruments
23.	427/BY/08	LM	Analysis of requirements in the field of legal metrology including examples of application of these requirements to measuring instruments
24.	435/RU/08	QM	Pilot comparisons in the field of aerosol particles mass concentration measurements
25.	437/BY/08	LM	Development of a program for generating 'reference' data sets for the purpose of software testing
26.	440/RU/08	L	International comparison of stabilized He-Ne/12 lasers at 633 nm
27.	441/RU/08	LM	Development of template of bilateral agreement on recognition of national prepackages control mark
28.	442/UA/08	LM	Analysis of criteria of technical competence used for assessment of verification laboratories
29.	443/RU/08	L	Comparisons of national standards in the area of measuring surface density of coatings within the range of (0,001-1,000) kg/m <sup>2</sup> and coating thickness within the range of (1-100) $\mu m$
30.	444/DE/08	M	Key comparison of national pressure standards in the range 100 Pa to 5 kPa of gauge pressure
31.	445/DE/08	RI	Comparison of the national standards of air kerma for Cs-137 at protection level
32.	446/DE/08	RI	Comparison of the national standards of air kerma for low-energy x-rays
33.	447/DE/08	RI	Comparison of the national standards of air kerma for medium-energy x-

#	Project ID	Subject field	Name
			rays
34.	450/UA/09	L	Comparisons of reference instruments of unit are length for parameters of a roughness
35.	451/KZ/09	RM	Development of the List of certified reference standards to be transported for metrological certification, which are exempted from customs duties, taxes and special permits according to clauses 1-3 of Agreement of February the 10, 1995
36.	462/RU/09	RI	Comparisons of measurement standards of the unit of laser power (0.532, 10,6 microns)
37.	468/RU/09	EM	Additional comparisons of amplitude modulation depth HF oscillations
38.	478/UA/09	TR	Creation of a COOMET working Web portal
39.	479/RU/09	QM	Supplementary comparisons in the field of moisture mass fraction measurements in cereal grain and cereal products
40.	486/RU/10	T	Regional comparisons of copper cells for contact thermometry
41.	487/RU/10	T	The regional comparisons of thermocouples of types S
42.	490/RU/10	EM	Supplementary comparisons of AC high voltage measuring reference systems
43.	491/UA/10	LM	Development of recommendations of COOMET "General requirements to the competence of verification laboratories"
44.	492/DE/10	RD	Development of a concept for joint metrological research in COOMET member countries
45.	494/RU/10	T	Supplementary comparisons of national standards for temperature measurements in the range from the triple point of water to the zinc freezing point
46.	498/RU/10	RM	Development of publication "COOMET Recommendation. The content and procedure of works on CRM comparisons within COOMET"
47.	499/BY/10	F	Development of harmonized procedures for natural gas measuring by means of gas meters
48.	501/UA/10	L	Comparisons of optical standards of flatness
49.	504/RU/10	T	Comparisons of national standards for temperature measurements in the triple point of mercury
50.	507/BY/10	L	Comparison of standards of unit of length to measure parameters of gear wheels
51.	508/RU/10	QM	Pilot comparisons in the field of nitrogen mass fraction measurements in milk products
52.	514/RU/10	EM	Comparison of the state primary special standard of the Russian Federation ГЭТ 178-2010 and the reference standards of Ukraine and Germany of the intensity units of pulse electric and magnetic fields in ultrawide band short pulse range
53.	515/UA/11	M	Bilateral comparison of the force primary standards
54.	519/RU/11	QM	Pilot comparisons in the field of ethanol mass fraction measurements in aqueous solutions
55.	520/RU/11	QM	Pilot comparison in the field of measurements of hydrogen ions amount content (mol/kg) in hydrochloric acid solution
56.	521/RU/11	RM	Development of CRMs for composition of calcium and zinc content in oils (3 types)
57.	522/RU/11	RM	Organization and conducting the 16th meeting of COOMET Technical Committee 1.12 "CERTIFIED REFERENCE MATERIALS" (TC 1.12 "CRMs")
58.	523/BY/11	LM	Development of a procedure for attributing technical devices to measuring instruments
59.	524/UA/11	L	Intercomparison of the national standards unit of the plane angle
60.	525/UA/11	RM	Development of Certified Reference Material Steel 09Г2С for chemical analysis and analyzers of burning
61.	526/UA/11	RM	Development Certified Reference Material of High Alloyed High Manganese Steel for Spectral Analysis
62.	527/RU/11	L	Additional comparisons of surface density of coatings
63.	528/KZ/11	M	Pilot comparisons of submultiply and multiply units of kilogram
64.	529/RU/11	L	International comparison of interference plants for measuring 20-meter long

