

KCDB REPORT TO THE JCRB

September 2018 to March 2019

Introduction

This report summarizes the major progress and evolution of the BIPM Key Comparison Database (KCDB) over the last six months.

The EXCEL files used as a basis for the CMC statistics are available on the [access-restricted JCRB CMC website](#) (on “KCDB statistics”). They are updated successively during the year and the CMCs that have been modified are highlighted in pink according to previous JCRB decisions.

Further information on the KCDB may be found on the BIPM KCDB web pages. Notably, the number of key and supplementary comparisons, as well as the number of CMCs by metrology area and by country, are updated successively during the year and may be consulted on the [KCDB Statistics web page](#)¹.

The status of the database concerning **Calibration and Measurement Capabilities** are given in Section 1. In Section 2, recent information concerning **comparisons** carried out within the frame of the CIPM MRA is summarized. Section 3 highlights the status of **Associates** of the BIPM, and a short summary on progress made on the **revision of the KCDB**, in the context of the Review in the CIPM MRA, is presented in Section 4.

1. CIPM MRA Appendix C : Calibration and Measurement Capabilities

1.1. Status of the KCDB CMC database

End of February 2019, the KCDB included a total of 25 268 CMCs:

- 18 856 in Physics,
- 6 412 in Chemistry.

Additional CMCs are continuously published but the number of CMCs is now quasi stationary as other CMCs are deleted or greyed out. During the last period 144 were also revised. The evolution of the number of CMCs since 2008 is depicted in Figure 1. The number of CMCs presently published in the KCDB by state/economy and metrology area is continuously available on [KCDB Statistics](#).

¹ On request, the KCDB Office may provide an EXCEL file listing information on the present contents of the CIPM MRA Appendix B.

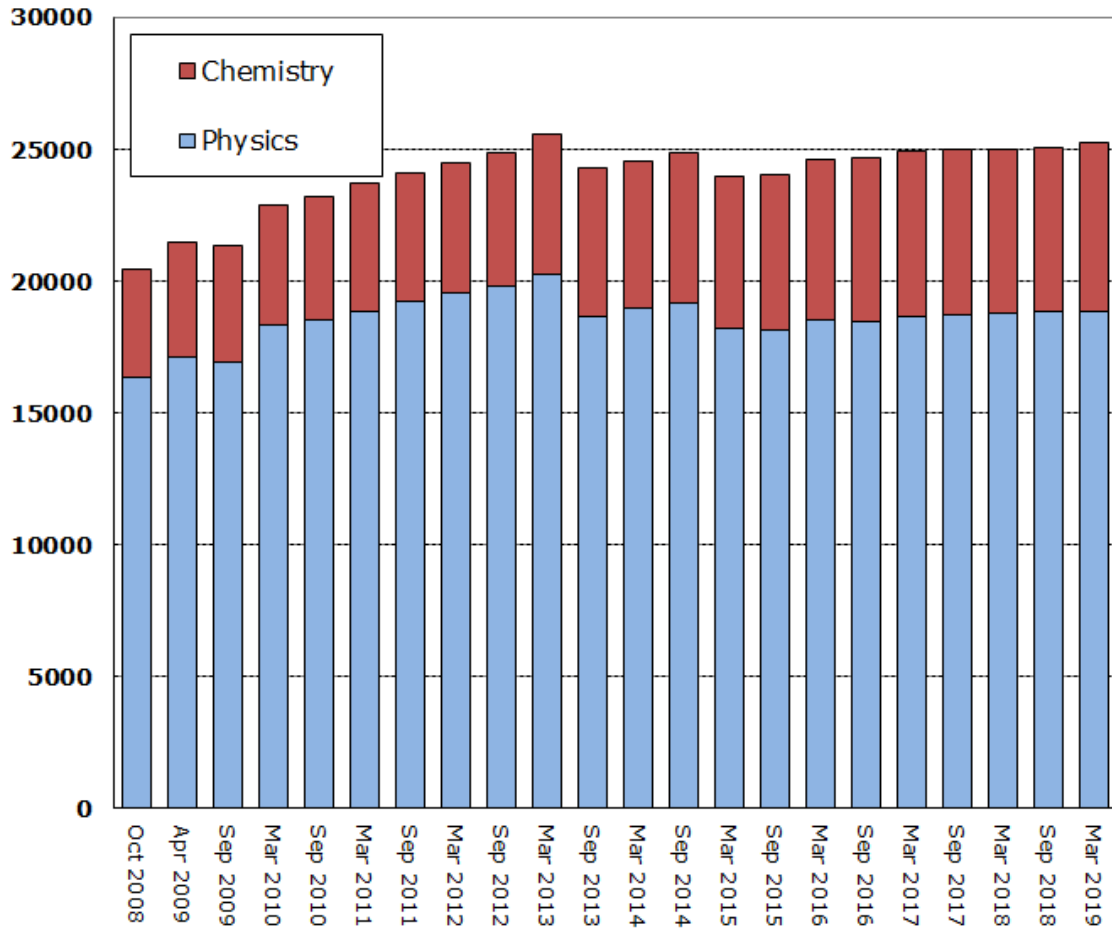


Figure 1. Number of CMCs registered in the KCDB since October 2008.

1.2. CMC publications (excluding revisions)

During the last 6 months Zambia declared their very first CMCs and Indonesia declared their first CMCs in Chemistry and Biology. Chine declared CMC for a new category in Chemistry and Biology.

CMCs treated by the BIPM KCDB Office from 1 September 2018 to 1 March 2019 are listed in Table 1².

