APMP : A Historical Perspective

“Inspiration follows aspiration” ...

आकांक्षा प्रेरणा का स्रोत है

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Regional Metrology Organisations

As EUROMET, 1988 ➔ EURAMET, 2007

1977

Created in 1979, re-constructed in 1992

2007; SADCMET in 1980

1991

2015
21 Nov to 2 Dec 1977: Meeting jointly organized by the Commonwealth Science Council (CSC) and the National Physical Laboratory (NPL) of India

Nine Commonwealth countries

Main objective: To form a Regional Metrology Programme of joint projects which would link each National Measurement System into a collaborative network

Context: Importance of standardization and quality, especially in export markets. Collaboration was seen as a way of accelerating progress while minimizing the drain on any one country’s resources

Outcomes:
- Agreement to establish a Commonwealth Regional (Asia/Pacific) Metrology Programme to foster collaboration in metrology
- Formation of a Steering Committee (India, Malaysia, New Zealand) to assist the CSC in implementing the Regional Metrology Programme
- A prioritized list of collaborative projects
1977-1998: Laying the foundations of cooperation, mutual assistance and sharing of expertise

1977
CSC Regional (Asia-Pacific) Programme formed, New Delhi, India
9 Members, Regional Coordinator: Dr John Buckingham, DSIR, NZ

1980
Asia-Pacific Metrology Programme (APMP) established, 17 Members, RC: Mr Trebor Jones, NML-CSIRO, Australia

1983
RC: Dr Kailash Chandra, NPL-CSIR, India

1986
RC: Prof Yang Xiaoren, NIM, China

1990
RC: Dr Jong-Chul Park, KRISS, Korea

1994: APEC Sub-Committee on Standards & Conformance and APEC Specialist Regional Bodies (SRBs), including APMP.

1994-1999
APMP MoU

1997
APMP MoU

 Evaluation of existing calibration procedures
 Intercomparisons and calibration of standards
 Advice and assistance in establishing standards and calibration facilities
 Supply of measurement standards and calibration equipment
 Compilation of a directory of national measurement standards and calibration facilities
 Harmonizing testing and calibration facilities
Challenges in the early years:

- Until 1990, the CSC maintained the Secretariat.
- Post 1990, the home institute of the Regional Coordinator bore all the costs and responsibilities for the Programme and activities.
- Limited funding from CSC and other project grants.
- Emphasis was on training, calibration assistance, comparisons, with demand >> no. of member NMIs able to meet needs.
- Geography! Costs of travel, different cultures, languages, etc.
- Difficulty in finding successive Regional Coordinators!

Importance of metrology to international trade:

- Need for international recognition of national measurement standards.

In support of APEC goal of reducing TBTs:

- APMP 1996, Manila: 1st draft APMP Mutual Recognition Agreement
- APMP 1997, Sydney: 2nd draft
- APMP asked to suspend MRA development, pending..

→ 1999: Establishment of CIPM Mutual Recognition Arrangement (MRA)
APMP Memorandum of Understanding (MoU), August 1997

Definition of Full Members and Associate Members: 21 Full Members at signing and 2 Associates

APMP Objectives:
- To develop a closer collaboration between Members in work on measurement standards within the region
- To improve the level of metrology, and to gain international recognition for Members
- To encourage traceability between Members through the provision of calibration services
- To ensure that measurement standards within the Region are traceable to standards maintained or coordinated by the International Bureau of Weights and Measures (BIPM) in the realization of the International System of Units (SI), and to generally reinforce the objectives of the Metre Treaty.

Further organizational evolution...

1997:
- First time participation of regional chemical metrology laboratories, to consider bringing chemistry into APMP
- September meeting of Working Group on Lasers and Dimensional Metrology (forerunner to TCL)

1998:
- APMP Committee re-named General Assembly (GA), Regional Coordinator re-named Chairman
- Creation of Executive Committee (EC) to support the Chairman
- Creation of 8 Technical Committees (TCs) (TCEM, TCL, TCM, TCPR, TCQM, TCRI, TCT, TCTF), mirroring CIPM Consultative Committees (TCAUV, TCFF, TCQS and TCMM later)

2000: Creation of Developing Economies’ Committee (DEC)
1999 – 2016: Close to two decades of cooperation and growth..

1999
Chairman: Dr Hidetaka Imai
NMIJ, Japan

2003
Chairman: Mr Lam Kong Hong
SPRING, Singapore

2004
Chairman: Mr Keith Jones
MSL, NZ

2007
Chairman: Dr K H Chung
KRISS, Korea

2009
Chairman: Prof Yu Yadong
NIM, China

2012-13
Chairman: Dr Laurie Besley
NMIA, Australia

2013-2016
Dr Peter Fisk
NMIA, Australia

1999 – 2016: Close to two decades of cooperation and growth.

