

## KCDB REPORT TO THE 35th JCRB MEETING

1 September 2015 to 1 March 2016

### 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<sup>1</sup>.

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 Section 4 gives information on a “**pop-up survey**” on the KCDB web. Information on the possible forthcoming **review of the KCDB**, in the context of the Review in the CIPM MRA, is presented in Section 5.

## 1. CIPM MRA Appendix C : Calibration and Measurement Capabilities

### 1.1. Status of the KCDB CMC database

On 1 March 2016, the KCDB included a total of 24 580 CMCs:

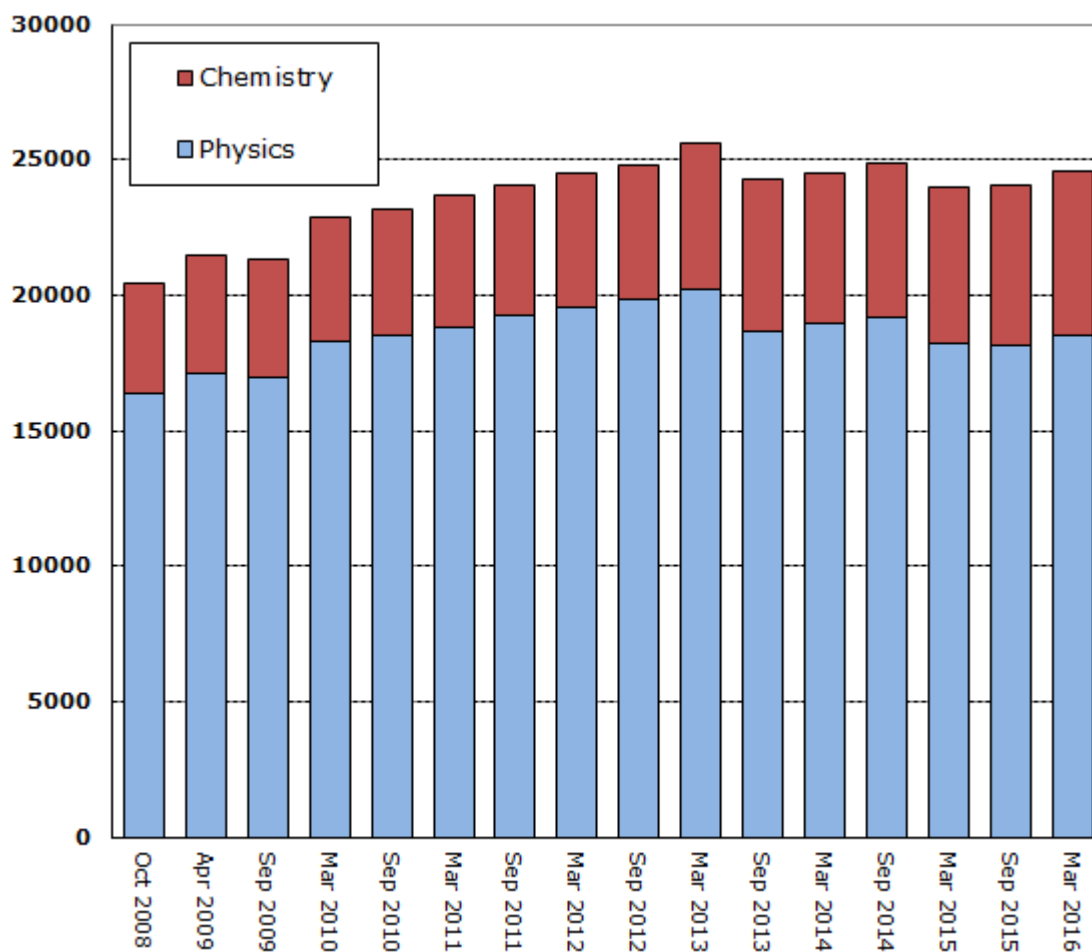
- 18 502 in Physics,
- 6 078 in Chemistry.

Over the last six months 31 countries published CMCs. The total number of CMCs increased by 539 over the last 12 months, corresponding to an increase by 2.2 %. The number of CMCs in Chemistry increased by 5.4 % while CMCs in Physics increased by 1.7 %; none of the figures are particularly large compared to previous.

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

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 available on [KCDB Statistics](#).



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

### 1.2. CMC publications (excluding revisions)

CMCs treated by the BIPM KCDB Office between 1 September 2015 and 1 March 2016 are listed in Table 1<sup>2</sup>

<sup>2</sup> Published CMCs are announced in "[CMCs News](#)".

**Table 1.** Published CMCs from 1 September 2015 until 1 March 2016

	RMO / economy	Field	CMCs
September 2015	EURAMET : CH, PT	M	- 6
	Slovenia	QM	+ 1
	Netherlands	AUV	- 6
	Bosnia Herzegovina	M	+ 1
	Argentina	L	+ 2
	APMP: CN, TW	L	+ 49
October 2015	EURAMET : CH, DE, FI, GB, NL, PL, SK, TR	L	+ 33
	EURAMET : ES, FR	AUV	+ 16
	November 2015	SIM : BR, US	QM
November 2015	Colombia	T	+ 37
	EURAMET : AT, CH, DE, HU, IT, ME, NO, PL, SI	T	+ 98
	APMP : CN, ID, PH	T	+ 26
	Slovenia	RI	+ 14
	December 2015	Italy <sup>A</sup>	EM
December 2015	Peru	M	+3
	Montenegro	M	+1
	Belarus	L	+1
	January 2016	Mexico <sup>A</sup>	AUV
January 2016	Slovakia <sup>A</sup>	AUV	- 6
	Finland	L	- 3
	Italy	QM	- 2
	APMP : AU, CN, HK, JP, SG, IN, KR, TH, TW	QM	+176
	February 2016	Denmark	L
February 2016	Thailand	QM	+ 1
	United States <sup>B</sup>	EM	+ 129
	Portugal	L	- 2
	Hungary	L	- 1
	United Kingdom	L	- 4

A : result of greying out

B : result of reinstatement

The CMCs in Chemistry declared via APMP and associated with the annual April-meeting of CCQM in 2015 were not published until January 2016 after the evidence for their quality system was provided. The Netherlands deleted all their CMCs in AUV as a consequence of a reorganization of the VSL activities. The Swiss DI "ROTH+CO.AG" and the BMM of Montenegro published their first CMCs in November 2015 that were in thermometry.