#	Project ID	Subject field	Name
			tapes
65.	530/BY/11	EM	Comparison of the standards of the unit DC voltage
66.	532/UA/11	F	Comparison of standards in field of hot water flow measurement
67.	533/BY/11	LM	Development of a recommendation for determining amount of prepackage filling with the purpose to make a decision whether this prepackage is a misleading one
68.	534/UA/11	F	Arranging and holding of the 8th COOMET Technical Committee TC 1.4 "Flow measurement" meeting
69.	535/UA/11	AUV	Comparison of the standards of the unit of power ultrasound in the water in the frequency range from 2 to 15 MHz
70.	536/RU/11	RM	Development of CRMs for sulphur trace impurities content in petroleum products (5 types)
71.	537/RU/11	RM	Development of CRMs of ultimate temperature of diesel fuel filterability on a cold filter (2 types)
72.	538/RU/11	RM	Development of CRMs of lead concentration in motor petrol (4 types)
73.	539/RU/11	RM	Development of CRMs of iron concentration in motor petrol (4 types)
74.	542/RU/11	EM	Comparison of Josephson Voltage Standards at 10 V
75.	544/RU/11	T	Regional comparison humidity standards of gases. Dew/frost point temperature -50 oC to +20 oC
76.	545/UA/11	M	Comparisons of complex of static volume measuring devices
77.	546/UA/11	M	Key comparisons of submultiply and multiply units of kilogram
78.	547/RU/11	GM	Preparation for and holding the international seminar "Mathematics, statistics and computation to support measurement quality" and one-day satellite meeting on "Metrological software testing" June 5-7, 2012, St.Petersburg, Russia
79.	548/UA/11	M	Supplementary bilateral comparisons of submultiply and multiply units of kilogram

