

WORKSHOP REPORT

Inter-RMO Workshop on Activities in Support of Small, Emerging and Developing Economy NMIs

29th June - 1st July 2011
Chinggis Khaan Hotel, Ulaan Baatar, Mongolia



Hosted by:
**Mongolian Agency for Standardization and
Metrology (MASM)**



Organized by:
**APMP Developing Economies' Committee
(APMP DEC)**



Under support of:
Physikalisch-Technische Bundesanstalt (PTB)

ABBREVIATIONS

AFRIMETS	Intra-Africa Metrology System
APMP	Asia-Pacific Metrology Programme
BIPM	International Bureau of Weights and Measures
CCQM	Consultative Committee for Amount of Substance – Metrology in Chemistry
CENAM	Centro Nacional de Metrologia
CIPM	International Committee for Weights and Measures
COOMET	Euro-Asian Cooperation of National Metrological Institutions
DEC	Developing Economies' Committee
EURAMET	European Association of National Metrology Institutes
GEOSTM	Georgian National Agency for Standards, Technical Regulations and Metrology
MASM	Mongolian Agency for Standardization and Metrology
NATA	National Association of Testing Authorities
NIMJ	National Metrology Institute of Japan
NIMT	National Institute of Metrology, Thailand
NMI	National Metrology Institute
NMIA	National Measurement Institute, Australia
NML-ITDI	National Metrology Laboratory - Industrial Technology Development Institute
NML-SIRIM	National Metrology Laboratory, Sirim Berhad
NPLI	National Physical Laboratory, India
OAS	The Organization of American States
PTB	Physikalisch-Technische Bundesanstalt
RMO	Regional Metrology Organization
SIM	Inter-American Metrology System
UNIDO	The United Nations Industrial Development Organization

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INTRODUCTION

The Regional Metrology Organizations (RMOs) share the common goal in promoting and supporting the development of metrology / measurement infrastructure in the respective region, particularly for the small, emerging and developing economy NMIs or metrology organizations. Each RMO has developed experiences in the context of the region. These experiences can be useful as new ideas and lessons learned to other RMOs in the different regions. To facilitate the process of information exchange and cooperation among the RMOs, APMP DEC under support of PTB, organized the "Inter-RMO Workshop on Activities in Support of Small, Emerging and Developing Economy NMIs" at the Chinggis Khan Hotel, in Ulaan Baatar, Mongolia during June 29th to July 1st, 2011. The workshop was hosted by the Mongolian Agency for Standardization and Metrology (MASM).

The workshop brought in 19 participants including representatives of 5 RMOs (AFRIMETS, APMP, COOMET, EURAMET, and SIM) a few representatives of the developing economy NMIs, CIPM/CCQM, and PTB. List of participants is attached. The workshop was chaired by Dr. Robert Kaarls, Secretary, CIPM.

The workshop started at 14.00 hrs of June 29th, 2011 and lasted until 12.00 hrs. on July 1st, 2011.

WORKSHOP OBJECTIVE AND PROGRAMME

Professor Yu Yadong, Chair, APMP, welcomed the participants and opened the workshop.

Prof. Yu emphasized the fact that each RMO has built up own experiences in supporting the small, emerging and developing economy NMIs. It is now the good time to share the experiences. There might be common issues to be solved and the workshop provides the opportunity to discuss some solutions. The Inter-RMO Workshop was the first one of its kind. The workshop will pave the way for synergy, sharing knowledge, experiences, and resources particularly intelligence and expertise among the RMOs.

Dr Robert Kaarls, Secretary, CIPM and Chair of the Workshop, stated the workshop objectives.

Dr. Kaarls set the scene of the workshop by providing the overview of the three-day workshop programme. In summary, the workshop starts with the exchange of information of the RMOs on what has been planned and implemented; how the activities are organized; and what successes, priorities, lessons learned, and problems are. Then, major topics will be picked out and discussed in more depth. **At the end of the workshop, it is expected to find common aspects of what the RMOs can do together to enhance efficiency and effectiveness of the support activities for the small, emerging and developing economy NMIs and some ideas of the way forward.**

Though there is a time schedule of workshop activities prepared prior to the workshop, flexible approach was used throughout the workshop process to accommodate the needs for discussion. As a result, the actual workshop programme is different from the planned one as shown below.

