



Asia Pacific Metrology Programme

**APMP Report to EURAMET
May 2019**

Borås, Sweden

Membership Updates

APMP welcomes:

New Full Member in 2018:

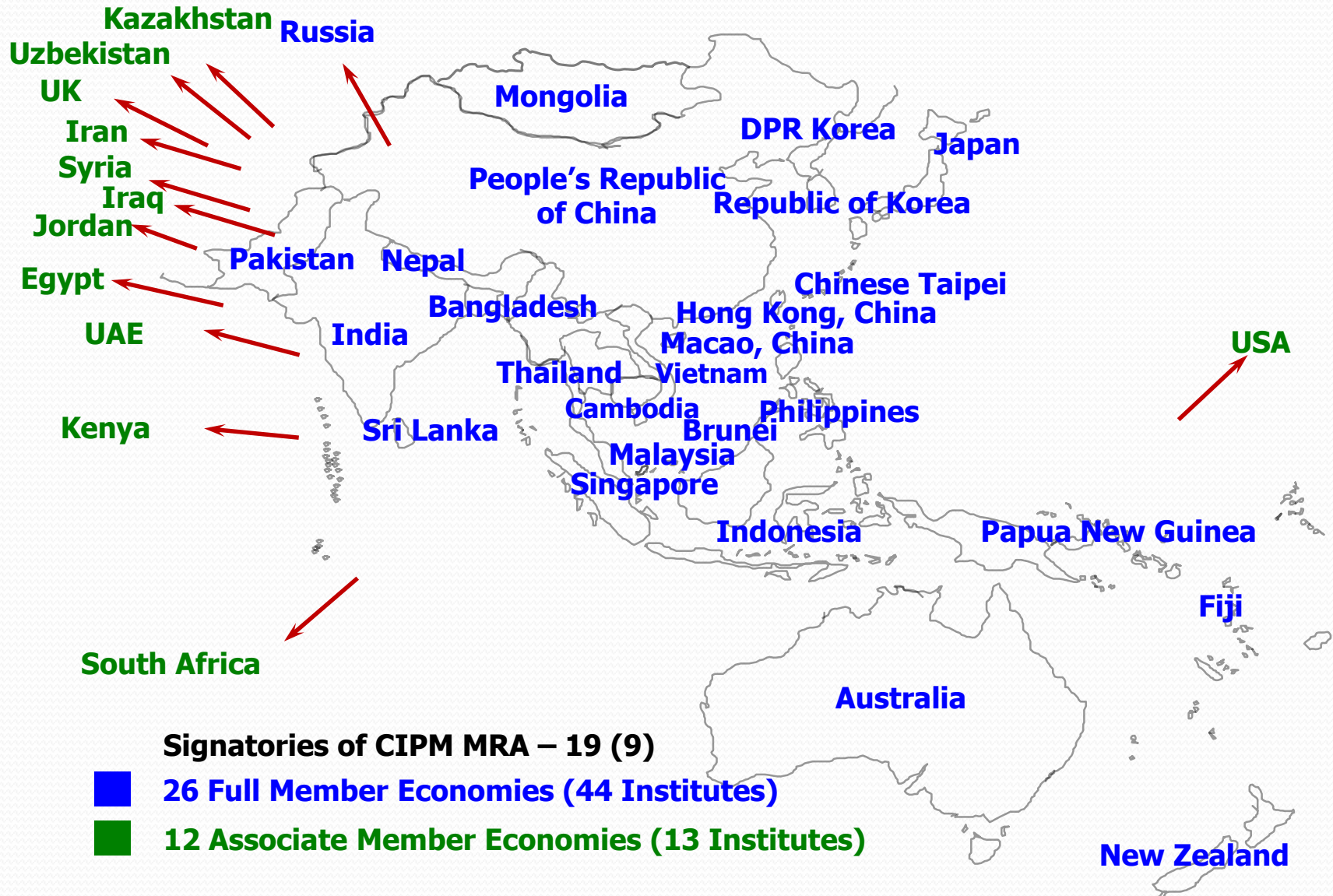
- Measurement Standards Laboratory, **Brunei Darussalam**