Table 1. Published CMCs from 1 September 2018 to 1 March 2019 (revised CMCs not included)

| | RMO / economy | Field | CMCs |
|---------------|------------------------------------|-------|------|
| October 2018 | KE | AUV | 6 |
| | NL | RI | -57 |
| | BR | M | -3 |
| | APMP : AU, CN, HK, ID, JP, KR, SG, | QM | 205 |
| | TH | | |
| | PT | M | 1 |
| | MX | EM | 8 |
| November 2018 | ZM | T | 11 |
| | EURAMET : CH, CZ, DE, FR, SI | M | 2 |
| | ES | RI | -2 |
| | DE | RI | -3 |
| December 2018 | SE | EM | -2 |
| | IT | EM | -4 |
| | EURAMET: BG, CH, FR, HU | PR | 8 |
| | APMP: ID, KR | T | 3 |
| | DK | T | -1 |
| | EURAMET: BA, FR, IE | T | 9 |
| | US | RI | 2 |
| January 2019 | APMP : AU, JP | L | 13 |
| | GB | L | 2 |
| | GB | L | -2 |
| February 2018 | BA | M | 2 |

² Published CMCs are announced in "[CMCs News](#)".

1.3. Deleted CMCs, Greying out and Re-instatements

Greying-outs, deletion and reinstatements of CMCs are coordinated by the JCRB Executive Secretary, and carried out by the KCDB Office. Table 2 lists the CMCs concerned during the last six months.

The present situation regarding temporary removal (“greying-out”) of CMCs is available on-line of the [Statistics page of the KCDB](#) at the JCRB restricted web, summarized in Table 3. In total 435 CMCs are presently greyed out. The number of greyed out CMCs has hardly changed during the last 6 months.

The dates of the greying-out of CMCs are listed in the spreadsheet “Dates of CMCs greying-out” of the EXCEL file “CMCsNumber_2019, available from the [access-restricted JCRB CMC website](#) (see “KCDB statistics”).

Table 2. Deleted, greyed-out or reinstated CMCs from 1 September 2018 to 1 March 2019

| Date | State/ economy | Field | Action |
|-------------|-------------------|-------|--------------------------------------|
| 5 October | NL | RI | 57 CMC is radioactivity were deleted |
| 8 October | BR | M | 3 greyed out CMCs |
| 15 October | KR | QM | 2 CMCs greyed out in Gas |
| 23 October | MX | EM | 8 CMCs reinstated |
| 27 November | ES | RI | 2 CMCs greyed out |
| 27 November | DE | RI | 3 CMCs greyed out |
| 5 December | SE | EM | 2 CMCs greyed out |
| 10 December | IT | EM | 4 CMCs greyed out |
| 20 December | DK | T | 1 CMC greyed out |
| 28 January | IAEA | RI | 1 greyed out CMC was deleted |
| 28 January | FR | EM | 3 greyed out CMCs were deleted |
| 31 January | US | RI | 1 greyed out CMC was deleted |

Table 3. Number of CMCs temporary removed (“greyed-out”) from the KCDB, by country and by metrology area, as at 1 March 2019.

| | AUY | M | PR | EM | T | RI | L | QM | TF | Total |
|------------------------|-----|----|----|----|---|-----|---|----|----|------------|
| AFRIMETS | | | | | | | | | | |
| ZA | | 4 | | | | | | | | 4 |
| Total AFRIMETS: | | | | | | | | | | 4 |
| APMP | | | | | | | | | | |
| AU | | | | 27 | | | | | | 27 |
| CN | | | | | | | 1 | | | 1 |
| IN | | | | | | | 3 | | | 3 |
| JP | | | | | | | 3 | | | 3 |
| KR | | | | | | | | 6 | | 6 |
| TH | | | | | | 3 | 1 | | | 4 |
| Total APMP: | | | | | | | | | | 44 |
| COOMET | | | | | | | | | | |
| KZ | | | | | | | | | | 0 |
| Total COOMET: | | | | | | | | | | 0 |
| EURAMET | | | | | | | | | | |
| AL | | 7 | | | | | | | | 7 |
| BE | | | | 24 | | | | | 0 | 24 |
| DE | | | | | | 3 | | 12 | | 15 |
| DK | | | | | 1 | | | | | 1 |
| ES | | | | | | 2 | | | | 2 |
| FR | | | | 0 | | | | | | 0 |
| IAEA | | | | | | 0 | | | | 0 |
| IT | | 31 | | 19 | | | 1 | 3 | | 54 |
| JCR | | | | | | 110 | | 82 | | 192 |
| LV | | | | 30 | | | | | | 30 |
| PT | | | | | | | 1 | | | 1 |
| SE | | | | 2 | | | | | | 2 |
| SK | 6 | | | | | | 2 | | | 8 |
| Total EURAMET: | | | | | | | | | | 336 |
| SIM | | | | | | | | | | |
| MX | | | 22 | 0 | 0 | | | 1 | 0 | 23 |
| AR | | | | | | | 0 | | | 0 |
| US | | 3 | 0 | 8 | | 0 | | | | 11 |
| BR | | 3 | | | | | | 14 | | 17 |
| Total SIM: | | | | | | | | | | 51 |
| TOTAL: | | | | | | | | | | 435 |

1.4. CMC statistics of RMOs

(Follow-up of Action 17/1 from the 17th JCRB meeting)

Table 4 summarizes the repartition of CMCs on the different RMOs and international signatories of the CIPM MRA.

