



Asia Pacific Metrology Programme

Report

**APAC
June 2019**

Mandarin Hotel, Singapore



**APMP Report to APAC
June 2019**

Website: www.apmpweb.org

1. Membership

APMP has 44 member institutes from 26 Full Member economies, with the Measurement Standard Laboratory (MSL-BD), Brunei Darussalam joining in April 2018. APMP Full Members are:

Australia, Bangladesh, Brunei Darussalam, Cambodia, China, Chinese Taipei, DPR Korea, Fiji, Hong Kong (, China), India, Indonesia, Japan, Korea (Republic of), Macao (, China), Malaysia, Mongolia, Nepal, New Zealand, Pakistan, Papua New Guinea, Philippines, Russia, Singapore, Sri Lanka, Thailand, and Vietnam.

APMP now has 12 Associate Member economies. APMP's Associate Members are from:

Egypt, Iran, Iraq, Jordan, Kazakhstan, Kenya, South Africa, Syria, United Arab Emirates, United Kingdom, the United States of America, and Republic of Uzbekistan

2. Highlights of 2018 APMP General Assembly and Related Activities:

The National Metrology Centre (NMC), A*STAR and Health Science Authority (HSA) jointly hosted the 34th APMP General Assembly (GA) and Related Activities from 20 to 30 November 2018 in Singapore. Highlights include:

- Mr Fang Xiang (China) was elected to the new APMP Chairperson for a three-year term from GA2019 to GA2022
- Ms Ajchara Charoensook (Thailand) was elected as an EC member.
- Seven new Technical Committee (TC) Chairs commenced their terms for three years (TC for Quality System Chair was assigned for a single year as an exception) – TC for Acoustics, Ultrasound & Vibration, TC for Electricity & Magnetism, TC for Mass & Related Quantities, TC for Quality System, TC for Photometry & Radiometry, TC for Amount of Substance, and TC for Thermometry.
- Endorsement of the election of two new TC Chairs (TC for Ionizing Radiation and TC for Material Measurement) whose terms of office will commence from GA2019.
- Endorsement of the 2019 APMP Work Plan and Budget Plan

Annex 2 provides updated contact details for APMP.

3. Status of Quality Systems and Review Process

3.1 The structure of APMP TCQS

The current structure of the APMP TCQS is as follows.

The TCQS Chair, Dr. Kazuaki Yamazawa (NMIJ, AIST) was elected for a one-year term until the APMP GA 2019 (December 2019).

To enhance the activities of the TCQS, the number of members of the two WGs were increased since the APMP GA 2018. The WG1 has initiated the discussions on the revision of the documentation of the QS rules within the APMP. The WG2 has been contributing on the QS review as a part of the Intra-RMO CMC review process.

Chair: Dr. Kazuaki YAMAZAWA (NMIJ, AIST)

Vice chair: Dr. YANG Ping (NIM)

Members: 49 delegates from 29 economies (including associates of APMP)

WG1: Policy setting and documentation

- Setting policies for the quality management systems to support the NMIs and DIs claiming CMCs under the CIPM MRA (including the smooth transition of 17025 & 17034)
- Documentation of the policies set by the TCQS, and also contribution to the CIPM MRA documents maintained by the JCRB.
- Volunteers: Dr. Kazuaki Yamazawa (NMIJ), Dr. Blair Hall (MSL), Dr. Huang-Tien LIN (TL), Dr. YANG Ping (NIM), Mr. Uthai Norranim (NIMT), Dr. Jongseon Park (KRISS)

WG2: QS review team

- Reviewing NMIs'/Dis' CMC submission in concerns of the establishment and ongoing operation of the quality management system, supporting the laboratory's competence in performing their calibration activities. (= QS review of the Intra-RMO review process)
- Volunteers: Dr. Kazuaki Yamazawa(NMIJ), Dr. Huang-Tien LIN(TL), Ms. Wang Chunyan (NIM), Ms. Pin-Hao Wang (CMS), Dr. Inyong Hwang (KRISS), Ms Rugkanawan Wongpithayadisai (NIMT), Dr. Blair Hall (MSL), Ms. Maryness Salazar (ITDI)

3.2 QS activities since the 39th JCRB meeting in March 2018:

QS Reviews

QS reviews upon 32 submissions were completed to support CMC submissions since the latest JCRB meeting, March 2018 for the technical areas of-AUV, EM, FF, L, M, PR, QM, T, TF. Currently 10 submissions (8 submissions for QM, 1 each for PR and FF) are under review by the WG2.

TCQS meeting 2018

TCQS meeting was held on November 26th and 27th 2018 before the APMP 2018 General Assembly in Singapore. 25 delegates of 19 institutes from 16 economies participated in this meeting. Annual reports were presented by participants.

