

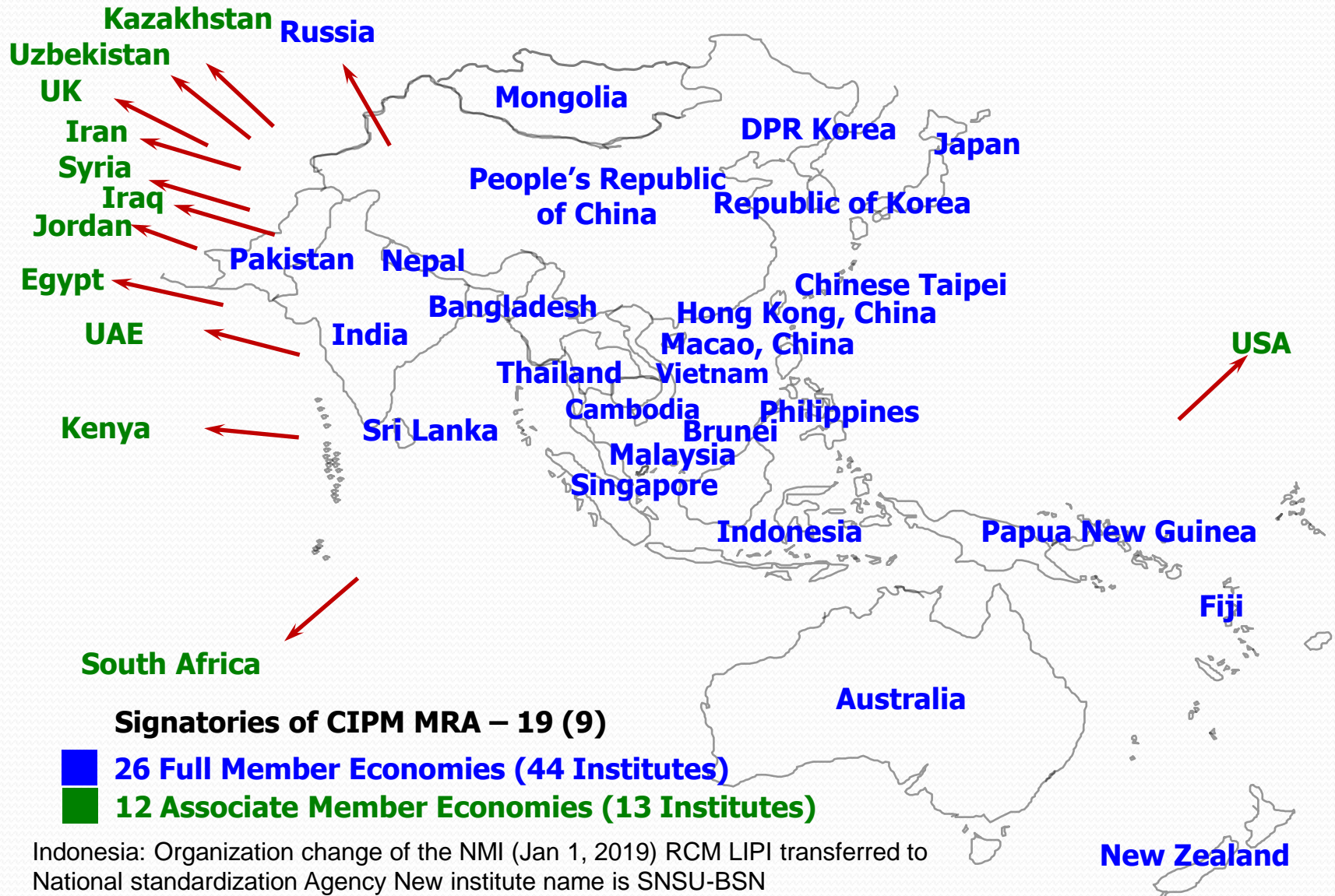


Asia Pacific Metrology Programme

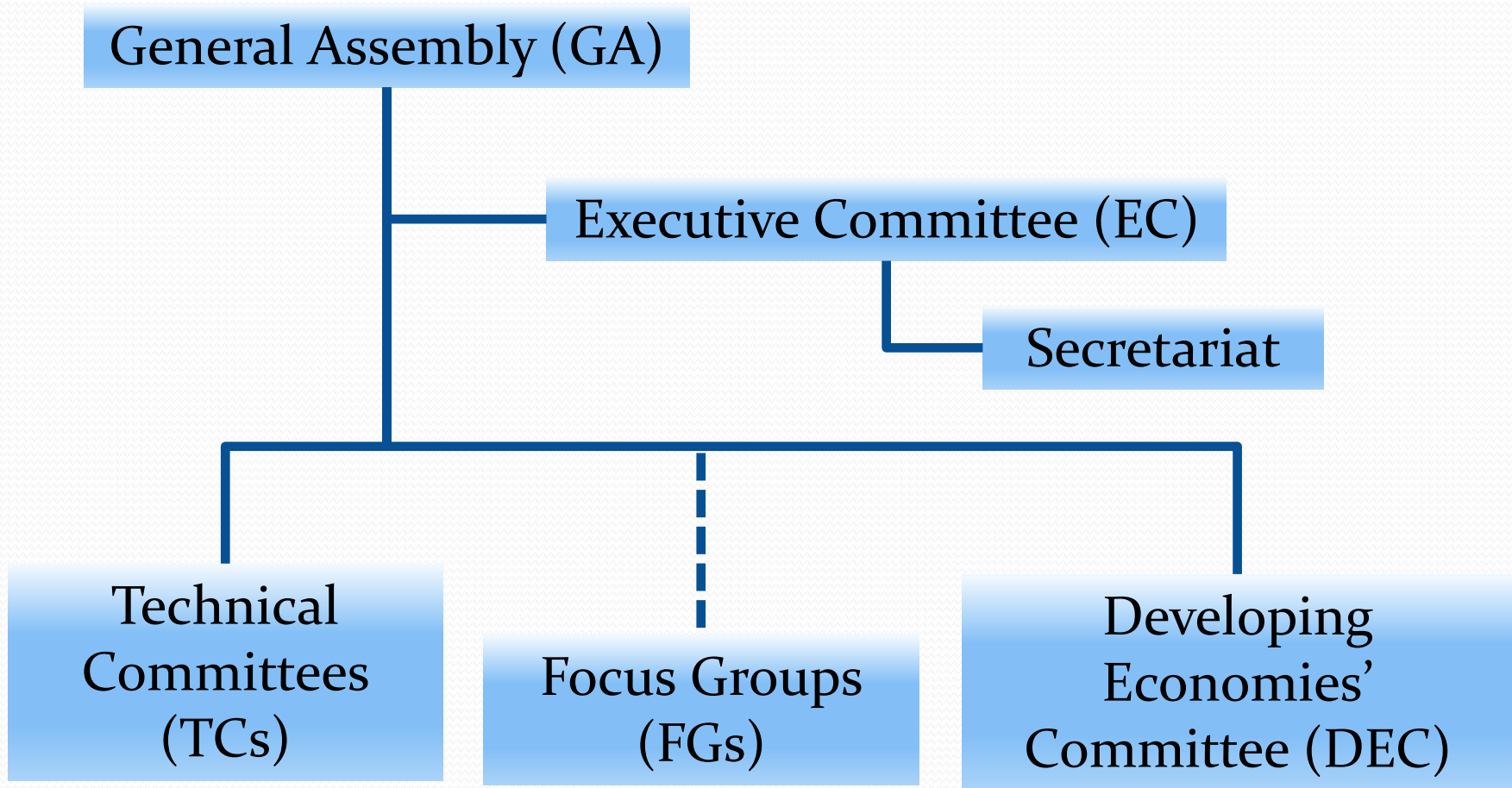
**APMP Report to APLMF
November 2019**