New Associate Member in 2019:

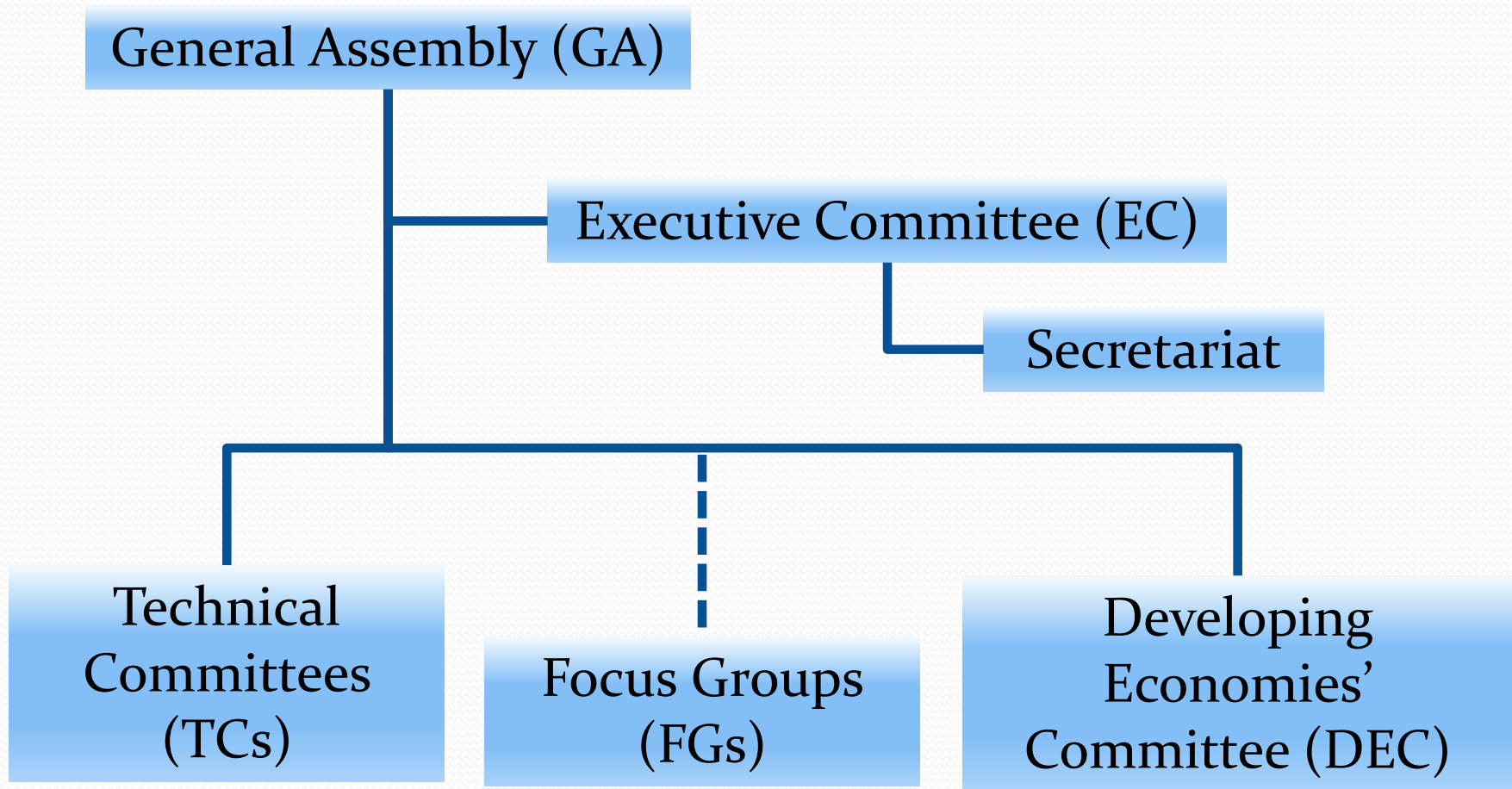
- Uzbek National Institute of Metrology, State Enterprise, **Republic of Uzbekistan**



Members of APMP



APMP Organization Chart



Governance Updates

The APMP General Assembly and Related Activities 2018 were held in Singapore from 20 to 30 November 2018.