TCQS Workshop 2018

In association with the annual APMP 2018 meetings, a TCQS workshop was held on November 24th 2018 before the TCQS meeting in Singapore. The topic was "Implementation of ISO/IEC 17025:2017". In this workshop, participants share their own experiences including the specific

problems they are facing, difficulties of their transition and learn from each other. 40 participants from 18 NMIs/DIs and 3 participants from accreditation bodies participated to this full-day workshop. This workshop consisted of 20 presentations (18 speakers from each attending NMI/DI) and a discussion session.

3.3 Hybrid Comparison Scheme as evidence supporting CMC Claims:

NMIs/DIs have the responsibility to develop and maintain the national measurement standards necessary for their economies. To claim a CMC, a technical evidence that supports the CMC reliability is necessary. However, a conventional evidence, such as an international comparison performed among a number of NMIs/DIs may not be available for a long period. Considering this background, APMP has developed Hybrid Comparison Scheme to use a calibration service provided by an NMI/DI as an evidence for CMC claims. This procedure was thoroughly discussed at the 40th JCRB meeting in March 2019 and accepted internationally.

3.4 Status of APMP NMIs Quality systems:

Status of Quality System implementation are shown in the below table for APMP member NMIs/DIs participating in CIPM MRA and getting CMC registrations in the KCDB. This information is collected through the Annual Reports that are presented at the annual TCQS meeting, as well as from the direct communications from the NMIs/DIs to the TCQS Chair informing updates in between the TCQS meetings.

Economy	NMI/DI	Management System Implementation					Pathway		
		17025	Guide 34	17034	9001	17043	(a)	(b)	(c)
Australia	NMIA	Y	Y	Y	Y	Y	Y : NATA	N	N
Australia	ARPANSA	Y	N	N	N	N	Y : NATA	N	N
Australia	ANSTO	Y	N	N	Y	N	Y : NATA	N	N
China	NIM	Y	Y	N	N	N	Y : CNAS	N	Y
Chinese Taipei	CMS/ITRI	Y	Y	Y	Y	Y	Y : TAF	N	N
Chinese Taipei	INER	Y	N	N	N	N	Y : TAF	N	N
Chinese Taipei	Chunghwa TL	Y	N	N	N	Y	Y : TAF	N	N
Hong Kong, China	SCL	Y	N	N	N	Y	Y : HKAS	N	N
Hong Kong, China	GL	Y	Y	N	N	Y	N	N	Y
India	NPLI	Y	N	N	N	N	N	N	Y
Indonesia	SNSU-BSN	Y	Y	N	N	Y	N	N	Y
Japan	NMIJ/AIST	Y	Y	N	N	N	Y : IAJapan	N	N
Japan	NICT	Y	N	N	N	N	Y : IAJapan	N	N
Japan	CERI	Y	Y	N	N	N	Y : IAJapan	N	N
Japan	JEMIC	Y	N	N	N	N	Y : IAJapan	N	N
Korea (Republic of)	KRISS	Y	Y	N	Y	N	N	Y : KFQ	N
Malaysia	NMIM	Y	N	N	N	N	Y : StandardsMalaysia	N	N
Malaysia	NUCLEAR	Y	N	N	N	N	Y : StandardsMalaysia	N	N



	MALAYSIA								
New Zealand	MSL	Y	N	N	N	N	Y : IANZ	N	N
Philippines	ITDI -NMLPHIL	Y	N	N	N	N	Y : PAB	N	N
Singapore	A*STAR NMC	Y	N	N	N	N	N	N	Y
Singapore	HSA	Y	Y	Y	N	Y	N	N	Y
Thailand	NIMT	Y	Y	Y	Y	N	Y : NSC-ONSC	N	Y
Viet Nam	VMI	Y	N	N	N	N	Y : BoA	N	Y

This status is the information as of March 8, 2019.

The notations in the above table are as follows.

The abbreviations in the Management System Implementation mean:

17025 : ISO/IEC 17025:2005

ISO/IEC 17025:2017 was issued newly November 2017. NMIs/DIs using 17025 have just started to revise their systems corresponding to the new 17025.

Guide 34 : ISO Guide 34:2009

17034 : ISO 17034:2016

17034 is revised from Guide34. Then NMIs/DIs are moving to 17024. Some of their system are the mixture of new and old versions.

9001 : ISO 9001:2015 or 2008.

One NMI, KRISS, uses ISO 9001 for demonstrating their Quality System in CMC submissions and has certification of 2008 version in the transition period.

17043 : ISO/IEC 17043:2010

Pathways means three ways when NMIs/DIs submitting CMCs to CIPM MRA show the validity of their quality systems.

Pathway (a) : Third party accreditation of ISO/IEC 17025, if applicable, and 17034 (Guide 34).