Table 4. Information on CMC statistics per RMO

| Entity | Total number of CMCs March 2019 |
|----------------------|------------------------------------|
| AFRIMETS | 634 |
| APMP | 6244 |
| COOMET | 2521 |
| EURAMET | 11216 |
| GULFMET ³ | 0 |
| SIM | 4624 |
| ESA | 0 |
| IAEA | 26 |
| JRC ⁴ | 0 |
| WMO | 3 |

2. CIPM MRA Appendix B : Key and supplementary comparisons

2.1. Present status

On the 1 March 2019 the KCDB covered **1588 published comparisons** distributed as listed in Table 5; 1022 key comparisons and 566 supplementary comparisons. In fact, 70 of the 95 BIPM key comparisons are all part of the BIPM.RI(II)-K1 (SIR equivalent activity). On the other side, 21 continuous BIPM comparisons cover each tens of completed bi-lateral comparisons carried out between the BIPM and different metrology institutes.

Of the 29 comparisons registered in the KCDB since the last JCRB meeting, 2 comparisons were registered for GULFMET. GULFMET has hence now 20 comparisons registered in the KCDB. GULFMET countries participate in 31 comparisons organized by GULFMET, by other RMOs or Consultative Committees.

³ The GULFMET was approved as an RMO on a provisional basis by the CIPM in October 2015.

⁴ Earlier IRMM (EC Geel)

Table 5. *Key and Supplementary Comparisons on 1 March 2019.*

| Entity | KC | SC |
|----------------------|-----------|-----------|
| BIPM | 95 | 1 |
| CC | 493 | 32 |
| AFRIMETS | 6 | 24 |
| APMP | 141 | 113 |
| COOMET | 48 | 96 |
| EURAMET | 168 | 185 |
| GULFMET ⁵ | 4 | 16 |
| SIM | 67 | 99 |

Figure 2 shows the evolution of the total number of key (green) and of supplementary (violet) comparisons registered in the KCDB since September 2003. The annual increase of key comparisons seems to have stabilized to around some +40 taking into account the history since 2004. The annual increase of key- and supplementary comparisons is around 6 %. The ratio of supplementary comparisons, 20 % in 2006, has progressively increased to 35 %. It should be noted that the graph also include repeats of key comparisons.

The number of new key and supplementary comparisons registered in the KCDB over the one-year period ending at the date indicated on the the abscissa is illustrated in Figure 3.

Updated graphs illustrating the participation in key and supplementary comparisons were made available on the [Statistics page of the KCDB](#) in February 2019.

⁵ The GULFMET was approved as an RMO on a provisional basis by the CIPM in October 2015.

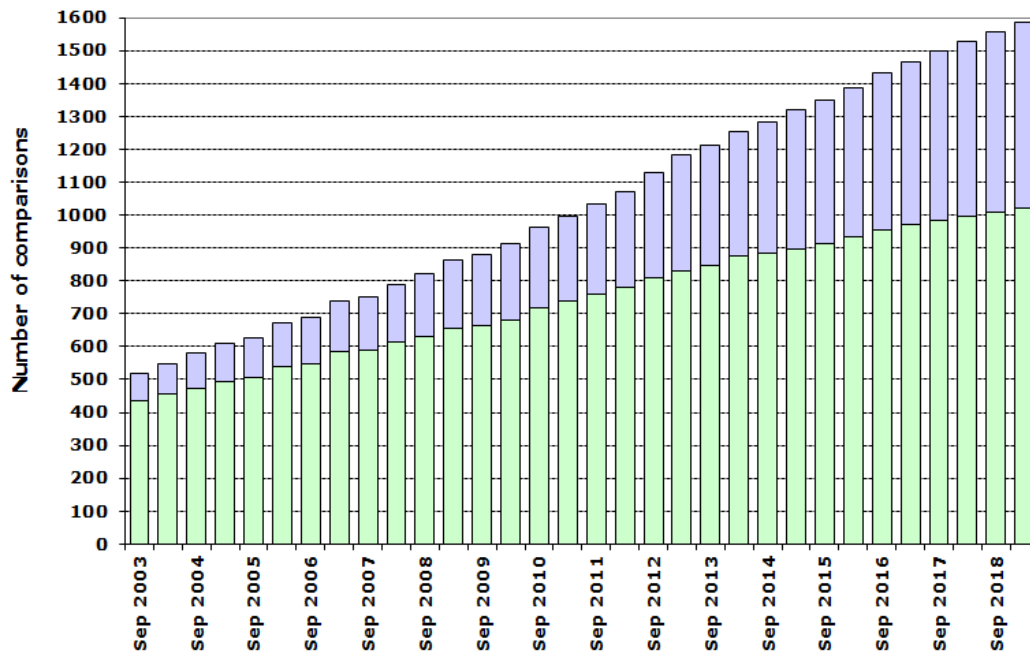


Figure 2. Total number of key comparisons (green) and supplementary comparisons (blue) registered in the KCDB: evolution since September 2003