**Total: 79 proposed projects**

### 3. List of completed COOMET projects (for the period of 1 January 2011 to 31 December 2011)

#	Project ID	Subject field	Name
1.	226/DE-a/01	AUV	Pressure reciprocity calibration of LS1P microphones
2.	265/UA-a/02	L	Conducting of comparisons of highest accuracy interferometers for gauge blocks measurements
3.	277/UA-a/03	L	Conducting of comparisons of highest accuracy interferometers for gauge blocks measurements
4.	301/UA-a/04	GM	The development of recommendations on drawing up the calibration and measurement certificates, which are issued by COOMET national metrological institutes according to MRA
5.	316/UA-a/04	AUV	Bilateral comparison by means of calibration of the microphone type LS1P
6.	390/BY-a/07	L	"International comparison of length standards in the range measurement of gauge blocks
7.	396/UA-a/07	EM	Comparison of AC voltage ratio standards
8.	400/RU-a/07	QM	Key comparisons of standard natural gas samples
9.	401/RU-a/07	QM	Key comparisons of standard samples of CO gas mixtures in Nitrogen (10 and 1000 ppm)
10.	405/RU-a/07	AUV	Comparisons of the sound pressure standards in water in the low frequency and infrasound range (2 kHz to 4 kHz)
11.	413/KZ/07	RM	Revision of COOMET document R/RM/6:1998 "COOMET Recommendation "Register of certified reference materials of composition and properties of substances and materials developed within COOMET. Basic principles"
12.	415/RU-a/08	RM	Development of CRM (2 types) for composition of soil (agrochemical parameters)
13.	424/BY-a/08	LM	Translation and analysis of new edition of VIM
14.	431/UA-a/08	AUV	The comparison of the measurement standards of the pressure unit in air at low frequency range
15.	448/RU/08	AUV	Comparison of longitudinal ultrasonic wave propagation velocity in solid media
16.	455/RU-a/09	RM	Pilot comparisons of certified reference materials of alloyed steel, type 5XB2CΦ (GSO 918-90P), X6BΦ (GSO 1527-84P) и 31X19H9MBET (GSO 2251-82)
17.	465/RU-a/09	RM	Development of CRM for composition and properties of coal, T rank (SO-34)
18.	470/RU-a/09	EM	Pilot comparisons of national standards in the field of measuring the ratio and angle scaling conversion of sinusoidal current (MPST) in the range 1 ... 10000A/5A(1A)
19.	473/RU-a/09	AUV	Pilot study of the sound pressure standards in water (for free-field calibration) in the frequency range 250 Hz to 200 kHz
20.	475/RU-a/09	RM	Conducting of international comparison tests of CRMs for composition of graphite powder SOG – 21 (a set of 5 CRM types)
21.	476/GE/09	TR	Preparing and conducting the workshop "Implementation of Quality Management Systems at NMIs according to ISO/IEC 17025"
22.	493/RU-a/10	QM	Bilateral comparison: Determination of fullerenes C60 and C70 mass fraction in fullerene concentrate
23.	497/RU-a/10	RM	Organization and conducting the 15th meeting of COOMET Technical Committee 1.12 "CERTIFIED REFERENCE MATERIALS" (TC 1.12 "CRMs")
24.	506/GE/10	TR	2 days training "Seminar on measurement of uncertainty in the field of Mass Metrology". Preparation of a comparison in the field of mass metrology with practical demonstration of necessary steps for getting CMC entries in the KCDB of BIPM"
25.	509/BY/10	RI	Organization and conducting the 9 meeting of COOMET Technical Committee 1.9 "Ionising radiation and Radioactivity"