Membership fees introduced

APMP Ad hoc WGMM

APMP-APLAC MoU

APMP-APLMF MoU

1999:
CIPM MRA

JCRB:
Inter-RMO coop’n

Iizuka Prize

Due to needs of APMP non-Metre Treaty members

Associates of the CGPM

Inaugural APMP Award recipients: Mr Trebor Jones, Dr Jong-Chul Park and Dr Barry Inglis (APMP 2000)

Inaugural APMP Award

TCxx-DEC Workshops

Due to needs of APMP non-Metre Treaty members

TC Initiatives: fostering regional R&D collaboration

2009: APMP-PTB Metrology in Chemistry (MiC) Guide

2012: TCMM

2013-present: KRISS GMA

2014-2018: MEDEA 1.0

2000: DEC

2003
Chairman: Mr Lam Kong Hong
SPRING, Singapore

2004
Chairman: Mr Keith Jones
MSL, NZ

2007
Chairman: Dr K H Chung
KRISS, Korea

2009
Chairman: Prof Yu Yadong
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Support for **CIPM MRA participation**:

- APMP encouragement of 3rd Party accreditation, now commonly referred to as on-site peer review, and with aim of ensuring transparency and effectiveness, selection of two assessors for each review, one from within APMP and one from another region.

- **TC Chairs**: Japan; Korea; Chinese Taipei; Hong Kong, China; China; Australia; New Zealand; Singapore; Thailand

- In 2017, 19 of the 24 APMP full member economies are CIPM MRA signatories, APMP has undertaken 239 Key and Supplementary Comparisons, with a total of 5,926 Calibration & Measurement Capabilities (CMCs) published in the Key Comparison Database (~24% of all CMCs in the KCDB).

(From 1995) Cooperation with other Asia-Pacific **Specialist Regional Bodies (SRBs)** and **APEC**

- APMP-APLAC Proficiency Testing Working Group
- SRB Forum
- APEC Food Safety Cooperation Forum,
- APEC-funded Focus Group Workshops: Energy & Climate (2015), Food Safety (2016)

**APMP “NMI Directors Workshops”: 9th Workshop in 2017**

**APMP Focus Groups:**

- Clean Water,
- Climate Change/Environment,
- Energy Efficiency,
- Food Safety,
- Medical Metrology
1999

Full Members: 22
Associate Members: 3
2017

- **Full Members:** 25
- **Associate Members:** 11
APMP's mission is to promote and support a measurement infrastructure in the Asia-Pacific region that facilitates international trade, improves industrial efficiency and competitiveness, ensures equity in the marketplace, and enhances the quality of life and the environment.

APMP's vision is to become an inclusive, representative and transparent regional metrology organization providing leadership for meeting the measurement challenges of the region.
The first 40 years: Lessons learned

- APMP has a proud history and has provided leadership in many areas.
- The challenges of resource-limitations, language barriers, geographical distances, range of capabilities and proportion of developing cf developed NMIs have encouraged different strategies:
  - Twinning between developing NMIs,
  - Train-the-Trainer
  - Trilateral cooperation: Developed NMI ↔ leading developing NMI ↔ emerging NMI
- It has been critical to identify strong regional champions

- The close cooperation between SRBs is a special strength in the Asia-Pacific and should be maintained and enhanced

- There are ongoing challenges, trends, and drivers at national, regional AND global levels for the metrology community
  - It is not enough to simply adapt to current needs ➔ need to think with a 5-10 year horizon
  - With rapid technological changes, cross-border challenges (climate change, food safety, health) and increasing geo-political uncertainty, APMP’s long-standing collaborative culture, scientific excellence and innovative capabilities stand it in good stead to provide a sound technical basis to support national and regional needs!

- APMP Members have a strong commitment to work together to ensure effective and internationally recognised regional metrology capabilities
  ➔ Ongoing achievement relies on APMP’s ongoing effectiveness!
Barry Inglis, CIPM President and former APMP Chair:

“The challenges faced by the APMP throughout its history, arising from the diverse range of capabilities between member NMIs and the large geographical distances within the region, have meant that it has always had to develop strategies to address its own specific regional needs often in advance of other regions.

Within APMP it was recognised at an early stage that the advanced NMIs could not provide all of the support necessary to ensure sustainability on their own. As a result, APMP gave priority to the development of capabilities within the emerging NMIs such that they could play a role within the committee structure and through the provision of support and input, for example, through the provision of peer and CMC reviewers at an appropriate level. The importance of this is being increasingly recognised at the global level with greater focus on capacity building within CEEMS.

APMP has demonstrated strong leadership and initiative throughout its 40 year history in establishing itself as one of the major RMOs. It is important for the region that APMP continues to develop, particularly by addressing long-term regional and global challenges and by playing a pro-active role in global metrology.”

Chris Sutton, APMP’s longest-serving representative:

“It is great to see the APMP succeeding in cooperatively developing the metrology capabilities of the region, following the aims set at the first meeting in 1977.

For me, this success comes down to the strong friendships and collaboration between APMP members.”
APMP bonds of friendship – crossing cultures, languages and distance

APMP 1980, Australia: A spot of Boomerang throwing

...APMP 2000, Thailand: Dr Chris Sutton demonstrating the NZ “haka” ...

Indian cultural performance, APMP 2006

Korean cultural performance, APMP 2014

And the re-knowned APMP tradition, “Karoake” at APMP 2016, Vietnam