Day 1: Wednesday, 29th June 2011

- 14.00 - 14.10 **Welcome and introductions:** Prof Yu Yadong, Chair, APMP
- 14.10 - 14.20 **Statement of Workshop Objectives:** Workshop Chair, Dr Robert Kaarls
& Workshop process: Facilitator, Kalayanee Chuncherd
- 14.20 - 16.45 **Session 1: Review of RMO work programmes in support of small, emerging and developing economies (approx. 30 mins each, with discussion)**
1.1 AFRIMETS – Martin Kaiser
1.2 APMP – Angela Samuel
- 17.00 - 17.50 **Laboratory visit (MASM)**

Day 2: Thursday, 30th June 2011

- 9.00 - 9.10 Facilitator briefing of day's activities
- 9.10 - 10.45 **Session 1 (ctd): Review of RMO work programmes**
1.3 COOMET – Nino Mikanadze
1.4 EURAMET – Wolfgang Schmid
- 10.45 - 11.00 *Coffee break*
- 11.00 - 13.00 **Session 1 (ctd): Review of RMO work programmes and presentations of other relevant bodies**
1.5 SIM – Jose Dajes
1.6 PTB Technical Cooperation - Clemens Sanetra, Martin Kaiser
1.7 UNIDO's consultant - John Gilmour
- 13.00 - 14.00 *Lunch*
- 14.00 - 15.45 **Session 2: Discussion in plenary to identify mutual priorities**
- 15.45 - 16.00 *Coffee break*
- 16.00 - 16.45 **Session 2: Continue discussion in plenary to identify mutual priorities**
- 16.45 *Summary of Day Two*

Day 3: Friday, 1st July 2011

- 9.00 - 9.10 Facilitator briefing of morning's activities
- 9.10 - 10.30 **Session 3: Development of action plan for inter-RMO cooperation**
- 10:30 - 10:50 *Coffee break*
- 10.50 - 11.45 **Session 3: Development of action plan for inter-RMO cooperation**
- 11.45 **Chair - summary of workshop outcomes and next steps**
- 12.00 *Leave for Lunch Reception*

Session 1: Review of RMO work programmes in support of small, emerging and developing economies

The first session of the workshop devoted to the presentations and discussions of the 5 participating RMOs to exchange information and experiences on activities in support of the small, emerging and developing economy NMIs. The 5 RMOs are: AFRIMETS, APMP, COOMET, EURAMET, and SIM. Each RMO shared its history, organizational structure, its members, and the work programme and activities.

The exchange of information and experiences of the 5 RMOs was concluded by PTB, which have supported many RMOs' activities across the regions under the international development programme and Mr. John Gilmour, consultant, who has been working for various projects of UNIDO and other organizations in the field of accreditation.

Details of the presentations are in the presentation slides which are in separate files. Below is the summary of the key messages of each presentation.

AFRIMETS¹

AFRIMETS information and experiences were shared by **Mr. Martin Kaiser**, PTB consultant, who has long history involving in the preparation, inauguration and development of AFRIMETS and represented AFRIMETS in the workshop. Mr. Kaiser represented Dr. Wynand Louw and Dr. Donald Masuku, who were unfortunately not able to attend.

AFRIMETS represents legal as well as industrial/scientific metrology and assists developing economies exclusively. According to the World Bank classification there is no developed country in Africa. AFRIMETS is an umbrella organization for the sub-regional metrology groupings in Africa. Only a some of the members are signatories to the Meter Convention and only few are members or associates to CGPM. AFRIMETS has no membership fee and has to rely solely on supports of donor agencies e.g. PTB, and UNIDO, etc. at least in the next few years. With its roadmap exercise, AFRIMETS has introduced categories reflecting the present state of development of metrology institutes as an important tool to classify and motivate the development of the members in the fields of legal metrology and industrial metrology. More information can be obtained from the presentation slides with the file name "AFRIMETS".

