TC-IM Report for the 9th General Assembly

TC for Interdisciplinary Metrology
TC-IM Chair Robert Edelmaier
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1. General Aspects

Just to remind that the TC IM, addresses the main issues that:
- are of a cross cutting nature, or
- not covered by a specific TC,

and thus are not best addressed by one of the other EURAMET TC's or other EURAMET bodies.
At the present time, TC-IM provides a forum and opportunity for bottom-up ideas to be explored, and in particular on the CIPM MRA matters.

TC-IM has representatives from 27 of the 37 members of EURAMET.

IPQ and DMDM have nominated new contact persons to TC-IM.

Formally the Focus Group on Facilitating National Metrology Infrastructure Development is a working group of TC-IM, which led to discussions at the BoD.

2. Projects

Considering the input of BoD, the following topics were identified as first priorities during the last TC-IM meeting, and groups have been defined for each subject.

- CIPM MRA :**Christian Bock**, Robert Edelmaier, Ionel UrdeaMarcu, Maria-Luisa Rastello, Ömer Altan, Rado Lapuh, Robert Wynands
- Smart Specialisation : **Marc Pieksma**, Maria-Luisa Rastello, Ekki Isotalo, Ian Serven, Maguelonne Chambon
- Conformity assessment :**MirunaDobre**
- Guides and e-learning :**José Robles**, Erkan Danaci
- Review Terms of Reference: Robert Edelmaier

CIPM MRA

The CIPM MRA is a high level topic as the CGPM (Conference Générale des Poids et Mesures) noted. See Resolution 5 of the 25th General Conference of Weights and Measures "On the importance of the CIPM Mutual Recognition Arrangement". This has been an urgent topic because of the time schedule.

There is a significant number of questions and issues related to CIPM MRA, and a lot of interfaces within EURAMET, BoD, TCs, with RMOs, BIPM, CIPM-CCs, NMIs and ILAC.

Therefore TC-IM started a project (Lead: Ch. Bock, working Group members: R. Edelmaier, R. Lapuh, M.-L. Rastello, I. Severn, I. Urdea Marcus and R. Wynands) at the beginning of the Year 2014 (Euramet No. 1298) and drafted a paper "Making the CIPM MRA sustainable: An approach for CIPM MRA Phase II".

TC-IM members have had the opportunity to comment on it, at the same time the draft was presented to the BoD first before informing any other people.

The document was ready by June 2014 and presented at the General Assembly Meeting; this draft was opened for discussion and comments.

At the End of 2014 some comments (from TC's and BIPM e.g.) were received and collected by Christian Bock. He made a new version of the draft paper with all remarks included. This draft was evaluated by the TC-IM working group just before the last TC-IM meeting with the goal to have this draft ready as final document for the BoD and the GA after the TC-IM Meeting.

The paper was finalized in March 2015, submitted to Bod and is now part of the documents for the GA for discussion at the closed session of the GA for deriving the EURAMET position.

The main points are:

New CMC entries will only be discussed and quality checked within the RMO
Once an RMO has approved a new CMC it is entered into the database

1. A strong "appeals mechanism" has to be implemented combined with a alert mechanism "What's new in the database"
2. Improvement of the search engine of the KCDB
3. Use of matrices and formulas for reducing the number of CMC entries
4. Use of "core competences" and "anchor points" with the aim reducing the number of key comparisons
5. Number of participants in KC's is reduced to allow to finish the comparisons in a more timely manner
6. Strict deadlines are set and enforced for each participant's contribution to a KC
7. Adapting the concept of "on-going comparisons"
8. Review existing CMC entries if they are still needed

Smart Specialisation

It appears to CPs that there is a kind of confusion about the concept of European Metrology Centres because there is no common understanding of it.
Moreover, it was underlined that it might be useful but small NMIs will have no funding to contribute substantially. Some CPs expressed concerns that expensive long-term structures would be implemented that would be hard to sustain in the future.

The main point is to keep things as simple as possible. Perhaps it would be better to talk about a "collaborative network" rather than about European Metrology Centres. This would also put to rest fears by smaller NMIs that they would lose their "right to exist". In all cases, EURAMET should keep control, and it will certainly bring added value if EURAMET organizes it.

It was commonly agreed as a conclusion that there is no consensus on what is called a European Metrology Centre.

As regards Smart Specialization, this topic is a request from the EMRP committee but quite a sensitive one. During the last meeting held in Berlin, it was agreed to establish a landscape on where the competences lie and to try to identify "excellence niches". It was decided to set up a quick survey among the different countries concerning their future needs.

Mark Pieksma presented a list of questions that could help reach this aim.

The first point raised in the discussion was that it will certainly be difficult to answer such questions as presented since it will lead labs to disclose fields in which labs will or will not invest in the future. There will be political difficulties for the NMIs in disclosing this information, not least because it exposes “business plans” to the outside world and because it might lead to strong protests by customers of those subjects that are planned to be closed down. It was then agreed that the questionnaire should be changed to a different approach, for instance by rephrasing the list of questions in a positive way, i. e.: “in which field do you want to cooperate”.

Mark Pieksma did send out a revised questionnaire concerning European Metrology Centres. 10 countries answered.
The questions were among others which working field would be needed in the future and which working fields should be strengthened (chemical metrology, bio-chemistry, …).

A follow-up in EMPIR projects has been suggested and could logically lead to the building of a European metrology network. Also FGs and bilateral contracts could help since a pan-European solution is out of reach. The R&D levels of the different NMIs are too different. One should bear in mind that a top-down solution is not a good idea. To the contrary a bilateral contract – if successful – can lead to a trilateral arrangement.
TC-IM should provide a tool box (see example: natural gas, co-operation of PTB, VSL, NML, LNE). These contracts could be made public. To achieve this goal a new project will be started by Marc Pieksma.