- APMP Chairperson-elect:
Mr Xiang Fang, **China**, 2019-22
- Extension of term; 2 Executive Committee members:
Dr Osman Zakaria, **Malaysia**: 2018-19
Dr Yu-Ping Lan, **Chinese Taipei**: 2018-19
- New Executive Committee member:
Ms Ajchara Charoensook, **Thailand**: 2018-21



7 new TC and DEC Chairs taking office:

- **AUV**: Dr Ryuzo Horiuchi, **Japan**
- **EM**: Dr Hyung-Kew Lee, **Korea**
- **M**: Dr Sheng-Jui Chen, **Chinese Taipei**
- **PR**: Dr Haiyong Gan, **China**
- **QM**: Dr Kazumi Inagaki, **Japan**
- **QS**: Dr Kazuaki Yamazawa, **Japan**
- **T**: Dr Inseok Yang, **Korea**
- **DEC**: Dr Angela Samuel, **Australia**



Executive Committee

Name	Lab	Economy
Toshiyuki Takatsuji	NMIJ	Japan
Osman Zakaria	NMIM	Malaysia
Yu-Ping Lan	CMS, ITRI	Chinese Taipei
Wei Gao	NIM	China
Jan Herrmann	NMIA	Australia
Yon-Kyu Park	KRISS	Korea
Xiang Fang	NIM	China
Ajchara Charoensook	NIMT	Thailand



Technical Committees

TC	Name	Lab	Economy	Corr. CC
Lead TC Chair	Chu-Shik Kang	KRISS	Korea	
TCAUV	Ryuzo Horiuchi	NMIJ, AIST	Japan	CCAUV
TCEM	Hyung-Kew Lee	KRISS	Korea	CCEM
TCFF	Takashi Shimada	NMIJ, AIST	Japan	CCM, WGFF
TCL	Jariya Buajarern	NIMT	Thailand	CCL
TCM	Sheng-Jui CHEN	CMS/ITRI	Chinese Taipei	CCM
TCMM	Victoria Coleman	NMIA	Australia	N/A
TCPR	Haiyong Gan	NIM	China	CCPR
TCQM	Ma Liandi	NIM	China	CCQM
TCQS	Kazuaki Yamazawa	NMIJ, AIST	Japan	N/A
TCRI	Jinjie Wu	NIM	China	CCRI
TCT	Inseok Yang	KRISS	Korea	CCT
TCTF	Aimin Zhang	NIM	China	CCTF



Strategic Activities

TC Initiatives: APMP funds R&D projects of significance in addressing current needs of Asia Pacific industry. Proposals approved for 2019:

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

Focus Group Strategy: Aimed at developing capabilities and increasing impact of measurement in addressing regional challenges across priority sectors:

- **Energy Efficiency :** *Chair - Thailand*
- **Food Safety :** *Chair - China*
- **Medical Metrology :** *Chair – Chinese Taipei*
- **Climate Change and Clean Air :** *Chair – Republic of Korea*
- **Clean Water :** *Chair – Indonesia*

APMP FGs seek to engage externally including with APEC forums active in these sectors.



Clean Water Focus Group Activities

Contact: ghufron@bsn.go.id

- **Vision**

- To be part of solution for the adequate availability of clean water for mankind.

- **Missions:**

- To establish cooperation among NMIs in this specific field
- To share experience of cooperation between NMIs and stakeholders (water companies, decision making institution)
- To provide strategic advice in overcoming (clean) water problem to stakeholders
- To improve NMI capability related to clean water parameter
- develop measurement technique/method as well as traceability necessary for correct determination of: water quality & water quantity

- **APMP CWFG Planning Workshop**

- To discuss and understand more on the requirement of clean water based on international standards as well as member economy-specific problems and standards.