Lessons learned from the metrology school, which was supported by UNIDO, were financing and course design. The budget for the summer school is available until 2011 only and there is no clear plan how to repeat it. Meaning sustainability is not assured yet. So financing is an issue to consider when organizing such event. Concerning the course design, the speakers/lectures have to take into consideration that approximately 85% of metrology in Africa is largely legal metrology. Therefore, course content has to be tailored to the target group. This issue should be taken into consideration when designing the course. UNIDO will prepare a final evaluation of the metrology school. More information can be obtained from the AFRIMETS web site at www.afrimets.org.

¹ Intra-Africa Metrology System

APMP²

APMP information and experiences were shared by **Dr. Samuel Angela**, APMP DEC Member and Member, APMP Executive Committee.

APMP has faced many challenges like many other RMOs; for example, geographical distance across membership, language and cultural differences, range of development needs, etc. APMP has built in the Developing Economies' Committee (DEC) into its structure. DEC was given a mandate to help address the needs of APMP member NMIs from developing economies, and to develop and coordinate associated work programmes. Thirty percent of the APMP annual membership fees is allocated for DEC. DEC has identified 10 key issues for Developing Economies in 2005. APMP has dedicated a web page for DEC at www.apmpweb.org/dec, where one can find useful documents, the action plan and useful links. More information can be obtained from the presentation slides with the file name "APMP".

COOMET³

COOMET information and experiences were shared by **Ms. Nino Mikanadze**, Georgian National Agency for Standards, Technical Regulations and Metrology

COOMET is a Regional Metrology Organization with 18 member countries from Central and Eastern Europe, Caucasian Region and Central Asia in the areas of measurement standards, legal metrology, quality management systems, information and training, and joint research in metrology. Besides the technical knowledge and skills development, COOMET also pays attention to the soft skills development; for example, 'Effective Presentation and Intercultural Awareness'. COOMET has introduced a new web portal to enhance decentralized collaboration. With the new working tool, users in different economies edit and update own information remotely. Regarding the proposals for Inter-RMO cooperation, a few areas were identified, which include:

- Identifying common fields of interest as well as absorption capacities of RMOs (capacities which allow other RMOs participate in the organized activities)
- Promoting exchange of specialists, particularly in the field of QMS, support participation of QMS experts/auditors from other RMOs in peer-reviews
- Elaboration of a common approach to awareness raising and PR activities regarding the Metrology on the country, regional and international level

More information can be obtained from the presentation slides with the file name "COOMET".

² Asia-Pacific Metrology Programme

³ The Euro-Asian Cooperation of National Metrological Institutions

EURAMET⁴

EURAMET information and experiences were shared by **Dr. Wolfgang Schmid**, Head of Secretariat, EURAMET

The launch of EURAMET was driven by the European Metrology Research Programme (EMRP) and it is the different organization from EUROMET. An interesting observation concerning membership is EURAMET has Designated Institutes as Associate Members almost double the amount of the NMIs. EURAMET has created the Secondment Programme, which member countries can send their staff to work at the EURAMET Secretariat Office. EURAMET has membership fee and other sources of fund for the activities both in cash and in kind. EURAMET also faces issue of diversity of members from large NMIs to small NMIs with different focuses from R&D to services, with different levels of experiences, and different working system (from centralized system to network of laboratories).

A challenges for EURAMET is how to provide a forum for an effective participation of all members and how to support emerging members in the establishment of an appropriate metrology infrastructure. The Focus Group on "Facilitating National Metrology Infrastructure Development" was established to address the issues and is oriented to 'emerging' members. EURAMET has developed guidance documents and training materials on 'Interlaboratory Comparisons', 'Measurement Uncertainty', and the technical guidance documents like 'Calibration Guides', 'Metrology - In short', etc. which have been translated into many languages.

More information can be obtained from the presentation slides with the file name "EURAMET".

SIM⁵

SIM information and experiences were shared by **Mr. Jose Dajes**, President, SIM **and Mr. Salvador Echeverría**, delegate from the SIM NMI-Users Relations Program

SIM was established in 1979 to promote and support an integrated measurement infrastructure in the Americas. It represents 5 sub-regions of the American States. Members speak English, Spanish, French and Portuguese. However, in meetings common languages are English and Spanish. Support for SIM-activities comes from 3 main sources: OAS⁶ Projects, NMIs (mainly in kind) and PTB Technical cooperation. SIM Summer School in Metrology was organized in 2009 for 60 students in Spanish and English, the results were very satisfactory. SIM is planning to organize the next Summer School in Metrology in 2012 in USA.