### 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.

**Table 2.** Deleted, greyed-out or reinstated CMCs from 1 September 2015 until 1 March 2016

	State/economy	Field	Action
1 September 2015	Netherlands	AUV	Deletion of 6 CMC - interrupted service
28 September 2015	New Zealand	EM	Definitive deletion of 5 CMCs after greying out period
28 September 2015	Canada	PR	Definitive deletion of 4 CMCs after greying out period
9 December 2015	Italy	EM	15 CMCs greyed out
15 December 2015	Kazakhstan	QM	1 CMCs partially greyed out
6 January 2016	Mexico	AUV	16 CMCs greyed out
13 January 2016	Slovakia	AUV	6 CMCs greyed out
22 January 2016	Canada	L	Definitive deletion of 11 CMCs after greying out
11 February 2016	United States	EM	129 CMCs re-sinstated
12 February 2016	Portugal	L	1 CMC greyed out

The present situation regarding temporary removal (“greying-out”) and re-instatement of CMCs is available on-line from page 5 of the [Statistics page of the KCDB](#) , and is illustrated in Table 3. In total 142 CMCs are greyed out.

The dates of the greying-out of CMCs are listed in the spreadsheet “Dates of CMCs greying-out” of the EXCEL file “CMCsNumber\_2015, available from the [access-restricted JCRB CMC website](#) (see “KCDB statistics”).

**Table 3.** Number of CMCs temporary removed (“greyed-out”) from the KCDB, by country and by metrology area, as at 1 March 2016.

	AUV	M	PR	EM	T	RI	L	QM	TF	Total
<b>APMP</b>										
AU				27						27
NZ										0
KR								5		5
TH						3				3
ZA		2								2
										<b>Total APMP: 37</b>
<b>COOMET</b>										
KZ								1 partially Cat. 6		0
										<b>Total COOMET: 0</b>
<b>EURAMET</b>										
BE				25					6	31
FI		6								6
FR		3		3						6
IAEA						1				1
IT				15						15
PT							1			1
SK	6									6
										<b>Total EURAMET: 66</b>
<b>SIM</b>										
MX	16		3					2		21
AR							1			1
CA							0			0
US		3	1	8		1				13
BR								4		4
										<b>Total SIM: 39</b>
										<b>TOTAL: 142</b>

#### 1.4. CMC statistics according to RMO

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

**Table 4.** information on CMC statistics per RMO

Entity	Total number of CMCs on 1 March 2016
AFRIMETS	451
APMP	5612
COOMET	2344
EURAMET	10949
GULFMET <sup>3</sup>	0
SIM	4974
ESA	0
IAEA	22
IRMM	228
WMO	0

The APMP and SIM represent the largest relative increase by 5 and 4 %, respectively, during the six last months.

## 2. CIPM MRA Appendix B : Key and supplementary comparisons

### 2.1. Present status

On 1 March 2016, the KCDB covered 1387 comparisons distributed as listed in Table 5; 933 key comparisons and 454 supplementary comparisons. In fact, 67 of the 91 BIPM key comparisons are all part of the BIPM.RI(II)-K1 (SIR equivalent activity). On the other side, 22 ongoing BIPM comparisons cover each tens of completed comparisons carried out between the BIPM and different metrology institutes.

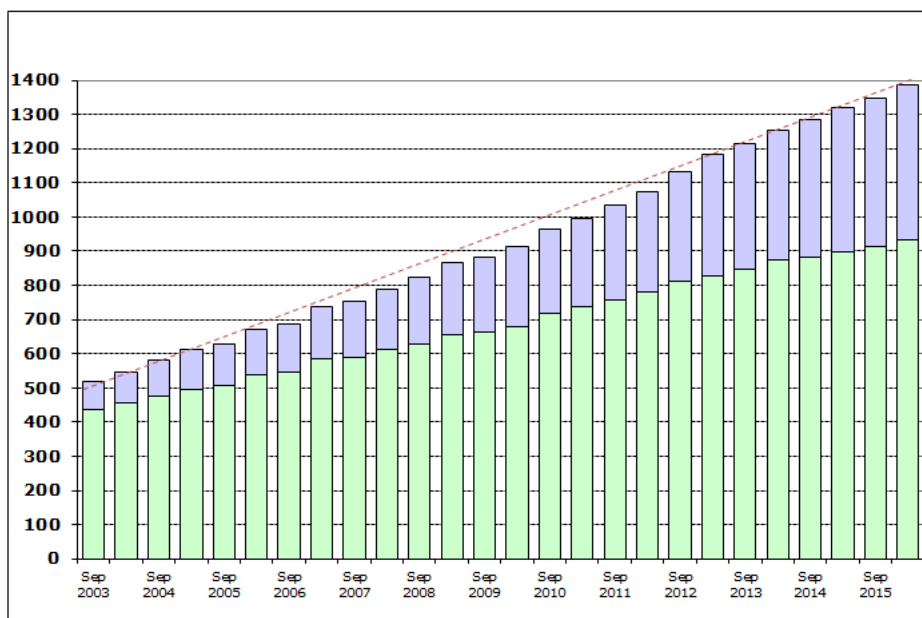
Figure 2 shows the evolution of the total number of key (green) and of supplementary (violet) comparisons registered in the KCDB since September 2003. The added linear red dashed curve puts in evidence a slight increase in added comparisons over 2007 to 2012. However, the annual increase of key comparisons is around  $+40 \pm 8$  per year taking into account the history since 2004.