Metrology infrastructure issues
EURAMET has a major role by the “calibration guides” of its technical committees when it comes to accreditation and equivalent technical assessment in different countries. And the promotion of the uniform use of these guides for all EA members can be seen as an horizontal role of TC-IM.

EURAMET has a role in writing the “metrology part” of regulations and standards. If there are things to be quantified, the values should agree to the state-of-the-art in measurement and should always include statements about traceability and measurement uncertainty.

There should be an EMPIR “pre-normative” call and the EURAMET guides should be turned into standards; activities should be set to the CEN-CENELEC STAIRS committee.

On metrology questions the EC only refers to JRC (with IRMM “technical questions database”). It seems advisable that EURAMET develops an own database with specific questions/answers. Therefore TC-IM started to work on this issue and all TC-IM members were asked to provide some FAQs to have a starting point for this database.

Interactive e-Learning
The courses are structured in 6 modules and 15 thematic units with one or several lessons. At the moment the first two modules are linked to the EURAMET website. The project has been stopped because of lack of collaboration.

The project could be replaced by MET-NET, a development of a web-based tool for knowledge transfer in order to multiply the impact of capacity building activities by an educational online platform (training courses, seminars, conferences, master classes, …, 24/7 available). This depends heavily on self-motivation and self-discipline.

E-learning has advantages in the costs per student (low), availability (unlimited), T&S cost (no cost), time schedule (flexible), matters (flexible), update time (immediate); disadvantages are contact with teachers and other attendees or hands-on training (difficult). There are no requirements on the hardware, the software could be an open platform like Moodle. To elaborate a 15 units course would cost approximately 22 000 €. Traditional learning and e-learning are complementary.

Two options can be seen for financing: get some funds for CB (HI-CB) or SIP (support for impact projects). For EMPIR CB funding a research orientation must be given. Another aspect is to have three options: Financing by RPots (there are better tools), directly by administrative money 2016 or (as mentioned already) by support for impact tools linked to a project.

In the discussion two opposite points of view emerged: should we wait and optimize the content and test it or should we proceed with that material which is available already (LNE) and get started. The problem with not going public and linking it is that there would be no funding at all. So a starting point is needed (the uncertainty project,eg.) to get funding and support. A CB module of e-learning should be presented to the EMPIR committee in November 2015 and going public could be started in 2016.

Review ToR

Following the discussion at the BoD TC-IM has had to review its ToR with respect to possible overlaps with activities of the Focus Group (FG-FNMID) to give a basis for a decision at the BoD about the future status of the Focus Group.

To achieve a better understanding of the activities of the Focus Group Wolfgang Schmid gave a presentation with an overview of its activities .

The joint activities of the FG rest on the principle of knowledge transfer from experienced to emerging EURAMET members. New: FG supports members participation in EMPIR Research Potential projects (RPot). Over the years there was a focus on SEE countries and AT, DE; the Europe-wide participation included IE, LU, CZ, ES, PL, EE, … Inter-Comparisons followed the pattern Comparison Exercise→ Regional Key-Comparison (KC) or Supplementary Comparison (SC).

Training courses and workshops were held (GUM, technical fields, CIPM MRA, QMS, Legal Metrology, Good Laboratory Practice, Communication and Awareness, Strategic Management). Support was given to new members to become full members and to get CMCs in the KCDB.

EMPIR CB should have an effect on RPot (JRP-type projects) and on HI-CB (CB projects and activities). The role of FG –FNMID in the RPot call process is similar to the role of TCs in calls of other Targeted Programmes (facilitating preparation of proposals, being excluded from evaluation). Outlook: the HI-CB will be financed partly under EMPIR.

A discussion started how long the emerging countries would stay at the status of emerging and not becoming just a member country as others as well. Anyway, it was concluded that besides the big progress of the emerging countries they still would need strengthened support over the coming years. Of course, larger NMIs need also CB for bio-technology, chemistry, etc., eg.. The discussion on the name and the construction of the FG does not help very much, since it is more important what the FG is really doing.

The ToR of the TC-IM should mirror the cross-cutting nature of this technical committee. The knowledge transfer initiated by TC-IM can be used by the rest of TCs. There arose the question to which purpose to change the ToR. Since the ToR are formulated in a wide and open manner it was concluded not to change the ToR.

As far as the name of the TC is concerned, it should stay as it is: Technical Committee for Interdisciplinary Metrology, since the term “Interdisciplinary” is overarching. A Technical Committee for Development would be a somehow restricting name.

Then the question arose if the meeting of the TC-IM could be held in the same week as the meeting of FG – FNMID in September. This would give some synergies. On the other hand this would mean that TC-IM could not take place before the EURAMET General Assembly.
The decision on this point will depend on the decision of the BoD.

3. Further activities

Beside to the already listed projects and tasks some further actions (sometimes as a spin off) were discussed and part of the work agenda:

Encourage the co-operation between FG and TC-IM	all
Report on the participation of laboratories in key comparisons, analyse the implications on the system	Ch. Bock, R. Wynands
Analysis of and proposed changes to the search interface of the KCDB	Ch. Bock
Update “Metrology in short”	will be registered as a TC-IM project
Analyse CMCs of the FG members	M. Dobre, E. Danaci, R. Edelmaier

4. Next meeting

Due to the pending decision of the BoD the date and place of the next meeting was not fixed, it will be organized (Doodle poll) after the GA.