Pathway (b) : Third party certification of ISO 9001.

Pathway (c) : Assessment by quality system experts on ISO/IEC 17025, if applicable, and 17034 (Guide 34).

All pathways require on-site visit peer reviews. On-site technical peer reviewers are approved by relevant TC chair of the APMP before the on-site peer review.

Accreditation body in pathway (a) and certification body in pathway(c) shall be a signatory of the mutual recognition of ILAC or IAF. In the rows of pathways (a) and (c) of the above table, the names of accreditation bodies and certification body are filled in.

Quality assessor in pathway (c) is required to be approved by the APMP TCQS chair.

3.5 QMS Annual Reports from APMP NMIs/DIs

The NMIs/DIs whose CMCs are registered in CIPM MRA appendix C have submitted QMS annual reports to TCQS. From the reports and presentations, it is clear that these NMIs/DIs generally maintain their Quality System in accordance with ISO/IEC 17025 requirements and are confirmed by periodical on-site peer reviews.

The importance of the review of the QMS Annual Reports will increase on the monitoring the transition of the NMI/Dis to the ISO/IEC 17025:2017 and the ISO 17034.

4. Strategic developments:

TC Initiatives Projects 2019:

The APMP TC Initiatives (TCI) budget is aimed at fostering R&D projects of significance in addressing current needs of industry. Four TCI proposals submitted for 2019 have been approved by the EC and will be commenced in 2019. The four TCI proposals are:

- Research on the micro liquid flow standard system and inter-comparison
- Improving measurement techniques at the silver freezing point (961.78 °C) and validation of the equivalence of the APMP linkage to the CCT-K4
- BeiDou time transfer and its system time traceability to UTC in Asia
- Research on the calibration of environmental radiation survey meters

The a few more TCI proposals will be approved.

Evolution of APMP's Focus Group strategy

APMP has established five Focus Groups to increase the impact of measurement to solve issues at the sectoral level. The Focus Groups aim to address regional challenges in support of government, industry, innovation, and research. The five Focus Groups are:

- Energy Efficiency – Chair: Ms. Ajchara Charoensook, Thailand
- Food Safety – Chair: Prof Hongmei Li, China
- Medical Metrology – Chair: Dr Sheng-Jui Chen, Chinese Taipei
- Climate Change and Clean Air – Chair: Dr Sangil Lee, Korea
- Clean Water – Chair: Dr. Ghufron Zaid, Indonesia

APMP's Food Safety Focus Group Chair participated in the 3rd Expert Meeting on "Trade Facilitation through an APEC Framework on Food Safety Modernization" under APEC SCSC. Focus Group for Clean Water had a planning workshop in conjunction with APMP GA 2018. Attendees selected four topics and planned future activities Focus Group for Energy Efficiency and Medical Metrology Focus Group had their meetings and reported their activities. Focus Group for Climate Change and Clean Air developed their long-term strategy and approaches.

Review of Global Framework for Mutual Recognition in Scientific Measurement - CIPM MRA

In 2015, the peak international expert body in scientific measurement, the International Committee for Weights and Measures (CIPM), initiated a review into the effectiveness of the CIPM Mutual Recognition Arrangement (CIPM MRA). Following in-depth consultations over 2016, implementation of agreed recommendations is currently underway

The CIPM MRA was established in 1999 under the Metre Treaty as the international framework for mutual recognition between signatories of national measurement standards and calibration certificates. It provides the essential technical basis to help reduce technical barriers to trade in support of wider agreements negotiated for international trade, commerce and regulatory affairs, e.g. government-to-government free trade agreements. CIPM MRA signatory institutes cover most industrialised nations, including nearly all APEC



economies.

APMP is one of the five Regional Metrology Organisations working with the CIPM in addressing the recommendations from this review.

Revision of the SI

In November 2018, the General Conference on Weights and Measures (CGPM) was held and obtained resolutions related to the revision of the SI. The most remarkable thing was the implementation date of the SI revision was agreed to be 20 May 2019. The summary of impact in the different fields by the revision of the SI can be found on the BIPM webpage, and highlighting in the area of mass, uncertainty is not affected for ordinary uses.

5. Stakeholder Interactions

Asia Pacific Economic Cooperation

SCSC 1 and SRB Forum, February 2018: APMP represented by Dr Jan Herrmann (Australia).

APEC Food Safety Cooperation Forum, Nov. 2018: Prof Li Hongmei (China) participated in “Trade Facilitation through an APEC Framework on Food Safety Modernization.”

SCSC 2, August 2018: APMP represented by Dr Toshiyuki Takatsuji and Dr Takehiro Morioka (Japan).