**Total: 25 completed projects**

**4. List of cancelled COOMET projects**  
(for the period of 1 January 2011 to 31 December 2011)

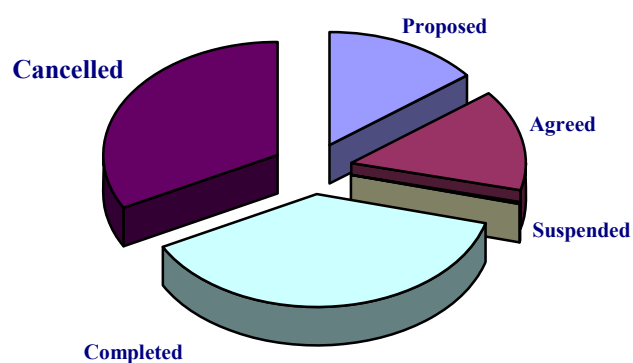
#	Project ID	Subject field	Name
1.	157/UA-a/97	PR	Creation and comparison of high precision transducers for measurement of energy and power of high level laser radiation
2.	170/UA-a/98	EM	The state of the standard base of the countries - participants of COOMET on the basic electric quantities
3.	190/RU-a/99	F	Recommendations on Measurements of Quantity both Quality of Oil and Petroleum using dynamic and static methods
4.	192/RU-a/99	F	Working Out the Recommendations on Check, Metrological Approving and Calibration of Sampling Systems for Oil and Petroleum
5.	206/RU-a/00	LM	The analysis of the acts on metrology and preparation of the proposals on harmonisation of the requirements, rules and norms.
6.	208/UA/03	LM	Preparation of COOMET Recommendation concerning formal description of bilateral agreements for mutual acceptance of the test results and the initial verification of measuring instruments
7.	209/RU/00	GM	Development of a recommendation for applying "Guide to the expression of uncertainty in measurement"
8.	211/RU-a/00/06	QM	Carrying out interlaboratory comparisons on the determination of toxic microimpurities in vodkas
9.	221/RU-a/00	L	Metrological assurance of uniformity of measurements of deviations from straightness and flatness
10.	222/RU-a/01	PR	Development of new methods and new types of high precision measuring instruments for measuring irradiance in the range from 200 to 400 nm
11.	223/RU-a/01	PR	Comparison of standard measuring instruments to measure optical fiber parameters
12.	224/RU-a/01	PR	Improvement of a metrological assurance system of instruments for measuring optical radiation average power in FOTS
13.	225/RU-a/01	PR	Comparisons of national measurement standards of the unit of optical radiation average power in FOTS
14.	254/RU/02	EM	Comparison of Voltage Standards at 1 V
15.	276/RU-a/03	PR	Comparisons of measurement standards of the unit of refractive index
16.	283/UA-a/03	L	Comparison of range-finder equipment of higher precision
17.	284/DE/03	EM	Comparison of Josephson array voltage standards by using a portable Josephson transfer standard
18.	311/UA-a/04	PR	Comparison of national measurement standards of the unit of average power of laser radiation
19.	313/UA-a/04	L	The comparison of the flatness standards
20.	315/UA-a/04	L	The metrological measurement assurance of the coating thickness and films up to 10 $\mu\text{m}$
21.	332/RU-a/05	L	Comparisons of the external diameter (plug gages) standards
22.	343/MD-a/05	TR	Development of recommendations on working out criteria and structure of training programs in the field of metrology
23.	360/SK/06	AQ	Arranging and holding of the Workshop "Quality and Metrology"
24.	376/RU-a/06	T	3-rd All-Russia Conference with international contributions on Temperature Measurements "TEMPERATURE 2007"
25.	377/UA/06	L	The 6 <sup>th</sup> meeting of COOMET TC 1.5
26.	388/BG/07	TR	XII national scientific symposium with international participation "Metrology and metrology assurance 2007" (September, 10-14, 2007, Sozopol, Bulgaria)
27.	394/RU/07	GM	Organization of the meeting of TC 1.1 June 22, 2007
28.	408/UA/07	EM	Comparisons of national standards of direct voltage at the voltage of 1V
29.	419/UA/08	L	The 7th meeting of COOMET TC 1.5
30.	433/BY/08	F	The harmonization of normative base on metrological maintenance of turbine gas meters
31.	436/RU/08	QM	Pilot comparisons in the field of moisture mass fraction measurements in barley cereal grain
32.	471/RU/09	GM	Preparation and holding of the workshop for NMI Directors "10 years of CIPM MRA: results and perspectives of the cooperation" and 23rd JCRB meeting on the 22nd – 24th of September, 2009, in Kazan



#	Project ID	Subject field	Name
33.	477/UA/09	L	The 7th meeting of COOMET TC 1.5
34.	480/MD/09	RI	Arranging and holding the 6d meeting of COOMET correspondents and coordinators in the field of IONIZING RADIATION and RADIOACTIVITY (TC 1.9)
35.	517/RU-a/11	T	4-rd All-Russia and COOMET Conference on Temperature Measurements "TEMPERATURE 2011"