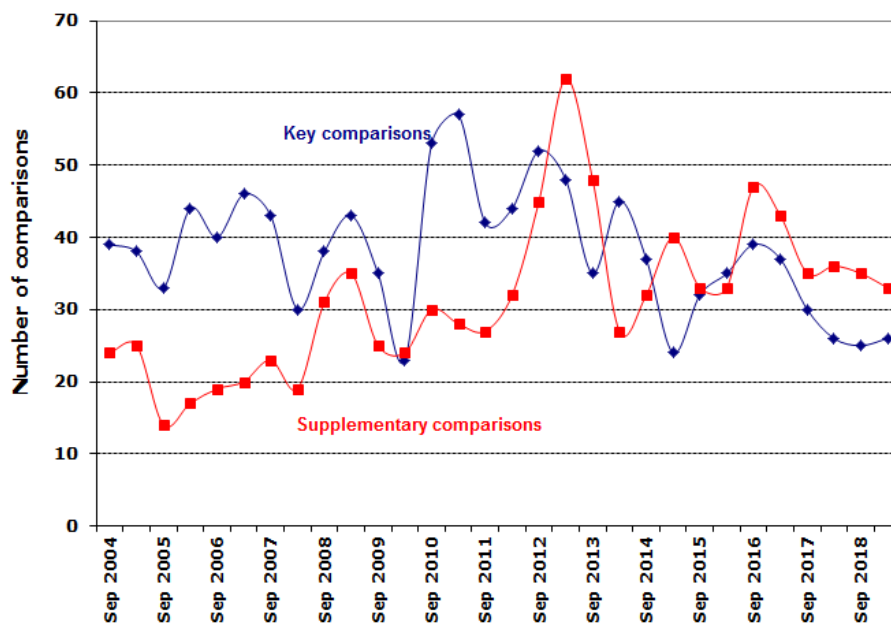


Figure 3. Number of new comparisons registered in the KCDB over the one-year period ending at the date indicated on the abscissa.

2.2. Registrations and modifications of comparisons

From 1 September 2019 the following 30 comparisons were registered as new:

| | | |
|-------------------|-----------------|---------------------|
| AFRIMETS.AUV.V-K3 | CCEM-K5.2017 | COOMET.M.FF-S7 |
| AFRIMETS.AUV.V-S2 | CCM.F-K2.a.2 | COOMET.M.FF-S8 |
| AFRIMETS.L-S4 | CCPR-K5.2019 | COOMET.PR-K1.a.2018 |
| AFRIMETS.M.F-S2 | CCQM-K155 | COOMET.T-S3 |
| APMP.EM-S16 | CCQM-K19.2018 | EURAMET.AUV.V-K2 |
| APMP.L-K5.2014 | CCQM-K26.b.2019 | EURAMET.QM-S12 |
| APMP.L-S9 | CCQM-K34.2016.1 | EURAMET.RI(I)-S18 |
| APMP.M.F-K2.a | CCQM-K73.2018 | GULFMET.EM-S5 |
| APMP.M.F-K2.b | CCRI(I)-S3 | GULFMET.T-S1 |
| APMP.M.H-S7 | COOMET.EM-S23 | SIM.L-K1.2007.1 |
| APMP.M.M-K2.2 | COOMET.EM-S24 | SIM.M.M-S18 |
| APMP.M.M-S2 | | |

End of February, 62 abandoned or superseded key and supplementary comparisons were kept in the KCDB archives (included in the presented statistics).

2.3. Published results of key and supplementary comparisons

The following 26 reports were published during the last 6 months:

| | | |
|--------------------------------|-----------------------|------------------|
| APMP.M.F-K2.a and b | BIPM.RI(I)-K6 (METAS) | CCQM-K141 |
| AUV.V-K3 Linking | CCEM-K4.2017 | CCQM-K34.2016 |
| BIPM.EM-K11.b (NSAI-NML) | CCQM-K109 | CCQM-K95.1 |
| BIPM.EM-K12 | CCQM-K116 | COOMET.AUV.A-S2 |
| BIPM.EM-K12 (NRC) | CCQM-K120 | EURAMET.AUV.A-K5 |
| BIPM.EM-K13.a and b (NSAI-NML) | CCQM-K121 | EURAMET.M.D-S3 |
| BIPM.QM-K1 (HMI/DHMZ) | CCQM-K128 | EURAMET.PR-K4.2 |
| BIPM.RI(I)-K1 (VSL) | CCQM-K131 | SIM.PR-S3 |
| BIPM.RI(I)-K4 (VSL) | CCQM-K138 | |

2.4. Follow-up on JCRB Action 33/3

Action 33/3: *The BIPM KCDB office, as part of the KCDB report to the JCRB, to identify Key and Supplementary Comparisons which were started 5 or more years ago and have not reached a conclusion.*

The number of key comparison older than 5 years decreases, while the number of unfinished supplementary comparisons is constant. The total number is decreased by 16 as illustrated in Figure 4. A list of the comparisons concerned may be found in Appendix.