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

It may be noted that the number of participating institutes at each comparison on average is 35% larger for key comparison than for supplementary comparisons.

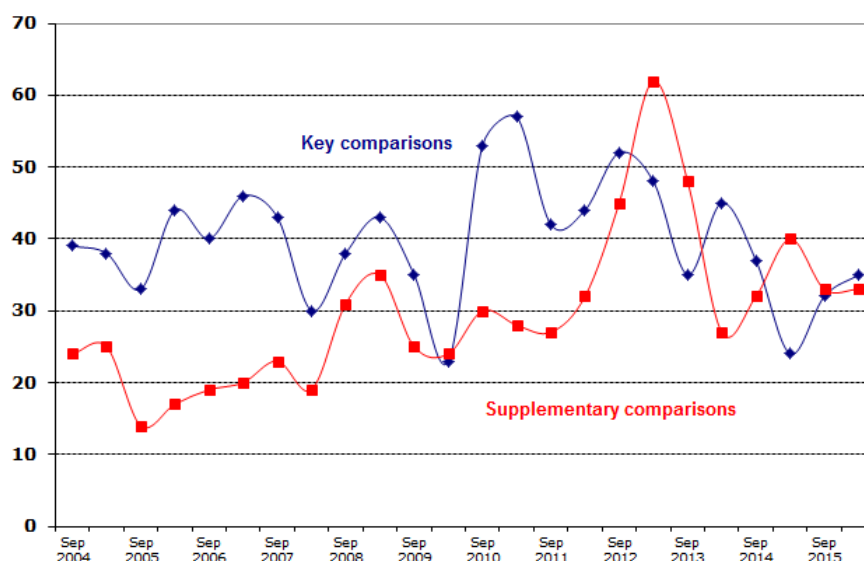
**Table 5.** Key and Supplementary Comparisons on 1 March.

Entity	KC	SC
BIPM	91	1
CC	457	28
AFRIMETS	4	16
APMP	130	91
COOMET	44	75
EURAMET	151	165
GULFMET <sup>4</sup>	0	0
SIM	56	78



**Figure 2.** Total number of key comparisons and supplementary comparisons registered in the KCDB: evolution since September 2003

<sup>4</sup> The GULFMET was approved as an RMO on a provisional basis by the CIPM in October 2015.



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

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 from the [Statistics page of the KCDB](#) in February 2016; next update is due in May 2016.

## 2.2. Registrations and modifications of comparisons

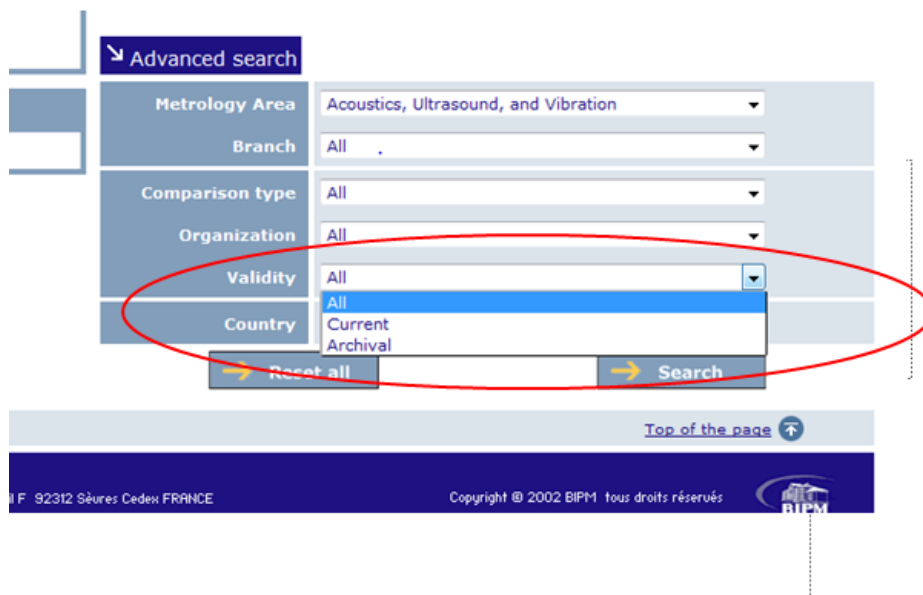
From 1 September 2015 the following were registered as new comparisons:

AFRIMETS.AUV.A-K5	CCL-K4.2015	COOMET.L-S19
AFRIMETS.EM-S1	CCPR-K2.b.2016	COOMET.M.G-S1
AFRIMETS.T-S5	CCQM-K108.2014	COOMET.M.M-S2
APMP.M.FF-S1	CCQM-K111.1	COOMET.QM-S3.2015
APMP.M.F-S1	CCQM-K137	COOMET.T-S2
APMP.M.H-S5	CCQM-K138	EURAMET.L-S25
APMP.M.H-S6	CCQM-K140	EURAMET.M.G-K2
APMP.M.P-K7.2	CCQM-K41.2017	EURAMET.M.P-S17
APMP.M.P-S9	CCQM-K74.2017	EURAMET.QM-S10
APMP.M.T-S1	CCQM-K86.b	EURAMET.RI(II)-K2.I-131
APMP.QM-K91	CCRI(II)-S12	SIM.QM-S5
BIPM.RI(II)-K1.Ge-68	COOMET.AUV.A-K5	SIM.QM-S6
BIPM.RI(II)-K4.Cu-64	COOMET.L-S18	SIM.QM-S7



There are 88 comparisons completed *before* the implementation of the CIPM MRA which are part of the KCDB. Many of these were reported in the 1980ies and early 90ies. With the objective to present a truer picture of the comparison landscape, the BIPM KCDB Office consulted the CCL, CCPR, CCM and the CCAUV to learn to which extent these comparisons could be placed in the already existing, but until now empty, KCDB archives. This facility allows search on archived comparisons on the KCDB web. The CC feedback resulted in placing 25 superseded key comparisons and 6 superseded supplementary comparisons in the KCDB archives on 6 January 2016.