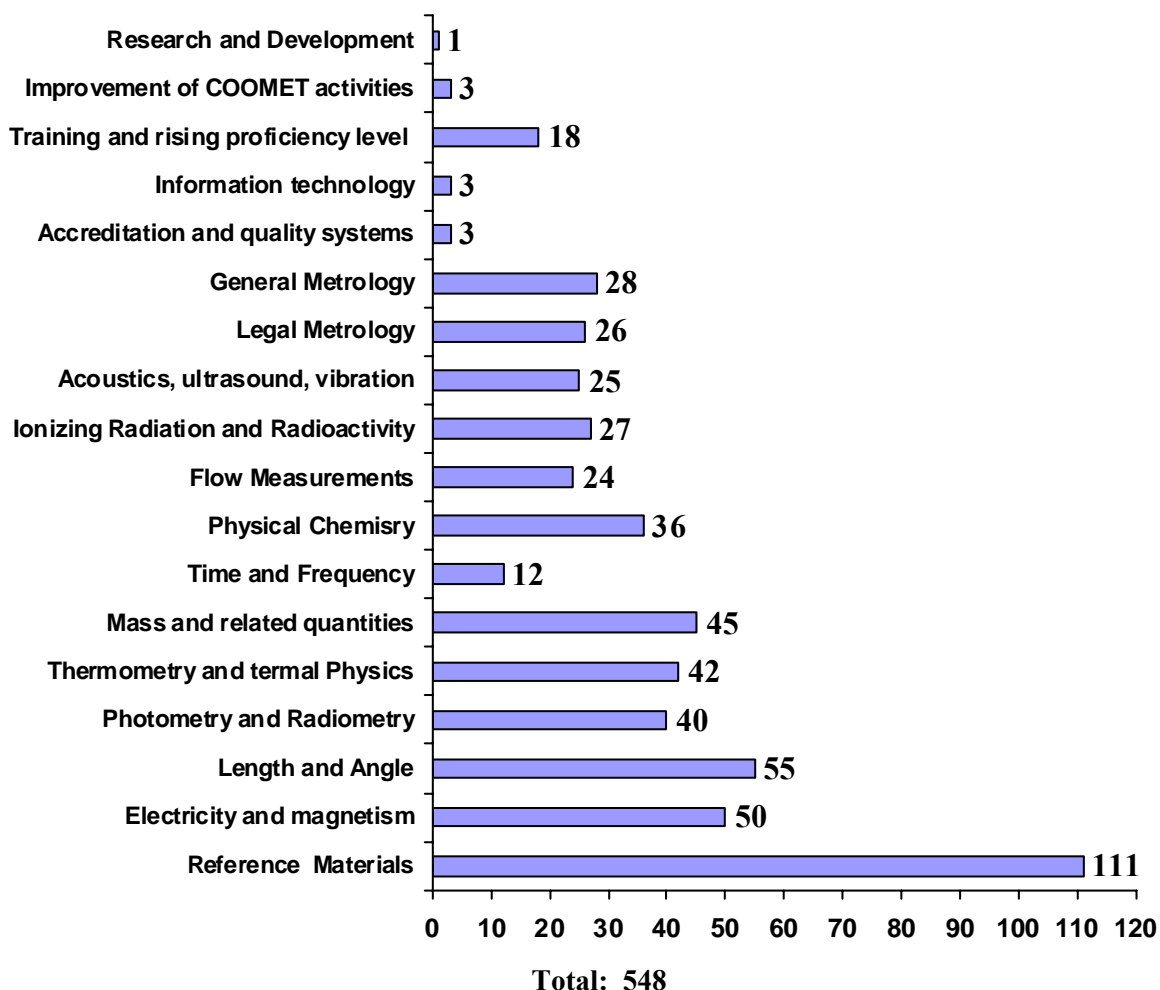
**Total: 35 cancelled projects**

### 5. Status of COOMET projects (as of 31 December 2011)

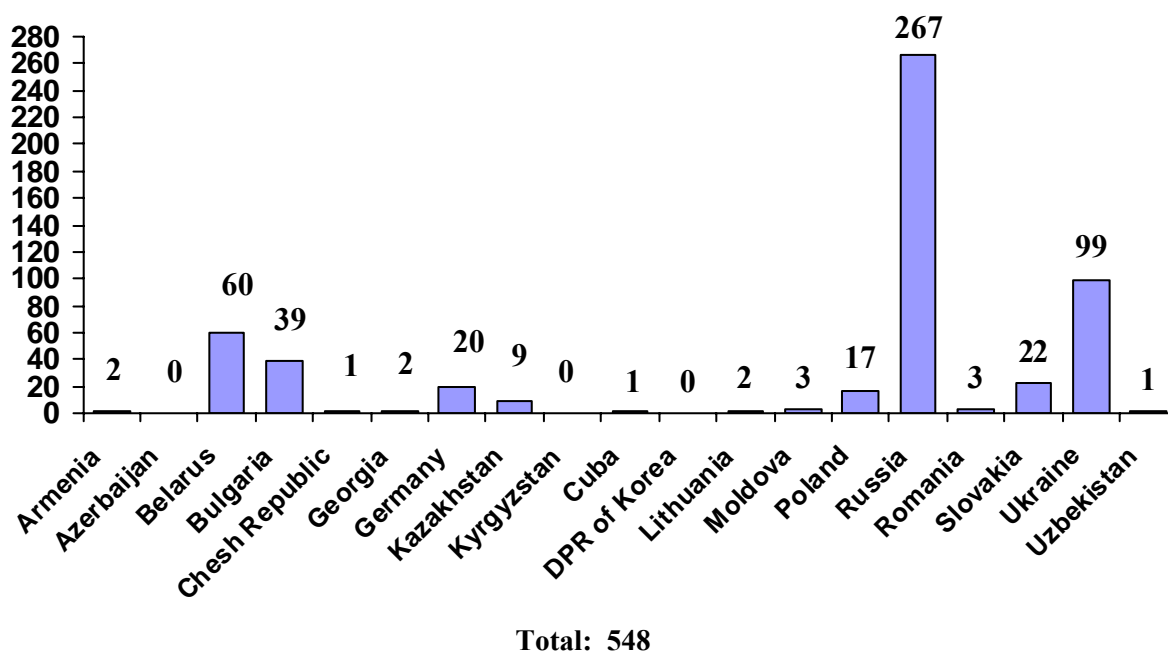


Status	Number of projects
Proposed	79