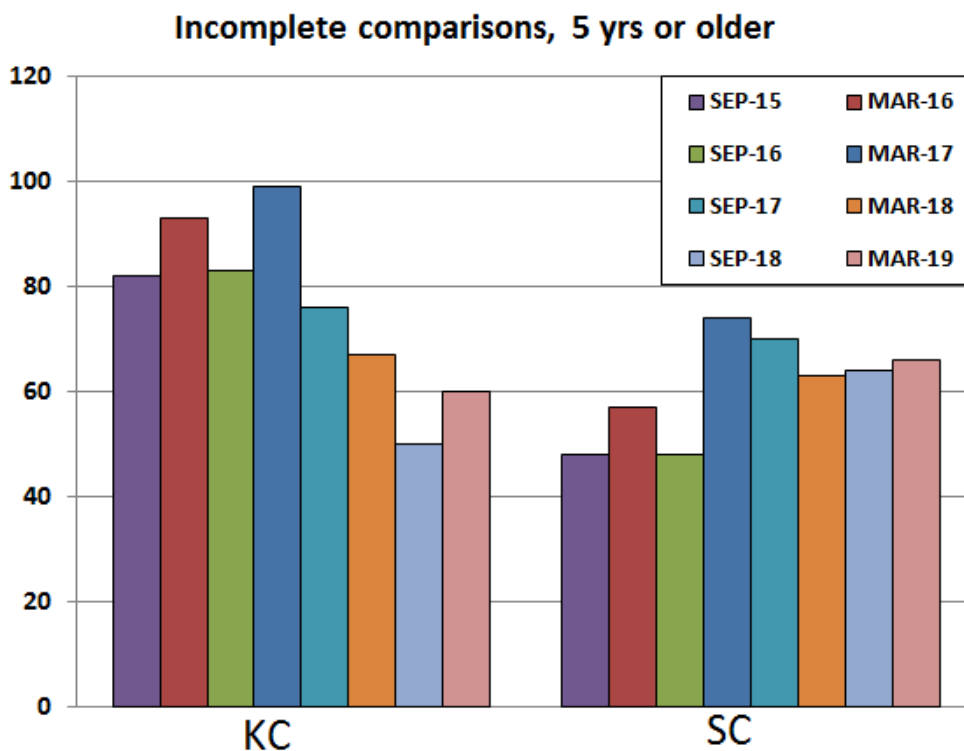


Figure 4. Histogram showing the number of incomplete comparisons that started more than 5 years ago.

3. Participation of Associates of the CGPM in CIPM MRA activities

Table 6 summarizes the participation of the 42 Associates of the CGPM in CIPM MRA activities as at 1 March 2019

Zambia published their first CMCs. The number of CMCs for associates is steady. The repartition of CMCs among Associates is illustrated in Figures 5 and 6.

Table 6. CIPM MRA activity of the NMIs of Associates of the CGPM: important dates, number of published CMCs and participation in key and supplementary comparisons.^{6,7}

| Associate of the CGPM | Published CMCs | Greyed-out CMCs | Key comparisons | Supplementary comparisons |
|----------------------------------|----------------|-----------------|-----------------|---------------------------|
| Albania | 0 | 7 | 8 | 4 |
| Azerbaijan | 1 | 0 | 1 | 9 |
| Bangladesh | 0 | 0 | 1 | 2 |
| Belarus | 248 | 0 | 37 | 43 |
| Bolivia | 19 | 0 | 6 | 21 |
| Bosnia and Herzegovina | 64 | 0 | 13 | 10 |
| Botswana | 0 | 0 | 1 | 4 |
| CARICOM | 0 | 0 | 0 | 12 |
| Chinese Taipei | 390 | 0 | 97 | 48 |
| Costa Rica | 67 | 0 | 20 | 30 |
| Cuba | 113 | 0 | 6 | 19 |
| Ecuador | 20 | 0 | 4 | 19 |
| Estonia | 16 | 0 | 8 | 12 |
| Ethiopia | 0 | 0 | 0 | 2 |
| Georgia | 30 | 0 | 7 | 14 |
| Ghana | 0 | 0 | 2 | 6 |
| Hong Kong, China | 259 | 0 | 83 | 25 |
| Jamaica | 22 | 0 | 6 | 9 |
| Kuwait (State of) | 0 | 0 | 2 | 3 |
| Latvia | 29 | 30 | 13 | 8 |
| Luxembourg | 0 | 0 | 3 | 1 |
| Macedonia (fmr Yugoslav Rep. of) | 23 | 0 | 8 | 9 |
| Malta | 0 | 0 | 4 | 3 |
| Mauritius | 0 | 0 | 2 | 2 |
| Moldova, Republic of | 43 | 0 | 4 | 15 |
| Mongolia | 0 | 0 | 4 | 4 |
| Namibia | 7 | 0 | 0 | 3 |
| Oman | 0 | 0 | 1 | 2 |
| Panama | 37 | 0 | 8 | 18 |
| Paraguay | 24 | 0 | 2 | 17 |
| Peru | 113 | 0 | 25 | 32 |
| Philippines | 31 | 0 | 13 | 8 |
| Qatar | 0 | 0 | 3 | 1 |
| Seychelles | 0 | 0 | 0 | 3 |
| Sri Lanka | 0 | 0 | 6 | 2 |
| Sudan | 0 | 0 | 0 | 1 |
| Syrian Arab Republic | 0 | 0 | 12 | 3 |
| Tanzania | 0 | 0 | 0 | 0 |
| Uzbekistan | 0 | 0 | 0 | 0 |
| Viet Nam | 31 | 0 | 33 | 9 |
| Zambia | 11 | 0 | 2 | 7 |
| Zimbabwe | 13 | 0 | 1 | 7 |
| | 1598 | 37 | 445 | 440 |

⁶ These numbers take into account all comparisons registered in the KCDB, disregarding status, for which at least one