Five key comparisons, having passed the 20-year limit set by the CCRI, were also archived. Three additional key comparisons – EURAMET.PR-K4.1, EURAMET.PR-K6.3 and CCEM-K3.1 – were added to the archives after having been classified as abandoned by the pilot institute. The 39 archived comparisons on 1 March 2016 are listed in Appendix 1.



**Figure 4.** Cut from the KCDB search on comparisons. “Validity” signifies whether the comparison is used as support or has been archived. The default setting is presently “All” giving access to the entire set of comparisons when doing a search.

### 2.3. Published results of key and supplementary comparisons

From 1 September 2015 the following were published:

AFRIMETS.AUV.A-S1	BIPM.RI(I)-K8 (NMIJ-AIST)	EURAMET.L-K1.2011
AFRIMETS.L-S3	CCAUV.U-K3.1	EURAMET.L-K3.2009.1
APMP.EM.RF-K3.F	CCM.D-K4	EURAMET.L-K7.2014
APMP.L-S4	CCQM-K94	EURAMET.L-K8.2013
APMP.M.P-S5	CCQM-K99	EURAMET.M.D-K2
BIPM.EM-K10.b (PTB)	COOMET.EM-K10.b	EURAMET.M.M-S8
BIPM.EM-K11.a (JV, NIMT, SMD, NSAI NML)	COOMET.L-S13	EURAMET.PR-K1.A
BIPM.EM-K11.b (JV, NIMT, SMD, NSAI NML)	COOMET.M.F-S2	EURAMET.RI(I)-S4.1
BIPM.QM-K1 (DMDM)	COOMET.QM-K93	SIM.EM-S11
BIPM.RI(I)-K1 (ENEA-INMRI)	COOMET.QM-S3	SIM.L-K3.2008
BIPM.RI(I)-K1.F-18 (LNE-LNHB)	COOMET.QM-S5	SIM.L-S6
BIPM.RI(I)-K3 (NMIJ-AIST)	COOMET.T-S1	SIM.M.D-K3
BIPM.RI(I)-K4 (PTB)	EURAMET.AUV.V-K3	SIM.T-6.1
BIPM.RI(I)-K7 (ENEA-INMRI)		

### 2.4. Follow-up on Action 33/3 from the 33rd JCRB meeting

**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.*

On 1 September 2015, 82 out of 915 KCs registered 2010 and earlier were uncompleted. Similarly, 46 out of 433 registered SCs registered 2010 and earlier remained uncompleted on 1 September 2015.

Out of these, 7 were published during the last 6 months, 2 were declared abandoned and another 11 comparisons had their status updated. On 1 March 2016, there were 31 uncompleted key and supplementary comparisons that had started in 2011. Half of these are in Mass, rather equally distributed amongst the different RMOs (*cf. Presentation by Dr Douglas Olson – JCRB Executive secretary – March 2016*). The comparisons in question are listed in listed in Appendix 2.


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

Table 6 summarizes the participation of the [40 Associates of the CGPM](#) in CIPM MRA activities as at 1 March 2016.

New CMCs have been added by a number of countries where the total decrease of 26 CMCs compared to September 2015 is largely a result of Lithuania being no longer an associate but having become a Member of the BIPM. To be noted are the first CMCs declared by Montenegro that were included into the KCDB in November 2015. However, only 22 states/economies have CMCs published in the KCDB. The repartition of CMCs among Associates is illustrated in Figure 5.

