

Activity Report of COOMET TC 1.6

“Mass and Related Quantities”

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Chair of COOMET TC 1.6

Main tasks of COOMET TC 1.6

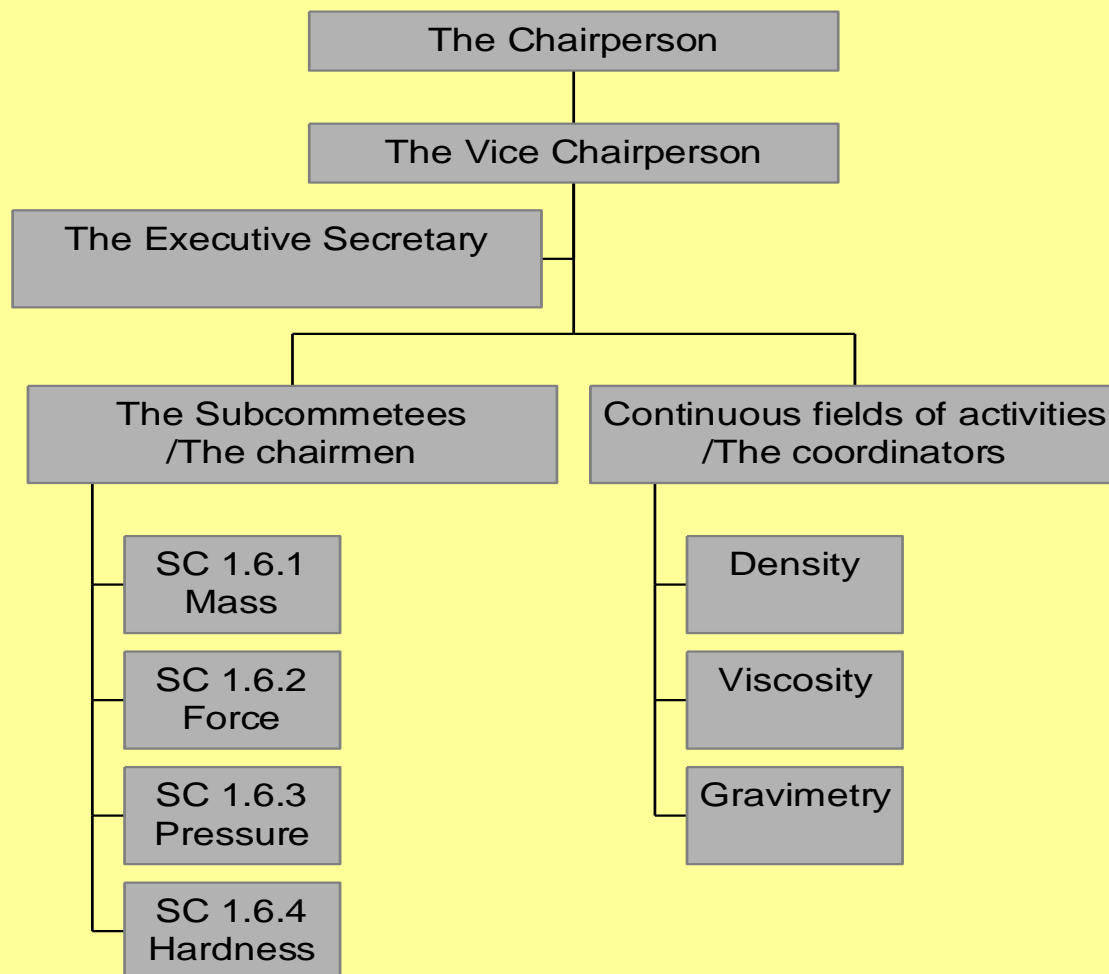
- implementation in the COOMET member-countries of the CIPM MRA;
- planning, organization and methodological support of COOMET key and supplementary comparisons in the field “Mass and related quantities”;
- organization and realization of COOMET Projects concerning establishment and improvement of measurement standards or new measurement and calibration methods in the field “Mass and related quantities”;
- generating proposals of cooperation projects in the field “Mass and related quantities”

Members of COOMET TC 1.6

18 NMIs from 16 Member-countries:

**SMS/Azerbaijan, NIM/Armenia,
BelGIM/Belarus, NCM/Bulgaria, PTB/Germany,
GeoSTM/ Georgia, KazInMetr/Kazakhstan,
CIM/DPR of Korea, INIMET/Cuba,
VMC/Lithuania, NISM/Moldova, NIM/Romania,
VNIIFTRI, VNIIM/ Russia, SMU/ Slovakia, NCM/
Uzbekistan, NSC IM, Ukrmetrtestandard/ Ukraine**

Structure of COOMET TC 1.6 MRQ



Meetings

16th Meeting of COOMET TC 1.6



Date: **September 27-30, 2011**

Place: **VNIIM, St. Petersburg,
Russian Federation**

Attendee: **24 (11 Country-members)**

Content:

1. NMi and SC reports
2. Meeting
3. Lab Visit

17th Meeting of COOMET TC 1.6



Date: **September 26-27, 2012**

Place: **SMS, Baku, Azerbaijan**

Attendee: **26 (9 Country-members)**

Content:

1. NMI and SC reports
2. Meeting
3. Lab Visit



Training Workshops

Training Workshops on Mass Measurement Uncertainty (5–6 October 2010, Tbilisi, Georgia)
and **“Pilot comparison in the field of mass”** (24–26 May 2011, Astana, Kazakhstan)



47 metrologists from 13
COOMET member-countries
took part in these workshops



The **aims** of the workshops were:

- preparation for conducting COOMET pilot comparison in the field of mass (submultiples and multiples of kilogram)
- practical exercise on measurement in the mass laboratories of GEOSTM and KazInMetr;
- practical exercises on uncertainty calculation of mass measurements;
- consideration the necessary steps on CMC preparation for publishing in KCDB BIPM;
- increasing and expansion of technical possibilities of national institutes on the example of mass laboratories of GEOSTM and KazInMetr.