Agreed	79
Suspended	2
Completed	209
Cancelled	179
<b>Total</b>	<b>548</b>

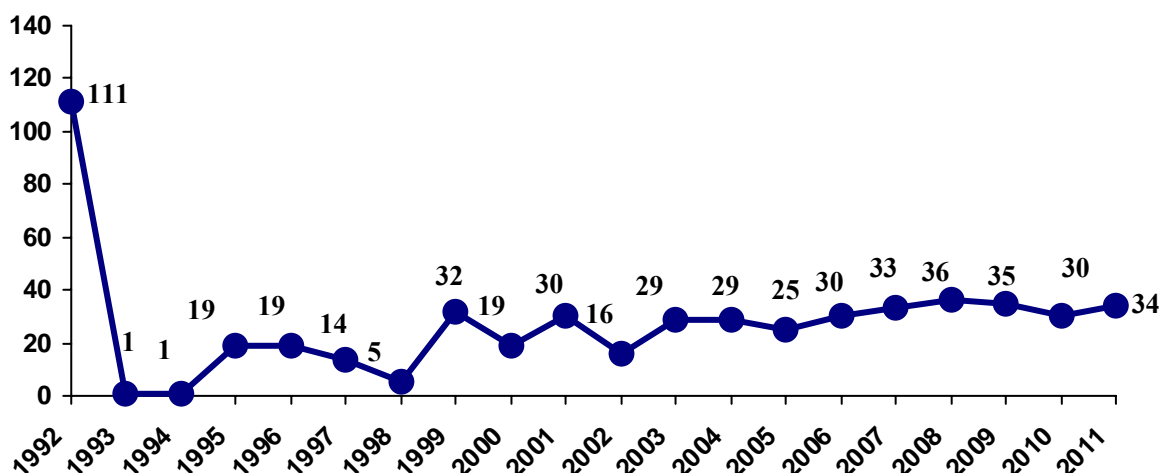
## 6. Distribution of COOMET projects by fields of cooperation (as of 31 December 2011)