**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.<sup>5,6</sup>

**Associates of the CGPM and the KCDB: CMCs and participation in key and supplementary comparisons**



Associate of the CGPM	Date of becoming an Associate	Date of signature of the CIPM MRA	Published CMCs	Greyed-out CMCs	Date of publication of the first CMC	Area of the first CMC	Key comparisons	Supplementary comparisons
Albania	10 September 2007	10 October 2007	7	0	05 April 2013	Mass Standards	7	3
Azerbaijan	01 January 2015	28 January 2015	0	0	-	-	1	5
Bangladesh	29 March 2010	25 March 2011	0	0	-	-	0	2
Belarus	05 May 2003	14 October 2003	226	0	07 April 2004	Acoustics, Ultrasound and Vibration	35	41
Bolivia	04 April 2008	16 May 2008	0	0	-	-	5	15
Bosnia and Herzegovina	24 May 2011	15 June 2011	9	0	08 June 2012	Mass Standards	9	5
Botswana	30 May 2012	26 July 2012	0	0	-	-	1	3
CARICOM	10 October 2005	12 October 2005	0	0	-	-	0	0
Chinese Taipei	26 April 2002	04 June 2002	368	0	21 October 2003	Mass Standards, Force, Hardness, Pressure	97	45
Costa Rica	29 January 2004	06 October 2004	105	0	26 November 2008	Mass Standards	18	23
Cuba	19 December 2000	18 June 2001	113	0	02 May 2005	Ionizing radiation (I and II)	6	19
Ecuador	20 November 2000	15 April 2001	20	0	16 September 2011	Mass Standards	5	19
Estonia	27 January 2005	23 March 2005	4	0	05 May 2014	Humidity	7	10
Georgia	01 January 2008	17 June 2008	30	0	20 March 2014	Thermometry	5	10
Ghana	17 September 2009	24 February 2010	0	0	-	-	2	5
Hong Kong, China	08 April 2000	31 May 2000	228	0	13 December 2000	Length (Laser, Dimensional)	75	22
Jamaica	15 September 2003	21 July 2004	22	0	24 August 2006	Mass Standards	8	8
Latvia	11 January 2001	13 March 2001	59	0	23 March 2005	Length (Dimensional)	13	7
Luxembourg	29 January 2014	01 October 2014	0	0	-	-	1	1
Macedonia, the FYR of	10 October 2006	14 November 2007	13	0	02 July 2013	Fluid Flow	6	7
Malta	11 April 2001	20 June 2001	0	0	-	-	4	4
Mauritius	05 October 2010	09 March 2011	0	0	-	-	2	2
Moldova, Republic of	01 January 2007	14 November 2007	40	0	26 September 2013	Thermometry	2	9
Mongolia	07 August 2013	23 October 2013	0	0	-	-	3	2
Montenegro	01 August 2011	19 October 2011	16	0	20 November 2015	Thermometry	5	4
Namibia	10 August 2012	16 October 2012	0	0	-	-	0	2
Oman	08 May 2012	20 November 2014	0	0	-	-	0	0
Panama	03 August 2003	16 September 2003	34	0	11 September 2006	Mass Standards	9	18
Paraguay	06 May 2009	27 October 2009	23	0	31 January 2011	Mass Standards	2	15
Peru	28 May 2009	17 November 2009	99	0	03 August 2010	Mass Standards	17	35
Philippines	01 June 2002	19 December 2002	31	0	18 December 2013	Mass Standards	12	8
Seychelles	10 September 2010	12 November 2010	0	0	-	-	0	2
Slovenia	02 June 2003	23 June 2003	231	0	11 May 2004	Electricity and Magnetism	45	24
Sudan	26 June 2014	26 June 2014	0	0	-	-	0	1
Syrian Arab Republic	31 May 2012	17 September 2012	0	0	-	-	12	3
Ukraine	19 August 2002	14 October 2003	234	0	10 January 2005	Length (Laser, Dimensional)	53	75
Viet Nam	10 October 2003	16 September 2004	31	0	21 July 2010	Time and Frequency	31	8
Yemen	21 July 2014	17 November 2014	0	0	-	-	0	0
Zambia	10 December 2010	3 February 2011	0	0	-	-	1	5
Zimbabwe	14 September 2010	14 January 2011	0	0	-	-	1	5

At least one of the declared national metrology institutes of each state/economy participate in a key or supplementary comparison except in three cases, see Figure 6. Over the last 6 months the participation in supplementary comparisons increased by more than 10 %.

<sup>5</sup> These numbers take into account all comparisons registered in the KCDB, disregarding status, for which at least one laboratory of the Associate is listed in the participants list.

<sup>6</sup> 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 in "real-time". The numbers given here show the situation as at 1 March 2016.