Asia Pacific Laboratory Accreditation Cooperation (APLAC) – Cooperation Under APMP-APLAC MoU:

Dr Toshiyuki Takatsuji, APMP Chairperson and Mr Wang-wah Wong, APLAC Chair had the annual meeting according to MoU in Hong Kong. They discussed future cooperation in the field of proficiency tests and transition of ISO/IEC 17025. Dr Kazumi Inagaki (Japan) participated in proficiency testing working group meeting held in Kyoto, Japan in June 2018 and discussed future activities after APLAC is merged with PAC. Dr Takehiro Morioka (Japan), APMP Secretary represented APMP at the APLAC-PAC Joint Annual Meetings.

Asia Pacific Legal Metrology Forum (APLMF) – Cooperation Under APLMF-APMP MoU:

APMP is continuing working with PTB (Physikalisch-Technische Bundesanstalt, the German NMI) and APLMF under the joint regional capacity building project, MEDEA (Metrology: Enabling Developing Economies within Asia). The project has moved on the second phase (MEDEA 2.0) and started from May 2018 for three years. It focuses on sustainability, regional cooperation and technical trainings.

6. APMP Meetings in 2019

APMP Mid-Year Meetings, date to be decided soon.

APMP’s 2019 Mid-Year Meetings will be held in June 2018 in Cebu, Philippines, hosted by the Industrial Technology Development Institute (ITDI). As well as meetings of its governance committees, APMP seeks to hold Mid-Year meetings in a developing member economy in order to use the opportunity of the presence of key regional measurement experts to support the local metrology institute in highlighting the importance of measurement to government decision-makers and industry as well as to conduct capacity building technical workshops in



fields relevant to the host economy.

2019 APMP General Assembly and Related Activities

The National Measurement Institute, Australia (NMIA), Australia to host the 35th APMP General Assembly and Related Activities in Sydney in November 2019.



Annex 1

APMP Full and Associate Members, November 2018

ECONOMY	MEMBER	METRE CONVENTION MEMBERSHIP STATUS	SIGNATORY TO THE CIPM MRA
Australia	NMIA ARPANSA ANSTO	Member	1999
Bangladesh	BSTI DRiCM	Associate of the CGPM	2011
Brunei Darussalam	MSL-BD		
Cambodia	NMC		
China	NIM	Member	1999
Chinese Taipei	CMS/ITRI INER CHT	Associate of the CGPM	2002
Egypt	NIS	Member	2000
Fiji	FNML		
Hong Kong, China	SCL GL	Associate of the CGPM	2000
India	NPLI BARC	Member	1999
Indonesia	RCM-LIPI (Formerly KIM-LIPI) PTKMR-BATAN	Member	2004
Iran (Islamic Republic of)	NMCI	Member	2016
Iraq	COSQC	Member	2014
Japan	NMIJ/AIST NICT CERI JEMIC	Member	1999
Jordan	JNMI		
Kazakhstan	KazInMetr	Member	2006
Kenya	KEBS	Member	2002
Korea (Republic of)	KRISS	Member	1999
DPR of Korea	CIM		
Macao, China	PHL		
Malaysia	NMIM (Formerly SIRIM) Malaysian Nuclear Agency KIMIA	Member	2001
Mongolia	MASM CGL	Associate of the CGPM	2013
Nepal	NBSM		
New Zealand	MSL	Member	1999
Pakistan	NPSL	Member	2011
Papua New Guinea	NISIT		
Philippines	ITDI	Associate of the CGPM	2002
Russia	VNIIM	Member	1999
Singapore	A*STAR HAS	Member	1999
South Africa	NMISA	Member	1999
Sri Lanka	MUSSD	Associate of the CGPM	2007 (excepting the period 1 January 2015 to 16 August 2016)
Syria	NSCL	Associate of the CGPM	2012
Thailand	NIMT DSS TISTR OAP	Member	1999
United Arab Emirates	DCLD EMI	Member	2016



United Kingdom	NPL	Member	1999
United States of America	NIST	Member	1999
Republic of Uzbekistan	UzNIM	Associate of the CGPM	2018



Vietnam	VMI	Associate of the CGPM	2004
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Associate Members of APMP



Annex 2

APMP Personnel and Contact information

Website: www.apmpweb.org

APMP Secretariat

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Ms Ajchara Charoensook	National Institute of Metrology (Thailand)	ajchara@nimt.or.th



APMP Technical Committee (TC) Chairs

TC	CHAIR	EMAIL
Lead TC Chair	Dr Chu-Shik Kang, KRISS, South Korea	cskang@kriss.re.kr
Acoustics, Ultrasound and Vibration	Dr Ryuzo Horiuchi, NMIJ, Japan	ryuzo.horiuchi@aist.go.jp
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Developing Economies' Committee (DEC) Chair

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