⁴ The European Association of National Metrology Institutes

⁵ The Inter-American Metrology System

⁶ The Organization of American States

The Professional Development Chair carries out surveys among NMIs and develops training programs. There are 11 Working Groups, mainly aligned to the CCs of the CIPM. The metrologists of the NMIs of SIM take part of the Working Group corresponding to their discipline and develop action plans according to the allowed budget.

SIM NMI members in developing economies share the same problems as other NMIs in developing economies of other regions. Politicians and users/industry do not understand the benefits of metrology and connection between the NMIs and industry as well as other stakeholders is weak. Therefore, SIM intends to strengthen the connection and living flow among NMIs and their users, society and industry, and increase the mutual development. This initiative for the NMI-Users Relations project was approved by the SIM Council and a workshop took place at CENAM in April 2009. In the workshop 3 Working Groups were defined for the services of Training, Calibration Rounds and Consultancy. These Working Groups consisted of 7 to 10 representatives each and they developed their work plans. They had regular follow meetings, live meetings every 6 months and web meetings every time they were needed.

Part of the first workshop in Mexico was a demonstration of the MESURA Program in which NMIs metrologists visit industrial plants and, through consultancy, get an understanding of the real needs of their users, to develop solutions and offer integral metrological supports to them. Consultancy service is fee-based for large enterprises and subsidy-based for small and medium enterprises. This program is now running only in CENAM, Mexico, but other countries like Uruguay, Costa Rica, Panamá and Colombia are implementing similar projects. The Working Groups of Training and Calibration rounds were also successful and a plan to consolidate them and share with the whole SIM community, mainly Developing Economies, will be presented in the next General Assembly in November 2012.

More information can be obtained from the presentation slides with the file name "SIM"

PTB Perspectives

PTB perspectives were reflected by the two consultants of PTB, **Dr. Clemens Sanetra** and **Mr. Martin Kaiser**.

Dr. Sanetra stated that PTB has involved with all the 5 RMOs with long-term commitment. Therefore, the perspectives reflects the overview of all the RMOs. The reflections are summarized below.

- More systematic communication channels among the RMOs should be established.
- One should be aware that speaking the same 'terminology' does not always mean the same thing or the same understanding.
- The RMOs have different characters in many ways including financing channel, membership coverage, working system, etc. which require different approaches.
- Repeated efforts in developing and translating guidance documents are observed.
- The Train-the-Trainers package should be combined with coaching activity with careful selection and good preparation of participants. By this approach, a group of trainers are prepared for continuing the same course in the future.

- Sometimes the lack of resources is not a problem but it is the inefficient use of resources. Hence, soft skills e.g. strategic planning, and other institutional areas, etc. should be strengthened.
- Cooperation of donor agencies is not a prerequisite for the RMOs to access to funding. RMOs should play a lead role in defining needs of the NMIs and prepare a good justification proposal to discuss with donors.

Mr. Kaiser added the development and economic perspectives in metrology context. In the development dimensions; relevance, effectiveness, efficiency, impact and sustainability are considered. From the economic perspective, cooperation makes sense in areas where demands are low and cost is high. In metrology context, areas which are economically justified for cooperation are 'scientific/industrial metrology' and 'accreditation'. Important message from Mr. Kaiser is how we can ensure the **quality** of what the NMIs and RMOs are doing in order to increase **efficiency** of the activity/cooperation. **Benchmarking** the quality of work among the RMOs might be a subject for discussion in a workshop.

More information can be obtained from the presentation slides with the file name "Another Dimensions in Metrology".

John Gilmour, Consultant

Mr. Gilmour was in key positions of many organizations e.g. NATA Australia, APLAC, etc. He has long experiences in the field of accreditation with UNIDO and other commissions / development organizations e.g. EU, World Bank, etc. Mr. Gilmour was asked to represent UNIDO as the two UNIDO representatives who attended the DEC meeting earlier in the week were not able to attend the workshop.