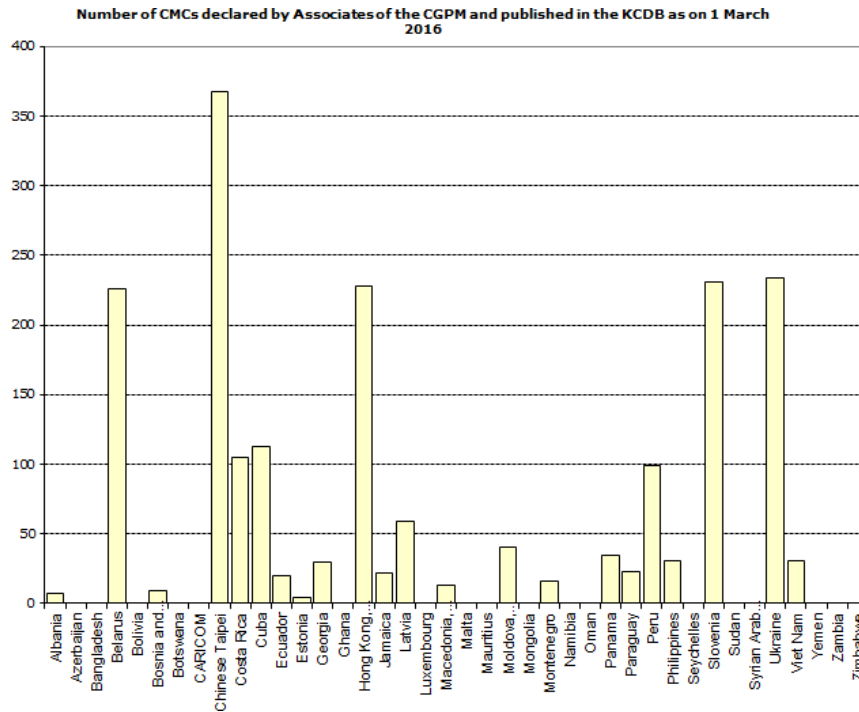


Figure 5. Graph on the number of CMCs declared by Associates of the CGPM

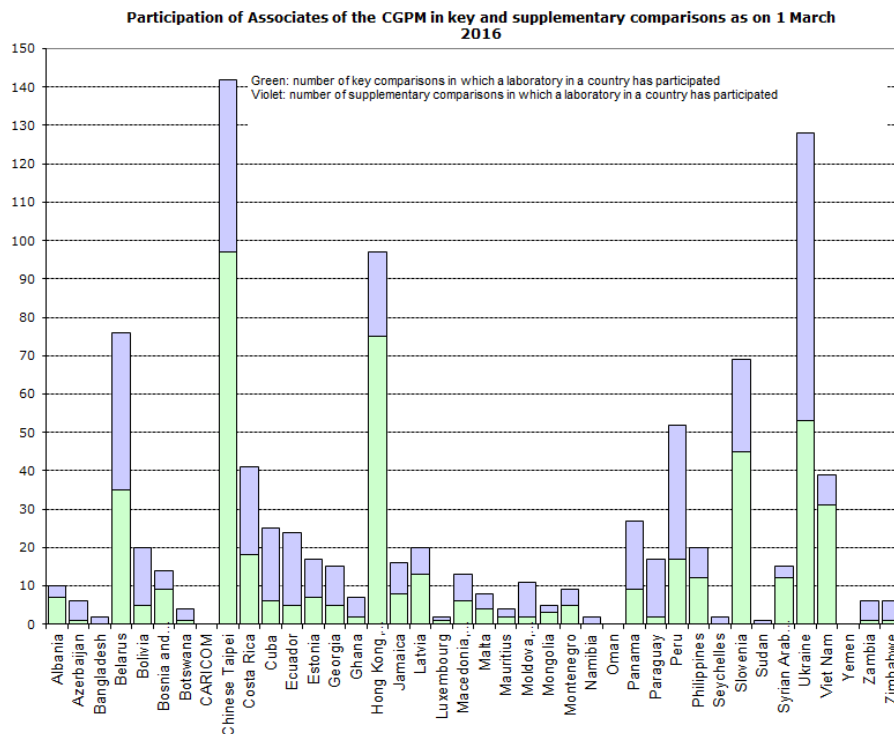


Figure 6. Graph on the participation of Associates of the CGPM in

*key and supplementary comparisons*

#### **4. Pop-up Survey on the KCDB**

A “pop-up” survey, appearing when consulting the KCDB home page, was launched in December 2014. It iterated two questions:

1. What is the purpose of your visit today?
2. How easy was it to find the information?

More than a third of the visits concerned CMCs and calibration, a quarter of the visits were on comparisons and 16% dealt with accreditation. A majority of users who replied found it easy to find the information needed on the KCDB, but it is unclear how many were already acquainted.<sup>7</sup>

**The KCDB Office suggests to the JCRB to stop this survey.** The detailed replies are listed in Appendix 3.

#### **5. Future revision of the BIPM KCDB**

From 1999, the KCDB web system/application has successively been adapted to reply to external demands. At the beginning it seemed convenient to use EXCEL files, available broadly. The KCDB grew rapidly and was equipped with the powerful search engine EXALEAD in 2007, but this engine is no longer maintained. The KCDB was initially developed using a Microsoft ASP language which is no longer supported, preventing future improvements.

Today’s users require modern software tools and advanced search facilities. With the current review of the implementation of the CIPM MRA, requests have been expressed by NMIs and Consultative Committees to also revise the KCDB support. To prepare for the revision of the CIPM MRA the KCDB Office, in collaboration with the JCRB Executive Secretary and the BIPM IT team, studied and drafted possible scenarios for a revised KCDB based on feedback received from the Consultative Committees, RMOs and NMIs. With support by an external company, the KCDB Office carried out a study in September 2015 on possible scenarios and their associated estimated costs.

A web based platform for CMC submission and review is perceived as the most urgent demand. It would allow submitters and reviewers to work on a chosen number of specific CMCs: new, modified, deleted or greyed-out. Collaboration would be simplified and comments and replies could be stored. Modification of vocabulary could be made almost instantaneously. A numerical comparison of capabilities of each country would be made possible and additional information could be made accessible – at least on a restricted basis – such as documents concerning the Quality System.

The KCDB information on comparisons (Appendix B) may be simplified, as well as the generation of statistics.

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<sup>7</sup> One visitor may reply to several questions, therefore the indicated percentage in the Appendix 3 may be misleading.

All modifications would involve changes of both the front office (user side) as well as the back office (technical support to the KCDB office and programming).

The scenarios and costs were summarized and presented to the NMI Directors at their meeting at the BIPM on 13 to 14 October 2015 <http://www.bipm.org/utis/common/documents/CIPM-MRA-review/presentations/BIPM-presentation.pdf>.

Referring to the precedent paragraph, in case of a revised version of the KCDB it would be instructive to launch, if not identical, a similar survey to get feedback on possible improvements.

### **Acknowledgements**

Many thanks to Dr Douglas Olson, JCRB Executive Secretary for his assistance.

**APPENDIX 1**

**Archived comparisons on 1 March 2016**

BIPM.L-K10	Superseded	
BIPM.L-K11	Superseded	
EUROMET.L-K1.PREV	Superseded	
EUROMET.L-K2.PREV	Superseded	
EUROMET.L-K4.PREV	Superseded	
EUROMET.L-K5.PREV	Superseded	
SIM.L-K1.PREV	Superseded	
SIM.L-K6.PREV	Superseded	
EUROMET.L-S1	Superseded	
EUROMET.L-S3	Superseded	
EUROMET.L-S13	Superseded	
CCPR-K1.PREV(1991)	Superseded	
CCPR-K2.PREV(1992)	Superseded	
CCPR-K2.PREV(1994)	Superseded	
EUROMET.PR-K3.a.PREV(1994)	Superseded	
EUROMET.PR-K3.a.PREV(1995)	Superseded	
EUROMET.PR-K6.PREV(1996)	Superseded	
SIM.PR-K5.PREV(1997)	Superseded	
SIM.PR-K6.PREV(1990)	Superseded	
SIM.PR-K6.PREV(1993)	Superseded	
CCM.P-K8	Superseded	
CCM.P-K10	Superseded	
CCM.P-K11	Superseded	
CCM.M-K1	Superseded	
CCM.M-K2	Superseded	
SIM.M.V-S1	Superseded	
EUROMET.M.V-S1	Superseded	
EUROMET.M.V-S2	Superseded	
EUROMET.M.V-S4	Superseded	
EUROMET.M.M-K1	Superseded	
EUROMET.M.D-K1	Superseded	
CCRI(II)-K2.Ba-133	Passed 20 year limit	
CCRI(II)-K2.Ce-139	Passed 20 year limit	
CCRI(II)-K2.Cs-134	Passed 20 year limit	
CCRI(II)-K2.Cs-137	Passed 20 year limit	
CCRI(II)-K2.I-125	Passed 20 year limit	
CCEM-K3.1	Abandoned	<i>(destroyed transfer standard)</i>
EURAMET.PR-K6.3	Abandoned	<i>(will join instead new CC comparison to be organized within short)</i>
EURAMET.PR-K4.1	Abandoned	<i>(technical issue)</i>