Climate Change and Clean Air

Focus Group Activities

Scope: *Contact: slee@kriss.re.kr*

- Metrology for climate change and clean air with respect to direct driving factors (calibration of instruments and sensors related to stack emission, ambient and background measurement)

Objectives:

- To support national measurement standards related to climate change and air quality (e.g., aerosol, flow, temperature, and humidity)
- To exchange information on how to support the acting body for member economy inventory by NMI (measurable, reportable, verification)

Workshops:

- Nov 2017 at Dew Delhi, India: Metrology, Techniques and Strategy
- Nov 2018 at Singapore: New Technology and Strategy for Sustainable Growth and Liveable Environment (environmental monitoring, sensor development, climate change and clean air policy)



Energy Efficiency Focus Group Activities

Contact: ajchara@nimt.or.th, oijai@nimt.or.th, iro@nimt.or.th

Objectives :

- ❖ To increase the awareness of energy efficiency measurement.
- ❖ To improve knowledge of regional and national needs on energy measurement area.
- ❖ To explore relevant APMP capabilities and research on energy measurement.
- ❖ To engage more participants from NMIs, energy stakeholders, manufacturers and users.



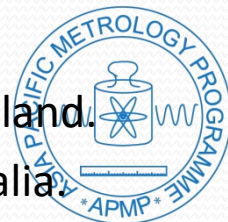
Energy Security

Green Building

Metrology for Energy Efficiency

EEFG Activities

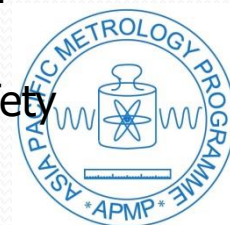
- ❖ 3rd EEFG Workshop on “**Metrology for Energy**” on 24 November 2018, Singapore, Energy topics: Green buildings, EV charging facilities, Flow metrology, Solar PV & LED, RF and microwave, and Impact of metrology on energy in Singapore, Indonesia, Australia and Thailand.
- ❖ 41 Participants from 16 NMIs, stakeholders and manufacturers.
- ❖ **Smart Energy Technology ASIA 2019 (SETA2019)** on 10 - 12 October 2019, Thailand.
- ❖ 4th EEFG Workshop on “**Energy for Sustainable Future**”, in 2019, Sydney, Australia.



Food Safety Focus Group Activities

Contact: lihm@nim.ac.cn

- Nov 2018: The 3rd Expert Meeting on “Trade Facilitation through an APEC Framework on Food Safety Modernization” under **APEC SCSC**
 - **Theme:** APEC Food Safety Modernization Framework to Facilitate Trade
 - **Centers on** Current status and practical steps to facilitate the uptake of the APEC food safety modernization framework to improve public health and assist trade; how to finalise this Framework; how to progress the APEC Food Safety Modernization
- Lancang-Mekong Cooperation Workshop on Prioritized Fields of Metrology
- **The Metrology for Food Safety Workshop** as part of the ASEAN NEXT 2018 is hosted by MOST and organized by NIMT Thailand. The workshop was held from 19-22 March 2018 in Bangkok Thailand.
- Africa Food Safety Workshop 2018: co-organized by NMISA, NIM, BIPM and IAEA in Pretoria, South Africa
- Sept 2018, The “Metrological approach on mycotoxins measurements” Regional Workshop & SIM Chemical Metrology Working Group Meeting
- Oct 2018, The Central Asia and Eastern Europe Training workshop on Food Safety Measurement Standards



Medical Metrology Focus Group Activities

Contact: SJ.Chen@itri.org.tw

- **Scope**

- Support the whole value chain
(from R&D design, to manufacturers and to end users)
- Set up international equivalence on medical measurements
- Traceability of medical devices and diagnostics
- Share mutual experience among NMIs, DIs and TCs