Mr. Gilmour expressed that he was in the workshop to share his long experiences as a significant user of metrology, rather than representing UNIDO. From his experience, in some countries, people have no idea what 'metrology' is. People have got an impression that they can have accreditation by tomorrow without realizing the lack of fundamental building blocks for accreditation. Accreditation is expensive. To make it economically viable for an accreditation body to stay in business, the accreditation body must have at least 200 - 400 laboratories as customers. Participation in MRA is another issue shared by many developing economies. Regional activity to prepare for the MRA participation is helpful like in Central Asia.

Areas of Common Interest

During the discussion, points which might be of common interest of the RMOs were listed and categorized for further discussion and prioritization. Below is the summary of the common interests.

Areas concerning 'Communication'

- **Language barrier** is one of the common issues among the RMOs. Most RMOs have members with diverse languages and cultures. Though, the most common language is English. The NMIs and their beneficiaries cannot always speak English adequately to gain the most from the organized activities.
- Some **RMOs' websites** need to be further developed and all should be inter-linked on metrology related matters of the developing economy NMIs.
- There should be a **survey** to identify common fields of inter-RMO interest.
- There is a need for more **systematic communication channels** among RMOs.
- There should be **less duplication of efforts** in developing guidance documents and document translation
- Some RMOs have experiences in metrology summer school e.g. AFRIMETS and SIM and others e.g. APMP is planning for one. Therefore, **exchange of the summer school's experiences, lessons learned and training materials** will be of benefit for other RMOs.

Areas concerning 'Management/Organization'

- **Government commitment** in the field of metrology of many countries is low, which affect allocation of budget to finance the activities and threatens the sustainability of a metrological infrastructure. The government wants to know the **economic impact of metrology** to justify the budget allocation. Such studies are available but they are viewed inadequate for proposing the government. However, the participants agreed that such studies should be collected and made accessible for the RMOs. May be at the later stage, more studies can be explored.
- **Funding/financing of the RMO activities** is a common issue for many RMOs. Some RMOs have membership fee e.g. EURAMET and APMP, but others do not. Some members of COOMET contribute some financial support to the secretariat office, and others may contribute in kind to support development of other members. Other sources of funding of some RMOs may include research fund, management fee, and funding from donor agencies. While some RMOs e.g. AFRIMETS depends totally on donors' funding, which is less secured in the long run.
- The **designated institutes** will play an important role in the development of metrology in the future particularly for the developing economies. The RMOs may also have more designated institutes as members in the future as well. It might be an issue of common interest for further discussion.
- There is a need for clear distinction between legal metrology and scientific/industrial metrology and synergy between scientific/industrial and legal metrology

Note from Dr. Kaarls

In general we talk about scientific/industrial metrology versus legal metrology. Legal metrology is in fact verification of measuring equipment, which by law has to be regularly verified whether it complies with legal requirements, which means maximum permissible errors.

In fact under "scientific" metrology one understands the realization, maintenance and dissemination of the national measurement standards. In most cases in developing economies' NMIs, this "scientific" does not mean top science. These NMIs should have fit-for-national purpose suitable national measurement standards. Nevertheless in these countries, in order to serve the industry, laboratories, economy and society, this is in general the best the country has. So, with (semi-) scientific/industrial metrology we mean the national measurement standards serving the industry, laboratories, etc. at a level that fits them. These services delivered by the NMI or a DI (Designated Institute) are in general on a voluntary basis. Also legal metrology is a customer of the scientific/industrial metrology organization, being the NMI or DI.

- Absorption capacity of RMOs
- Road Mapping

Areas concerning 'Technical Tools'

- **On-the-job training** can be a power tool given that it provides adequate time for learning (possibly a few months) and supported by a donor agency because the approach has high cost. Two issues may arise from the activity. One is the NMI's Director may not be willing to allow a good staff to leave their job for that long period of time. This issue needs to be discussed with the NMI's directors. Another issue is turnover of the trained staff. There should be a system to ensure the continuation of service of the trained staff; for example, signing a commitment of working with the organization in the next 1-2 year.
- Many RMOs have developed **the Train-the-Trainers concept and training materials**. The training concept and materials should be made available and accessible for all the RMOs.
- The **Train-the-Trainers package** should be combined with coaching activity with careful selection and good preparation of participants.
- Harmonization of QMS and peer review among the RMOs (exchange of experts)
- Coordination of services

Areas concerning 'Awareness Raising'

- SIM has shown a good example of moving towards '**demand-oriented services of NMIs**', which metrologists are pushed to interact more with the user community and that should be encouraged in other regions. Scientific problems can be solved with the help of the global scientific network.
- Another common issue among the RMO is awareness raising for the government and the industry. It will be useful to develop a **common approach to awareness raising activities** in the field of metrology at the country, regional, and international levels. Metrologists should also learn how to tailor their message to the level of the target groups.
- The RMO meeting should be combined with the high level awareness raising activity.