**APPENDIX 2**














**List of uncompleted comparisons started in 2011  
as at 1 March 2016**

AFRIMETS.RI(I)-S1	2011 - 2013
APMP.EM-S8	2011 - 2013
APMP.M.F-K3.a	2011 -
APMP.M.F-K3.b	2011 -
APMP.M.H-S4	2011
APMP.T-K3.4	2011 - 2013
APMP.T-K3.5	2011 - 2014
APMP.T-K7.1	2011 - 2012
APMP.T-K8	2011 - 2013
APMP.T-S8	2011 - 2015
CCL-K1.2011	2011 - 2014
CCM.D-K3	2011 -
CCM.FF-K5.2011	2011 - 2012
CCM.H-K3	2011 - 2012
CCM.P-K14.1	2011 - 2012
CCQM-K84	2011
CCQM-K97	2011
CCRI(II)-S10	2011 - 2012
CCRI(II)-S9	2011
CCT-K9	2011 - 2012
COOMET.L-K3	2011 - 2012
COOMET.PR-S2	2011 - 2012
EURAMET.EM-S37	2011 - 2013
EURAMET.M.M-S3	2011 - 2012
EURAMET.M.P-K1.c	2011 - 2014
EURAMET.M.P-S9	2011
SIM.M.M-S9	2011 - 2012
SIM.M.P-K1.c	2011 - 2013
SIM.M.P-K2	2011 - 2013
SIM.M.P-K6.1	2011 - 2013
SIM.M.P-S5	2011 - 2013



**APPENDIX 3**                      **Survey replies on 1 March 2016**

**Question 1**











1. What is the purpose of your visit today ?			
		Response Percent	Response Count
<b>I need a source for traceability for my laboratory accreditation</b>		<b>15.6%</b>	<b>38</b>
I am from an accreditation body		6.6%	16
I need to report my activities related to comparisons and or/CMCs to my government		7.8%	19
I want to find a specific calibration service		8.6%	21
I need traceable data for my research work		5.3%	13
I wish to check results of my laboratory in comparisons		9.9%	24
I wish to check results of other laboratories in comparisons		10.3%	25
I need to verify published CMCs of my laboratory		13.2%	32
<b>I need to access published CMCs of other laboratories</b>		<b>15.6%</b>	<b>38</b>
I need information of the statistics of the KCDB		9.1%	22
I wish to access a KCDB Report		14.8%	36
I need to look at the KCDB FAQs		2.9%	7
<b>Other, please specify</b> <a href="#">Show replies</a>		15.2%	37
<b>answered question</b>			<b>243</b>
<b>skipped question</b>			<b>0</b>

**Question 1 – Other**

1. Download KC protocol	Wed, Feb 24, 2016 1:19 AM	<a href="#">Find...</a>
2. I need to review the impact of changes to service categories on the CMC database	Tue, Jan 26, 2016 1:19 AM	<a href="#">Find...</a>
3. I need to know the status of a country within the MRA	Tue, Dec 29, 2015 5:12 AM	<a href="#">Find...</a>
4. I need to access the Appendix A	Wed, Dec 9, 2015 9:46 AM	<a href="#">Find...</a>
5. after introduction of KCDB by Dr. Pichard, just looking around	Wed, Nov 4, 2015 10:33 PM	<a href="#">Find...</a>
6. Colombia, Thermometry	Fri, Oct 16, 2015 11:40 AM	<a href="#">Find...</a>
7. I want to check the reliability of someCMCs	Wed, Oct 7, 2015 3:40 AM	<a href="#">Find...</a>
8. I need to know if for low ppm NH3 MC's are already declared	Wed, Oct 7, 2015 12:54 AM	<a href="#">Find...</a>
9. I am preparing an advisory document on the CIPM MRA for Myanmar	Tue, Sep 22, 2015 8:35 PM	<a href="#">Find...</a>
10. looking for a metadata registry of the controlled vocabularies developed and maintained by BIPM for use in open, linked data	Wed, Sep 16, 2015 11:32 AM	<a href="#">Find...</a>
11. curiosity	Thu, Aug 27, 2015 6:29 AM	<a href="#">Find...</a>
12. I need equivalence information on length measures outside the S.I.	Mon, Aug 17, 2015 5:59 AM	<a href="#">Find...</a>
13. Advice to NMI to be created in Nigeria	Fri, Jul 10, 2015 5:45 AM	<a href="#">Find...</a>
14. I need to locate a KC report	Wed, Jul 1, 2015 2:58 PM	<a href="#">Find...</a>
15. dissertation work sizes optic sensors and transducers	Wed, Jun 24, 2015 10:56 PM	<a href="#">Find...</a>
16. 1ST TIME SEARCH	Tue, Jun 23, 2015 8:57 AM	<a href="#">Find...</a>
17. I need to check membership status of a country in the Metre Convention	Thu, Jun 18, 2015 12:34 AM	<a href="#">Find...</a>
18. I need CMCs to check for the intra CMC-review	Wed, Jun 10, 2015 12:21 AM	<a href="#">Find...</a>
19. pharmaceuticals	Fri, Jun 5, 2015 7:45 AM	<a href="#">Find...</a>
20. Check of details of KC	Wed, Jun 3, 2015 5:43 AM	<a href="#">Find...</a>
21. I was trying to find information for a non-scientific colleague	Mon, Jun 1, 2015 9:33 AM	<a href="#">Find...</a>
22. I want to compare my NMI CMCs with that of other NMIs for customers	Tue, May 19, 2015 12:26 PM	<a href="#">Find...</a>