COOMET Comparisons

- Mass
- Pressure
- Force and Torque
- Hardness

Mass

- **COOMET.M.M-K5**

Participants: VNIIM, BelGIM, KazInMetr, NSC IM
Report in progress, Draft B

- **COOMET.M.M-K8**

in range from 50 mg to 2 kg

Participants: 8 NMIs

Technical Protocol in progress

Pressure

- **COOMET.M.P-K14**

Completed. Result is published in Metrology, 2012

Participants: VNIIM, CMI, VMT/VMC, PTB

- *Planned*

In the range from 1 MPa to 10 MPa

Details yet to be defined

Hardness

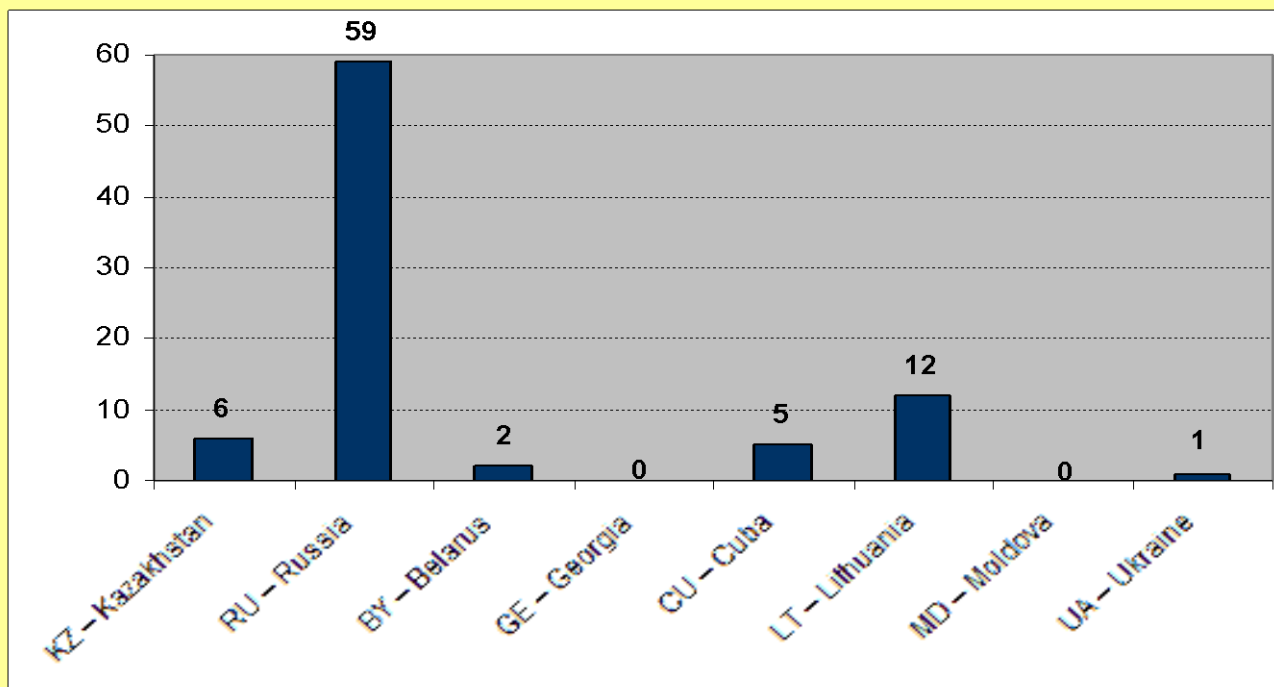
- **COOMET.M.H-K1.c**
- **COOMET.M.H-K1.b**
Vickers Hardness
Bilateral: VNIIFTRI, PTB. Completed
- **COOMET.M.H-K1**
Vickers Hardness
5 participants. Completed
- **COOMET.M.H-K2**
Brinell Hardness
4 participants. Report in progress, Draft B
- ***Planned***
Rocwell and Super-Rocwell Hardness
Details yet to be defined

Force and Torque


- **COOMET.M.F-S1**
20 kN, 50 kN, 100 kN, 250 kN, 500 kN, 1000 kN and 2000 kN
Participants: VNIIM, UkrMetrTestStandart, BelGIM
Report in progress, Draft B
- **COOMET.M.F-S2**
Bilateral: UkrMetrTestStandart, PTB
10, 14, 16, 20, 50, 60, 80, 100 kN
Report in progress, Draft A
- **COOMET.M.T-S1**
Bilateral: UNIIM, PTB
100 N·m, 500 N·m, 1500 N·m and 2500 N·m, clockwise and anti-clockwise
Measurements in progress

COOMET has 8 CIPM MRA signatures: 2 are Member States and 6 are associated. 3 countries have not signed yet.

Mass and related quantities CMCs (Total: 85)



CMC status

| Field | NMIs | Status | | |
|------------------|-----------|-----------|--|-----------------|
| | | Intra-RMO | Inter-RMO | Publish in KCDB |
| Mass | BelGIM | 6 | | |
| | KazInMetr | 6 | | |
| | NSC IM | 6 | | |
| Hardness | BelGIM | 5 | | 6 |
| | KazInMetr | 5 | | |
| | NSC IM | 5 | | |
| Pressure | BelGIM | 1 |  Soon | |
| Viscosity | BelGIM | | | 2 |
| Gravity | NSC IM | | 1 | |

Thank you for your attention !