## 7. Distribution of proposed COOMET projects by coordinating countries (as of 31 December 2011)



**8. Distribution of COOMET Projects by date of registration  
in the COOMET Working Programme  
(as of 31 December 2011)**



**9. COOMET projects proposed in 2011  
(as of 31 December 2011)**

#	Project	Subject field	Name	NMI Coordinator
1.	515/UA/11	M	Bilateral comparison of the force primary standards	DP "Ukrmetr-teststandart", Ukraine
2.	516/RU/11	EM	Pilot comparison of national standard instruments for magnetic loss power in electrotechnical steel at a frequency of 50 Hz	UNIIM, Russia
3.	517/RU/11	T	4-rd All-Russia and COOMET Conference on Temperature Measurements "TEMPERATURE 2011"	VNIIM, Russia
4.	518/UZ/11	TR	Training of specialists of measuring, calibration and testing laboratories	NIISMS, Uzbekistan
5.	519/RU/11	QM	Pilot comparisons in the field of ethanol mass fraction measurements in aqueous solutions	VNIIM, Russia
6.	520/RU/11	QM	Pilot comparison in the field of measurements of hydrogen ions amount content (mol/kg) in hydrochloric acid solution	UNIIM, Russia
7.	521/RU/11	RM	Development of CRMs for composition of calcium and zinc content in oils (3 types)	OAO "VNII NP", ANO NPO "INTEGRISO", Russia
8.	522/RU/11	RM	Organization and conducting the 16th meeting of COOMET Technical Committee 1.12 "CERTIFIED REFERENCE MATERIALS" (TC 1.12 "CRMs")	UNIIM, Russia
9.	523/BY/11	LM	Development of a procedure for attributing technical devices to measuring instruments	BelGIM, Belarus
10.	524/UA/11	L	Intercomparison of the national standards unit of the plane angle	DP "Ukrmetrtest-standart", Ukraine
11.	525/UA/11	RM	Development of Certified Reference Material Steel 09Г2С for chemical analysis and analyzers of burning	DP "UkrNII-Specstal", NSC "IM", Ukraine
12.	526/UA/11	RM	Development Certified Reference Material of High Alloyed High Manganese Steel for Spectral Analysis	JSC "Metal and quality", NSC "IM", Ukraine
13.	527/RU/11	L	Additional comparisons of surface density of coatings	UNIIM, Russia
14.	528/KZ/11	M	Pilot comparisons of submultiply and multiply units of kilogram	RSE "KazInMetr", Kazakhstan, NSC "IM", Ukraine
15.	529/RU/11	L	International comparison of interference plants for measuring 20-meter long tapes	VNIIM, Russia