- **Objectives:**

- Development of medical metrology technique, instruments, and facilities
- Develop and Calibrate procedures for medical devices

- **4th APMP MMFG Workshop 2018**

- Status of MMFG FGI Project
- Developments at NMIs in medical metrology areas
- Future strategy and work plan



Revision of SI: WMD Poster

Revision of SI - Implications for science, industry & stakeholders



Nov-2018 Resolution at the CGPM
20-May-2019 Revised SI takes effect

World Metrology Day 2019, Poster



Design: cooperation with Standard Calibration Laboratory, Hong Kong, China and WMD Team

MEDEA 2.0

Metrology – Enabling Developing Economies in Asia

- **Key data of MEDEA 2.0**
- Project Period: May 2018 – April 2021
- Budget: 1.3 Mio. EUR
- Funding: Federal Ministry for Economic Cooperation and Development, Germany
- Implementation: PTB, Germany

THREE INTERVENTION AREAS

Sustainability

Sustainability Concepts

Regional Cooperation

CABUREK: Regional Trainers

Technical Training

Legal & Industrial/Scientific Metrology



MEDEA 2.0 JOINT PROJECT PLANNING WORKSHOP
4th to 5th July 2018, Hong Kong



CABUREK 1st WORKSHOP
30th Oct. to 1st Nov. 2018, Bangkok

Support for Developing Economies

- Developing Economies' Committee (DEC) activities
 - Needs analysis –MEDEA with Lead TC Chair and FG Chairs
 - MEDEA Knowledge Management System (KMS):
DEC Working Group
 - Focus Group Awareness Raising Workshop

APMP DEC-CBKT Programme

"Leadership training"

- ❖ NIMT, Thailand hosted the APMP DEC Leadership Training 2017 in December 2017

"Sound Beginning in the CIPM MRA" Workshop

- ❖ MASM, Mongolia to host the workshop in 2019

BIPM's Capacity Building & Knowledge Transfer (CBKT) Programme is to increase the effectiveness with which Member States and Associates engage in the world-wide coordinated metrological system.

- ❖ 2016 and 2017 BIPM's CBKT workshops to assist NMIs' participation in CIPM MRA.

APMP Guidelines for using a Hybrid Comparison Scheme as Evidence Supporting CMC Claims

- Long time intervals between international comparisons
- No such comparisons for some simple calibration services
- Developing NMIs
 - Wish to participate in bilateral comparisons
 - Face challenges in identifying partners
- Developed NMIs
 - Already have to participate, on a voluntary basis, in numerous intercomparisons as link labs
 - Derive limited benefit from bilateral comparisons with developing NMIs
- Response: Hybrid Comparison Scheme

APMP approach accepted internationally
(at JCRB and CC President Meetings)

- Recommendation 40/1 at the 40th JCRB meeting

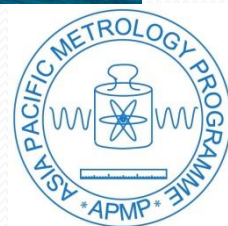
The JCRB agrees that the Hybrid Comparison scheme proposed by APMP may be used as an example of “Other available knowledge and experience” in Section 3 of CIPM MRA D-04, which underpins CMCs. It was noted that the use of Hybrid Comparisons is not an alternative to participation in key or supplementary comparisons when accessible. It was also noted that it is not intended to include Hybrid Comparisons within Appendix B of the KCDB. This agreement is to be sent to the CIPM for approval in order to expedite communication to the Consultative Committees.

- **HC scheme cannot be used when key or supplementary comparisons are available.**
- **Applicant NMI should make every effort to find the partner NMI of bilateral comparison before HC scheme is considered.**
- **The result of HC as the CMC evidence and capability of NMI are thoroughly reviewed by the on-site reviewers.**
- **At Inter-RMO review stage, CMCs should not be rejected due to the reason that CMC evidence is HC.**

APMP General Assembly and Related Meetings 2019



Sydney, Australia
28 November – 6 December 2019





Thank You

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