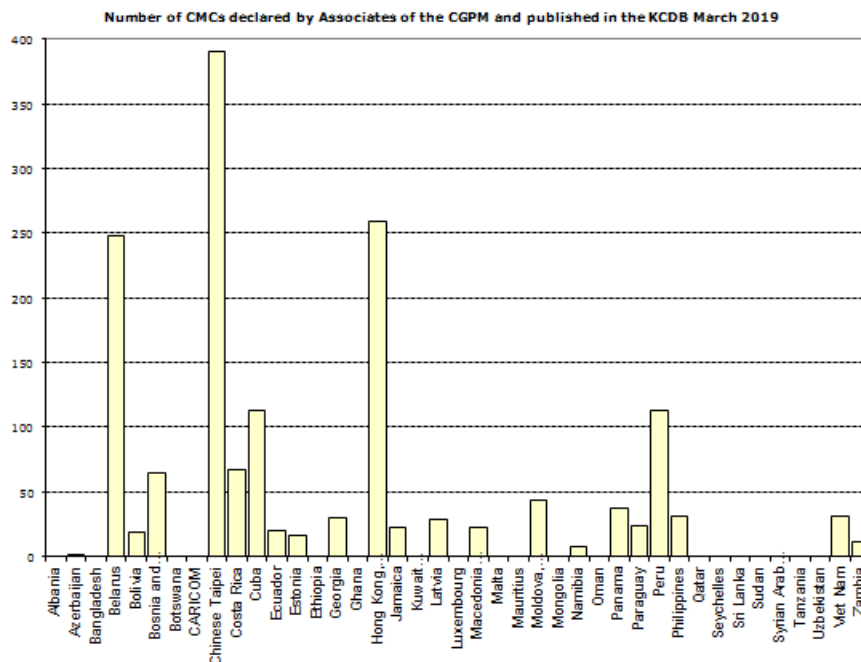


Figure 5. Graph on the number of CMCs declared by Associates of the CGPM

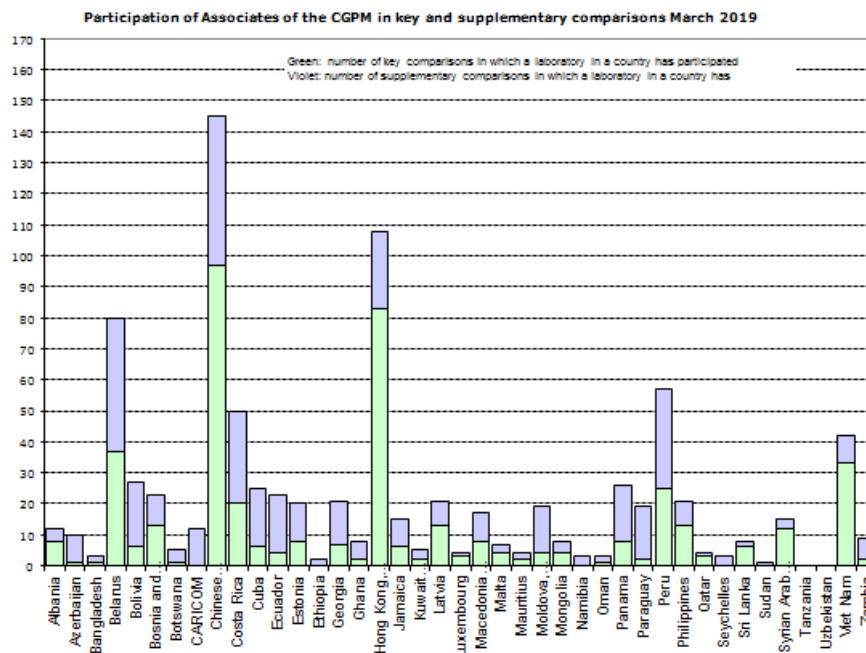


Figure 6. Graph on the participation of Associates of the CGPM in key and supplementary comparisons

laboratory of the Associate is listed in the participants list.

⁷ As the numbers on participation in key and supplementary comparisons change comparatively slowly with time, the corresponding KCDB statistics are updated every six months (in May and November of each year). However, the numbers of CMCs published in the KCDB varies more rapidly and are updated more frequently. The numbers given here show the situation as on 19 September 2018.

4. Revision of the BIPM KCDB

The development of the KCDB 2.0 is divided into 3 main batches: CMCs, Comparisons and Statistics. The project also includes the implementation of a new search engine (Elasticsearch) and to carry out the migration of legacy data from the old to the new database.

The CMC platform and search facilities (except for numerical search) have been delivered by the developers and are presently tested prior to validation. The tests are made on migrated data. The numerical search/filter facility for CMCs is treated separately and the specifications are being prepared.

The functional specifications for Comparisons have been approved by the BIPM and the software is under development.

A preliminary implementation plan for the KCDB 2.0 has been established. Once the software has been validated by the BIPM, tests will be made in collaboration with selected stakeholders.

An important part of the implementation is to inform the stakeholders on the new support. For this purpose, the KCDB Office will demonstrate the software at coming Consultative Committee and associated WG meetings. A user guide is presently being drafted. A set of shorter instructive video clips is also foreseen.

It will be possible to consult the KCDB 1.0 until that the KCDB 2.0 has been launched. However, two or three weeks before that the KCDB 2.0 will go live no more data will be added to the DB to allow migration of legacy data. CMCs that already are within a review cycle will continue the cycle as before – the JCRB restricted web will be maintained until all submitted batches have been treated. The KCDB Office will upload approved data onto the new database with the Excel sheets as basis during the transition period.

The transition towards quantity based equations (instead of numerical equations presently used) will be made after that the KCDB 2.0 has been launched. Support and guidance on this is presently being prepared in collaboration with the JCRB Executive Secretary.

The KCDB 2.0 is planned to be launched in 2019.

Acknowledgement

The development and testing is supported by Sten Bergstrand (JCRB Executive Secretary), Chingis Kuanbayev (BIPM) and the BIPM IT-team - Laurent Le Mée and Thierry Nguyen. Many thanks also to Nikita Zviagin (JCRB Executive Secretary until January 2019) for his contribution.