Areas concerning 'Human Resource Development'

- **Exchange of experts** among the RMOs have been carried out by different RMOs. It would be useful to continue promoting it.
- Apart from the technical competence, specialists/metrologists should also be equipped with **soft skills development** as initiated by COOMET. The soft skills may include presentation skill, intercultural awareness, language competence, strategic planning, etc

Other Areas

- Relationships of RMOs and donor agencies to source financial assistance
- Metrology Institute Categories
- Accreditation System

Session 2: Discussion in plenary to identify mutual priorities

Based on the list of common interest in session 1. The participants discussed and prioritized the areas for Inter-RMO Cooperation based on the 3 criteria.

- The area should be beneficial to all RMOs.
- It requires not much efforts.
- It can be achieved in rather short time.

Below is the list of priorities defined by the participants.

- Create communication channels among the RMOs for emerging NMIs' matters
- Collect information and guidance documents of different RMOs and make them accessible
- Interlink emerging NMIs' matter on RMO web sites
- Exchange training materials and experiences of the RMO summer schools
- Collect 'Economic Impact of Metrology' studies and make them accessible
- Collect Train-the-Trainers concept and materials and make them accessible
- Involve other RMOs and allow information and experience exchange in coaching (interlaboratory comparisons)
- Exchange of RMO experts on QMS and peer review
- Create best practices on awareness raising programme
- Create guidance on link between legal, scientific, and industrial metrology
- Share information and involve other RMOs in activities

Session 3: Development of an action plan for inter-RMO cooperation

No	What? / Activities	How?	By Whom?	By When?
1	Create communication channels among the RMOs for emerging NMIs' matters	<p>1.1 Create a task force consisting of contact persons of the participating RMOs, namely:</p> <ul style="list-style-type: none"> • Dr Wynand Louw, Chair, AFRIMETS • Mr. Abdul Rashid, Chair, DEC-APMP • Dr. Pavel Neyezhnikov, Head of Secretariat, COOMET • Dr. Wolfgang Schmid, Head of Secretariat, EURAMET • Mr. Jose Dajes, President, SIM <p>1.2 Nominate the second contact name of each RMO and distribute to other RMOs</p> <p>1.3 Discuss with BIPM to take the role of the task force facilitation</p>	<p>RMO Contacts</p> <p>Dr. Kaarls</p>	<p>By the end of July, 2011</p> <p>By the end of August, 2011</p>
2	Collect information and guidance documents of different RMOs and make them accessible	2.1 Collect list of guidance document titles and language available and circulate the list through email	RMO Contacts	By the end of July, 2011
3	Interlink emerging NMIs' matter on RMO web sites	<p>3.1 Communicate web address of emerging/developing NMI matters of each RMO</p> <p>3.2 EURAMET issues a password for the RMOs to enter the more specific web pages.</p> <p>3.3 Further develop some RMO websites</p> <p>3.4 COOMET presents website in the next Inter-RMO Workshop</p> <p>3.5 Discuss with BIPM and OIML to create joint web portal of BIPM-OIML</p>	<p>RMO Contacts</p> <p>EURAMET contact</p> <p>Secretariats of APMP, COOMET, and SIM</p> <p>COOMET representative</p> <p>Dr. Kaarls</p>	<p>By the end of July, 2011</p> <p>???</p> <p>APMP - by the end of Sept. 2011</p> <p>COOMET and SIM - to be defined</p> <p>Next Inter-RMO Workshop</p> <p>By October/ November 2011</p>
4	Exchange of training materials and experiences of the RMO summer schools (BIPM, AFRIMETS, SIM, and UNIDO)	<p>4.1 Evaluate content and results of the summer schools implemented</p> <p>4.2 Discuss evaluation results and needs in the next Inter-RMO Workshop</p> <p>4.3 Invite KRISS Metrology School and UNIDO to the next INTER-RMO Workshop</p>	<p>AFRIMETS, SIM Secretariat</p> <p>Workshop participants</p> <p>Workshop organizer</p>	<p>????</p> <p>Next Inter-RMO Workshop</p> <p>Next Inter-RMO Workshop</p>

