BIPM Perspectives

13th – 14th October 2015

Dr Martin Milton
BIPM Director
CMC distribution between DIs and NMIs, physical

<table>
<thead>
<tr>
<th>Physical CMCs: 16 % DIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of CMCs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Country or Organization</th>
<th>% CMCs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>16</td>
</tr>
<tr>
<td>Chemistry</td>
<td>23</td>
</tr>
<tr>
<td>Ionizing Radiation</td>
<td>34</td>
</tr>
</tbody>
</table>

% CMCs by DIs

Physical 16
Chemistry 23
Ionizing 34
radiation
CMC distribution between DIs and NMIs, chemistry

Chemistry CMCs: 23 % DIs

% CMCs

Area by DIs

Physical 16
Chemistry 23
Ionizing 34
Radiation
CMC distribution between DIs and NMIs, ionizing radiation

Ionizing Radiation CMCs: 34 % DIs

% CMCs
Area by DIs
Physical 16
Chemistry 23
Ionizing 34
radiation
10 countries with largest number of CMCs:

<table>
<thead>
<tr>
<th>Country</th>
<th>CMCs/KC</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>5.62</td>
</tr>
<tr>
<td>Russia</td>
<td>5.74</td>
</tr>
<tr>
<td>Germany</td>
<td>3.24</td>
</tr>
<tr>
<td>China</td>
<td>4.25</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>3.15</td>
</tr>
<tr>
<td>Korea</td>
<td>3.46</td>
</tr>
<tr>
<td>Japan</td>
<td>2.82</td>
</tr>
<tr>
<td>France</td>
<td>2.45</td>
</tr>
<tr>
<td>Netherlands</td>
<td>4.27</td>
</tr>
<tr>
<td>Mexico</td>
<td>4.34</td>
</tr>
</tbody>
</table>
Incomplete comparisons started > 5 years ago

By RMO or CIPM (CCs)

By metrology area

Overall, 10 % are incomplete
- Key: 82 (out of 918)
- Supplementary: 48 (out of 438)
Towards KCDB 2.0

The BIPM reflected on how the next generation of the KCDB could be featured...
Towards KCDB 2.0

Pros-and-cons were weighted against each other, such as ...

- Flexibility of database
- Complexity of exploitation
- Degree of automatic management
- Pushing problems up-stream
- Restraints on input
- Targeted degree of quality of the database

... and
Towards KCDB 2.0

2 main scenarios were examined:

**Scenario 1**
- Minimum investment required to maintain the KCDB
  - with the option to improve the graphical interface

**Scenario 2**
- Modernized technology
- Creation of a web platform for CMC submission and review
- Improved possibility for exploiting data
Towards KCDB 2.0

Estimated cost

Scenario 1  110 k€
• Minimum investment required to maintain the KCDB
  • with the option to improve the graphical interface +30 k€

Scenario 2  +40 k€
• Modernized technology
• Creation of a web platform for CMC submission and review
• Improved possibility for exploiting data
Future possible options were also studied:

• Web Content Accessability (WCAG 2.0)
• Options on hosting
• Improved « hits » when web searching for KCBD contents
• Extraction of XML data, towards Open Data possibilities
• Syndication, i.e. the possibility to get automatic information on KCDB contents
• Applications for smartphone or tablet
Summary
The KCDB (software) **must be replaced**.

We have employed an expert soft and database consultant
- Don’t want to pre-empt the review
- Don’t want to jeopardise the legacy investment in 1400 comparisons and 24,000 CMCs
- Do want to consider new technologies.

Open to prepare options with the Working Group.