#	Project	Subject field	Name	NMI Coordinator
16.	530/BY/11	EM	Comparison of the standards of the unit DC voltage	BelGIM, Belarus, VNIIM, Russia
17.	531/RU/11	AUV	Comparisons of free-field hydrophone calibrations in a lab water tank at low sound frequencies (from 250 Hz to 8 kHz)	VNIIFTRI, Russia
18.	532/UA/11	F	Comparison of standards in field of hot water flow measurement	DP "Ukrmetrtest-standart", Ukraine
19.	533/BY/11	LM	Development of a recommendation for determining amount of prepackage filling with the purpose to make a decision whether this prepackage is a misleading one	BelGIM, Belarus
20.	534/UA/11	F	Arranging and holding of the 8th COOMET Technical Committee TC 1.4 "Flow measurement" meeting	NSC "IM", Ukraine
21.	535/UA/11	AUV	Comparison of the standards of the unit of power ultra-sound in the water in the frequency range from 2 to 15 MHz	DP NDI "Systema", Ukraine
22.	536/RU/11	RM	Development of CRMs for sulphur trace impurities content in petroleum products (5 types)	OAO "VNII NP", ANO NPO "INTEGRSO", Russia
23.	537/RU/11	RM	Development of CRMs of ultimate temperature of diesel fuel filterability on a cold filter (2 types)	OAO "VNII NP", ANO NPO "INTEGRSO", Russia
24.	538/RU/11	RM	Development of CRMs of lead concentration in motor petrol (4 types)	OAO "VNII NP", ANO NPO "INTEGRSO", Russia
25.	539/RU/11	RM	Development of CRMs of iron concentration in motor petrol (4 types)	OAO "VNII NP", ANO NPO "INTEGRSO", Russia
26.	540/UA/11	QM	Key comparison COOMET.QM-K36. "Electrolytic conductivity 0,5 S/m"	DP "Ukrmetrteststandart", Ukraine
27.	541/RU/11	TR	Working out of the recommendations on the content of educational programs and trainings of experts within COOMET	VNIIMS, Russia
28.	542/RU/11	EM	Comparison of Josephson Voltage Standards at 10 V	VNIIM, Russia
29.	543/AM/11	RM TR	Development and administration a database of RM of COOMET	NIM, Armenia, VNIIFTRI, Russia
30.	544/RU/11	T	Regional comparison humidity standards of gases. Dew/frost point temperature -50 oC to +20 oC	VNIIFTRI, ESB VNIIFTRI, Russia
31.	545/UA/11	M	Comparisons of complex of static volume measuring devices	NSC "IM", Ukraine
32.	546/UA/11	M	Key comparisons of submultiply and multiply units of kilogram	NSC "IM", Ukraine
33.	547/RU/11	GM	Preparation for and holding the international seminar "Mathematics, statistics and computation to support measurement quality" and one-day satellite meeting on "Metrological software testing" June 5-7, 2012, St.Petersburg, Russia	VNIIM, Russia
34.	548/UA/11	M	Supplementary bilateral comparisons of submultiply and multiply units of kilogram	NSC "IM", Ukraine

**Total: 34 projects**

## Appendix 2

## MEETINGS OF COOMET BODIES IN 2012

Name of event	Date	NMI, city, country
<b>22<sup>nd</sup> Committee meeting</b>	April 18–19	Cholpon-Ata, Kyrgyzstan
<b>17<sup>th</sup> meeting of President's Council</b>	November 14–15	Lvov, Ukraine
<b>Joint Committee for Measurement Standards</b>	April 17	Cholpon-Ata, Kyrgyzstan
<b>TC 1.1</b> General Metrology	October	VNIIM, Sankt-Petersburg, Russia
<b>TC 1.2</b> Acoustics, Ultrasound, Vibration	May 29 – June 1	Denmark
<b>TC 1.3</b> Electricity and Magnetism	September 18–19	RSE “KazInMetr”, Astana, Kazakhstan
<b>TC 1.4</b> Flow Measurement	October 22–25	PTB, Braunschweig, Germany
<b>TC 1.5</b> Length and Angle	January 30–31	MPTI, Dolgoprudny, Moscow region, Russia
<b>TC 1.6</b> Mass and Related Quantities	September	Baku, Azerbaijan
<b>TC 1.7</b> Photometry and Radiometry	May 14–25	SE “Ukrmetrteststandard”, Kyiv, Ukraine
<b>TC 1.8</b> Physical Chemistry	May	VNIIM, Sankt-Petersburg, Russia
<b>TC 1.9</b> Ionizing Radiation and Radioactivity	<i>under consideration</i>	VNIIFTRI, Mendeleevo, Russia
<b>TC 1.10</b> Thermometry and Thermal Physics	October 30–31	SKS RSE “KazInMetr”, Almaty, Kazakhstan
<b>TC 1.11</b> Time and Frequency	<i>under consideration</i>	<i>under consideration</i>
<b>TC 1.12</b> Reference Materials	September	PTB, Braunschweig, Germany
<b>TC 2</b> Legal Metrology	September	PTB, Braunschweig, Germany
<b>Quality Forum (QF) &amp; TC 3.1</b> Quality Forum Technical Committee	March 14–15	SMU, Bratislava, Slovakia
<b>TC 4</b> Information and Training	October 16–18	BelGIM, Minsk, Belarus