No	What? / Activities	How?	By Whom?	By When?
5	Collect 'Economic Impact of Metrology' studies and make them accessible	<p>5.1 Discuss with BIPM to put the compiled list and studies of the 'Economic Impact of Metrology' on BIPM website and to define BIPM contact person.</p> <p>5.2 Compile list and studies of the 'Economic Impact of Metrology' studies and send them to BIPM</p> <p>5.3 Structure the list and studies in such a way that is easy to search</p>	<p>Dr. Kaarls</p> <p>RMO participants</p> <p>????</p>	<p>By the end of August 2011</p> <p>By the end of August 2011</p> <p>?????</p>
6	<p>Collect Train-the-Trainers concepts and materials and make them accessible</p> <p>Involve other RMOs and allow information and experience exchange in coaching (inter-comparisons)</p>	<p>6.1 APMP and EURAMET make available the training concepts and materials on the respective websites</p> <p>6.2 The area will be further discussed in the next Inter-RMO workshop.</p>	<p>APMP and EURAMET contacts</p> <p>Workshop organizer</p>	<p>Already available on EURAMET's website and the information will be available on the APMP website by Sept. 2011</p>
7	Create guidance on link between legal, scientific, and industrial metrology	<p>7.1 Check availability of the guidance and send them to RMOs</p> <p>7.2 Evaluate needs for further development in the next Inter-RMO workshop</p>	<p>Dr. Kaarls</p> <p>Workshop participants</p>	<p>By the end of Sept. 2011</p> <p>During the next Inter-RMO workshop</p>
8	<p>Create best practices on awareness raising programme (the best practices should include:</p> <ul style="list-style-type: none"> • A guide to assist the NMIs/ metrology organizations to prepare the 'awareness raising kit' for different target groups • Short strategy to handle 'awareness raising activity' 	<p>8.1 Organize the Inter-RMO workshop on awareness raising (exchanging sharing)</p> <ul style="list-style-type: none"> - The workshop may include communication specialist to guide how to tailor a message to a target group 	Workshop organizer	To be defined
9	Exchange of RMO experts on QMS and peer review	<p>9.1 Communicate the workshop results to each RMO's respective technical committee chair</p> <p>9.2 Continue the exchange of experts</p>	<p>Participants</p> <p>RMO contact</p>	Right after the workshop

MONITORING OF THE INTER-RMO ACTION PLAN

Progress of the RMO activities will be distributed by the nominated contact person of each RMO to the other RMOs' contact person through email. However, email can be surplus and missed, hence, alternative means of communication shall be explored for more efficient and effective communication among the RMOs. PTB, Ms. Anna Cypionka, Coordinator, will monitor the overall plan for Inter-RMO Cooperation. She will send a reminder note to the RMO if progress is not observed as planned. In the long run, a cooperation facilitator might be identified if there is a need for it.

CONCLUSION AND NEXT STEPS

Generally speaking, the participants view the workshop useful. The workshop provided a floor for good exchange of information. At least another workshop is definitely needed to follow-up what has been discussed in the first workshop and should be organized in the different region. Activities to be conducted in the second workshop should be clearly defined prior to the workshop.

PTB is willing to support the future workshop on an assumption that progress has been made as defined in the Inter-RMO Cooperation Plan. Announcement of the workshop date and location will be made by the end of 2011.

Key contributors to the success of the workshop are not only the active participation of the participants but also Dr. Robert Kaarls, chair of the workshop, who guided the discussion, provided helpful information, and volunteered to bridge the relevant activities between the RMOs and BIPM as defined in the Inter-RMO Cooperation Plan.

List of Participants

Nº	Country	First name	Last name	Organization	Position	Email
1	Australia	Angela	Samuel	NMIA	Member, DEC and APMP Executive Committee	angela.samuel@nmi.gov.au
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3	China	Yu	Yadong	NIM	Vice Director/APMP Chairperson	yuyd@nim.ac.cn
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