APPENDIX List of uncompleted comparisons older than 5 years
a) Key Comparisons

| KC identifier | Status Sep-2018 | Indicated year | Pilot |
|---------------------|-----------------------------|----------------|-----------------|
| AFRIMETS.M.P-K2 | In progress | 2012 - 2013 | NMISA |
| APMP.EM.BIPM-K11.2 | Report in progress, Draft B | 2004 | Puslit KIM-LIPI |
| APMP.EM.BIPM-K11.5 | Protocol complete | 2013 - 2014 | NMIJ AIST |
| APMP.EM.RF-K8.CL | Measurements completed | 2012 - 2013 | NMIJ AIST |
| APMP.EM-K2 | In progress | 2010 - 2011 | KRISS |
| APMP.EM-K5.1 | Report in progress, Draft A | 2010 - 2013 | NIM |
| APMP.L-K1.2018 | Planned | | KRISS |
| APMP.M.D-K4 | Report in progress, Draft A | 2007 - 2008 | KRISS |
| APMP.M.F-K3.a | In progress | 2011 - | NIM |
| APMP.M.F-K3.b | In progress | 2011 - | NIM |
| APMP.M.H-K1.b | Report in progress, Draft A | 2003 - 2005 | NMIJ AIST |
| APMP.M.H-K1.c | Report in progress, Draft A | 2003 - 2005 | NMIJ AIST |
| APMP.M.P-K1.c.2 | Report in progress, Draft B | 2012 | KRISS |
| APMP.M.P-K15 | In progress | 2013 - 2014 | NMIJ AIST |
| APMP.M.P-K9 | Report in progress, Draft A | 2009 - | KRISS |
| APMP.M.P-K9 | Report in progress, Draft A | 2009 - | NMIA |
| APMP.PR-K2.a.1 | Measurements completed | 2010 - 2012 | NMIA |
| APMP.PR-K2.b.1 | In progress | 2010 - 2012 | NMIA |
| APMP.PR-K3.a | In progress | 2012 - 2014 | NMIJ AIST |
| APMP.PR-K3.a.1 | Measurements completed | 2006 | NIM |
| APMP.RI(I)-K2.B | Report in progress, Draft A | 2007 | NMIJ AIST |
| APMP.RI(I)-K4 | Report in progress, Draft A | 2009 - 2010 | INER |
| APMP.RI(I)-K5 | In progress | 2013 - 2014 | KRISS |
| APMP.T-K3.6 | Planned | 2013 - 2014 | NIM |
| APMP.T-K4.1 | Planned | 2013 - 2014 | NIM |
| APMP.T-K6.2013 | Planned | 2013 - 2014 | NMC, A*STAR |
| APMP.T-K8 | In progress | 2011 - 2013 | NMIJ AIST |
| CCL-K1.2011 | In progress | 2011 - 2014 | CENAM |
| CCL-K1.2011 | In progress | 2011 - 2014 | NRC |
| CCM.FF-K2.2011 | In progress | 2013 - | VSL |
| CCQM-K110 | Postponed | 2012 | IRMM |
| CCQM-K110 | Postponed | 2012 | GL |
| CCQM-K110 | Postponed | 2012 | NIMC |
| CCRI(II)-K2.Tc-99 | In progress | 2012 - 2013 | NPL |
| CCRI(III)-K9.AmBe.1 | Report in progress, Draft A | 2012 - 2013 | NPL |
| CCT-K1.1 | Report in progress, Draft A | 2006 - 2014 | NIST |
| CCT-K4.1 | In progress | 2012 - 2014 | NMIA |
| CCT-K6.1 | Report in progress, Draft A | 2008 - 2010 | NPL |

(continued...)

| KC identifier | Status Sep-2018 | Indicated year | Pilot |
|---------------------|-----------------------------|----------------|----------------|
| CCT-K6.1 | Report in progress, Draft A | 2008 - 2010 | NPL |
| CCT-K9 | Measurements completed | 2011 - 2012 | NIST |
| COOMET.AUV.V-K1 | Report in progress, Draft B | 2007 - 2008 | VNIIM |
| COOMET.L-K3 | Report in progress, Draft A | 2011 - 2012 | VNIIM |
| COOMET.PR-K3.a | Report in progress, Draft A | 2009 - 2011 | BelGIM |
| EURAMET.L-K4.2005.1 | In progress | 2013 - 2014 | VSL, SMD |
| EURAMET.M.D-K1.1 | Report in progress, Draft A | 2008 - 2012 | PTB |
| EURAMET.M.M-K2.4 | Protocol complete | 2013 | DFM |
| EURAMET.M.P-K1.c | In progress | 2011 - 2014 | FORCE |
| EURAMET.PR-K2.a | Measurements completed | 2010 - 2012 | VSL |
| EURAMET.RI(I)-K1.1 | In progress | 2013 - 2014 | METAS |
| EURAMET.RI(I)-K4.1 | In progress | 2013 - 2014 | METAS |
| EURAMET.T-K3.4 | Report in progress, Draft A | 2010 - 2011 | MIRS/UL-FE/LMK |
| EURAMET.T-K8 | Report in progress, Draft A | 2008 - 2012 | PTB |
| EUROMET.M.F-K1 | Report in progress, Draft B | 2002 - 2004 | MIKES |
| EUROMET.M.F-K3 | In progress | 2005 - | PTB |
| SIM.M.P-K1 | Protocol complete | 2008 - 2010 | CENAM |
| SIM.M.P-K6 | Report in progress, Draft A | 2008 - 2011 | CENAM |
| SIM.M.P-K6.1 | Report in progress, Draft B | 2011 - 2013 | LACOMET |
| SIM.M.P-K7 | Report in progress, Draft B | 2001 | CENAM |
| SIM.QM-K1 | Report in progress, Draft B | 2009 | INMETRO |