23. I need to modify CMCs of my laboratory	Wed, Apr 29, 2015 12:55 PM	<a href="#">Find...</a>
24. Research on benefits of metrology	Sun, Apr 12, 2015 11:58 PM	<a href="#">Find...</a>
25. want to direct other people to the KCDB	Mon, Mar 30, 2015 3:09 AM	<a href="#">Find...</a>
26. I need to check a Key Comparison status	Sun, Mar 15, 2015 11:57 AM	<a href="#">Find...</a>
27. I need a reference to my results in a published comparison	Mon, Mar 9, 2015 7:23 AM	<a href="#">Find...</a>
28. checking references in scientific publication	Thu, Mar 5, 2015 2:38 AM	<a href="#">Find...</a>
29. Planck Temperature and the other Planck Units	Wed, Feb 18, 2015 7:41 PM	<a href="#">Find...</a>
30. searching for CMC service categories in the field of CCPR	Tue, Feb 17, 2015 5:08 AM	<a href="#">Find...</a>
31. Locate correct webpage reference for a sectorial pre-normative document	Sun, Feb 15, 2015 10:19 AM	<a href="#">Find...</a>
32. I need information of the key comparison	Thu, Feb 5, 2015 12:54 AM	<a href="#">Find...</a>
33. trying toundersatnd all the acronyms	Tue, Feb 3, 2015 11:28 PM	<a href="#">Find...</a>
34. i need to access som comparison report about absorbed dose rate at beta standard field	Tue, Jan 20, 2015 12:59 AM	<a href="#">Find...</a>
35. Looking for official time	Sun, Jan 11, 2015 5:26 PM	<a href="#">Find...</a>
36. curiosity	Fri, Dec 26, 2014 1:14 AM	<a href="#">Find...</a>
37. I want to properly cite the KCDB	Sat, Dec 20, 2014 10:38 AM	<a href="#">Find...</a>

**Question 2**

2. How easy it was to find the information?			
		Response Percent	Response Count
<b>It was very easy to find information on CMCs</b>		<b>33.3%</b>	<b>74</b>
<b>It was quite easy to find information on CMCs</b>		27.9%	62
<b>It was not easy to find information on CMCs</b>		7.2%	16
<b>It was very easy to find information on comparisons</b>		12.2%	27
<b>It was quite easy to find information on comparisons</b>		10.8%	24
<b>It was not easy to find information on comparisons</b>		3.6%	8
<b>I did not find at all the information I needed</b>		5.4%	12
<b>I needed information in EXCEL or Word format and could only find PDF files</b>		3.2%	7
<b>The KCDB does not include the type of information I needed</b>		1.8%	4
<b>Other (please specify)</b> <a href="#">Show replies</a>		8.1%	18
<b>answered question</b>			<b>222</b>
<b>skipped question</b>			<b>21</b>

**Question 2 - Other**

1. I could not locate where to download the submitted CMC excel files	Tue, Jan 26, 2016 1:19 AM	<a href="#">Find...</a>
2. I found the information easily	Tue, Dec 29, 2015 5:12 AM	<a href="#">Find...</a>
3. I think I looked in the wrong place for background information on MT	Wed, Dec 16, 2015 8:51 AM	<a href="#">Find...</a>
4. The information available was easy to find, but I would have liked to filter on KCs in progress, and easily find the pilot NMIs.	Thu, Nov 5, 2015 3:22 AM	<a href="#">Find...</a>
5. information is good enough, but the UI and UX should be improved	Wed, Nov 4, 2015 10:33 PM	<a href="#">Find...</a>
6. My task was unconventional, so that I had to look through a number of CMCs and KCs to find what I was searching. Overall, it was a good experience	Wed, Oct 7, 2015 3:40 AM	<a href="#">Find...</a>
7. I could not find End standards. Long gauge blocks (steel): central length L, 100 mm to 1000 mm in Chinese Taipei, CMS	Wed, Sep 30, 2015 8:53 PM	<a href="#">Find...</a>
8. I knew in advance how to find the information	Wed, Sep 16, 2015 12:19 AM	<a href="#">Find...</a>
9. INM Optical Quantities Laboratory Romania	Wed, Jun 24, 2015 10:56 PM	<a href="#">Find...</a>
10. It was easy to find the information which I needed	Thu, Jun 18, 2015 12:34 AM	<a href="#">Find...</a>
11. information was difficult to find	Wed, Apr 29, 2015 12:55 PM	<a href="#">Find...</a>
12. The information was easy to find, but it's obsolete. There are comparisons started in 2005 and there is no published results yet!	Wed, Apr 22, 2015 7:42 AM	<a href="#">Find...</a>
13. The CMC I needed didn't exist but I can pass that on to the customer.	Sun, Mar 29, 2015 12:36 PM	<a href="#">Find...</a>
14. cf 1	Tue, Feb 17, 2015 5:08 AM	<a href="#">Find...</a>
15. The list of participants seem not updated !	Thu, Feb 5, 2015 12:54 AM	<a href="#">Find...</a>
16. absolutely no idea whether I have found it or not. the site is so extremely difficult to understand	Tue, Feb 3, 2015 11:28 PM	<a href="#">Find...</a>
17. final updated date of KCs/SCs is needed to check our participation performance	Sun, Jan 4, 2015 9:07 PM	<a href="#">Find...</a>
18. not searching anything precise	Fri, Dec 26, 2014 1:14 AM	<a href="#">Find...</a>