(list corrected on 10 April 2019)

b) Supplementary Comparisons

| SC identifier | Status Sep-2018 | Indicated year | Pilot |
|------------------------------|-----------------------------|----------------|------------------|
| AFRIMETS.M.M-S3 | In progress | 2013 | NIS |
| AFRIMETS.RI(I)-S1 | In progress | 2011 - 2013 | NMISA |
| AFRIMETS.T-S2 | In progress | 2012 | NMISA |
| AFRIMETS.T-S3 | In progress | 2012 | NMISA |
| AFRIMETS.T-S4 | Published | 2012 - 2013 | MIRS/UL-FE/LMK |
| APMP.EM-S8 | Protocol complete | 2011 - 2013 | NPLI |
| APMP.L-S5 | In progress | 2012 | CMS |
| APMP.L-S5 | In progress | 2012 | NMIJ AIST |
| APMP.M.G-S1 | Report in progress, Draft A | 2012 | NIM |
| APMP.M.H-S4 | Report in progress, Draft A | 2011 | KRISS |
| APMP.M.MM-S1 | In progress | 2012 - 2013 | KRISS |
| APMP.M.M-S1 | Planned | 2007 | NPSL |
| APMP.M.P-S1 | Measurements completed | 2003 - 2005 | CMS/ITRI |
| APMP.M.P-S1 | Measurements completed | 2003 - 2005 | SPRING Singapore |
| APMP.PR-S1.2 | Protocol complete | 2008 | NMC, A*STAR |
| APMP.PR-S5 | Measurements completed | 2008 - 2009 | NMIJ AIST |
| APMP.PR-S6 | In progress | 2012 - 2013 | KRISS |
| APMP.RI(I)-S1 | Report in progress, Draft B | 2010 - 2011 | OAP |
| APMP.RI(II)-S3.Cs-134.Cs-137 | Report in progress, Draft A | 2013 | NMIJ AIST |
| APMP.T-S10 | Planned | 2013 | KRISS |
| APMP.T-S9 | Planned | 2013 | NMIJ AIST |
| CCRI(II)-S10 | Report in progress, Draft A | 2011 - 2012 | ENEA-INMRI |
| CCRI(II)-S6.Co-57 | Report in progress, Draft B | 2008 | IAEA |
| CCRI(II)-S6.I-131 | Report in progress, Draft B | 2006 | IAEA |
| CCRI(II)-S9 | Report in progress, Draft A | 2011 | KRISS |
| CCT-S2 | Report in progress, Draft B | 2007 - 2010 | LNE |
| CCT-S3 | Report in progress, Draft A | 2007 - 2008 | NMIJ AIST |
| COOMET.EM.RF-S1 | Report in progress, Draft B | 2009 | VNIIFTRI |
| COOMET.EM-S10 | Report in progress, Draft B | 2010 - 2012 | VNIIMS |
| COOMET.EM-S15 | Planned | 2013 | SNIIM |
| COOMET.EM-S6 | Report in progress, Draft B | 2007 - 2010 | VNIIMS |
| COOMET.EM-S7 | Report in progress, Draft B | 2009 - 2011 | VNIIMS |
| COOMET.EM-S9 | In progress | 2009 | VNIIFTRI |
| COOMET.M.FF-S2 | Report in progress, Draft B | 2008 - 2009 | PTB |
| COOMET.M.FF-S4 | Report in progress, Draft B | 2009 - 2010 | SMU |
| COOMET.M.F-S1 | Report in progress, Draft B | 2008 - 2010 | VNIIM |
| COOMET.M.H-S4 | Report in progress, Draft B | 2007 - 2010 | VNIIFTRI |
| COOMET.PR-S1 | Measurements completed | 2012 - 2013 | VNIIOFI |

(continued...)

| SC identifier | Status Sep-2018 | Indicated year | Pilot |
|----------------|-----------------------------|----------------|--------------|
| COOMET.PR-S5 | Measurements completed | 2008 - 2011 | INIMET |
| EURAMET.EM-S33 | In progress | 2010 - 2011 | LCOE |
| EURAMET.EM-S34 | Protocol complete | 2010 - 2011 | LCOE |
| EURAMET.EM-S35 | Protocol complete | 2012 - 2013 | INRIM |
| EURAMET.EM-S36 | Planned | 2012 - 2014 | SP |
| EURAMET.EM-S37 | In progress | 2011 - 2013 | CMI |
| EURAMET.M.F-S2 | In progress | 2012 - 2013 | BEV |
| EURAMET.M.M-S5 | Planned | 2012 - 2013 | NSAI NML |
| EURAMET.PR-S4 | Measurements completed | 2012 - 2013 | LNE |
| EURAMET.PR-S5 | Measurements completed | 2012 - 2013 | PTB |
| SIM.M.FF-S4 | Report in progress, Draft B | 2006 | INIMET |
| SIM.M.F-S2 | Planned | 2012 | IDIC |
| SIM.M.F-S3 | Report in progress, Draft B | 2012 - 2013 | NIST |
| SIM.M.F-S4 | Protocol complete | 2012 - 2013 | IDIC |
| SIM.M.M-S6 | Report in progress, Draft B | 2009 | CESMEC Ltda. |
| SIM.M.P-S2 | In progress | 2009 - 2011 | INMETRO |
| SIM.M.P-S3 | Protocol complete | 2010 | LCPN-P |
| SIM.M.P-S4 | Protocol complete | 2010 | LCPN-P |
| SIM.M.P-S8 | Planned | 2012 | ENAER |
| SIM.M.P-S9 | Planned | 2012 | ENAER |
| SIM.QM-S3 | Report in progress, Draft A | 2012 | NIST |
| SIM.QM-S4 | Report in progress, Draft A | 2012 | NIST |
| SIM.T-S3 | Report in progress, Draft B | 2007 - 2008 | CESMEC Ltda. |
| SIM.T-S3 | Report in progress, Draft B | 2007 - 2008 | INEN |
| SIM.T-S4 | Report in progress, Draft B | 2008 | PTB |
| SIM.T-S6 | Report in progress, Draft A | 2012 - 2014 | NIST |

(list corrected on 10 April 2019)