Ha Long, Viet Nam

Members of APMP



APMP Organization Chart



Executive Committee

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

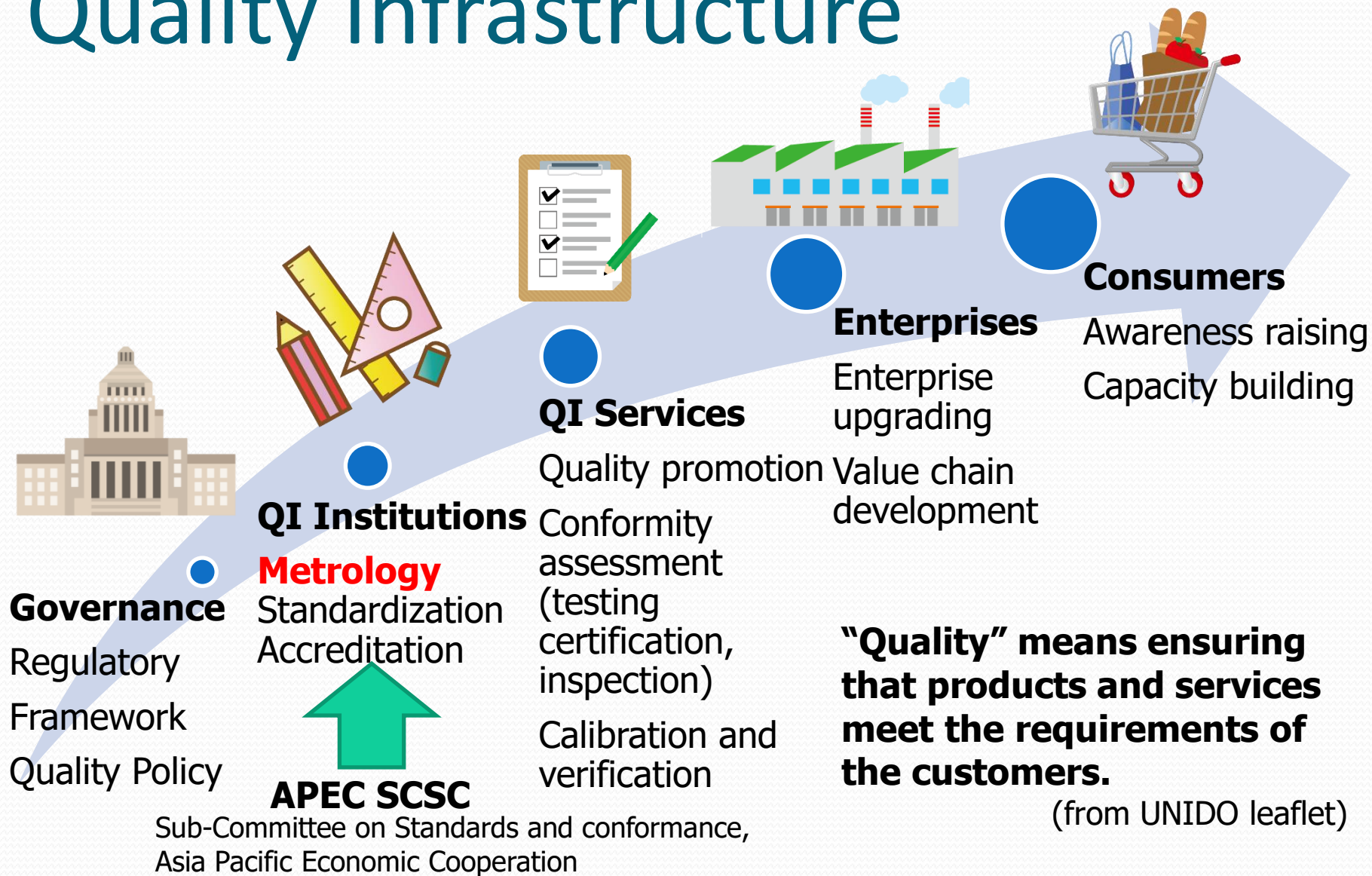


Technical Committees

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	Kazumi Inagaki	NMIJ, AIST	Japan	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

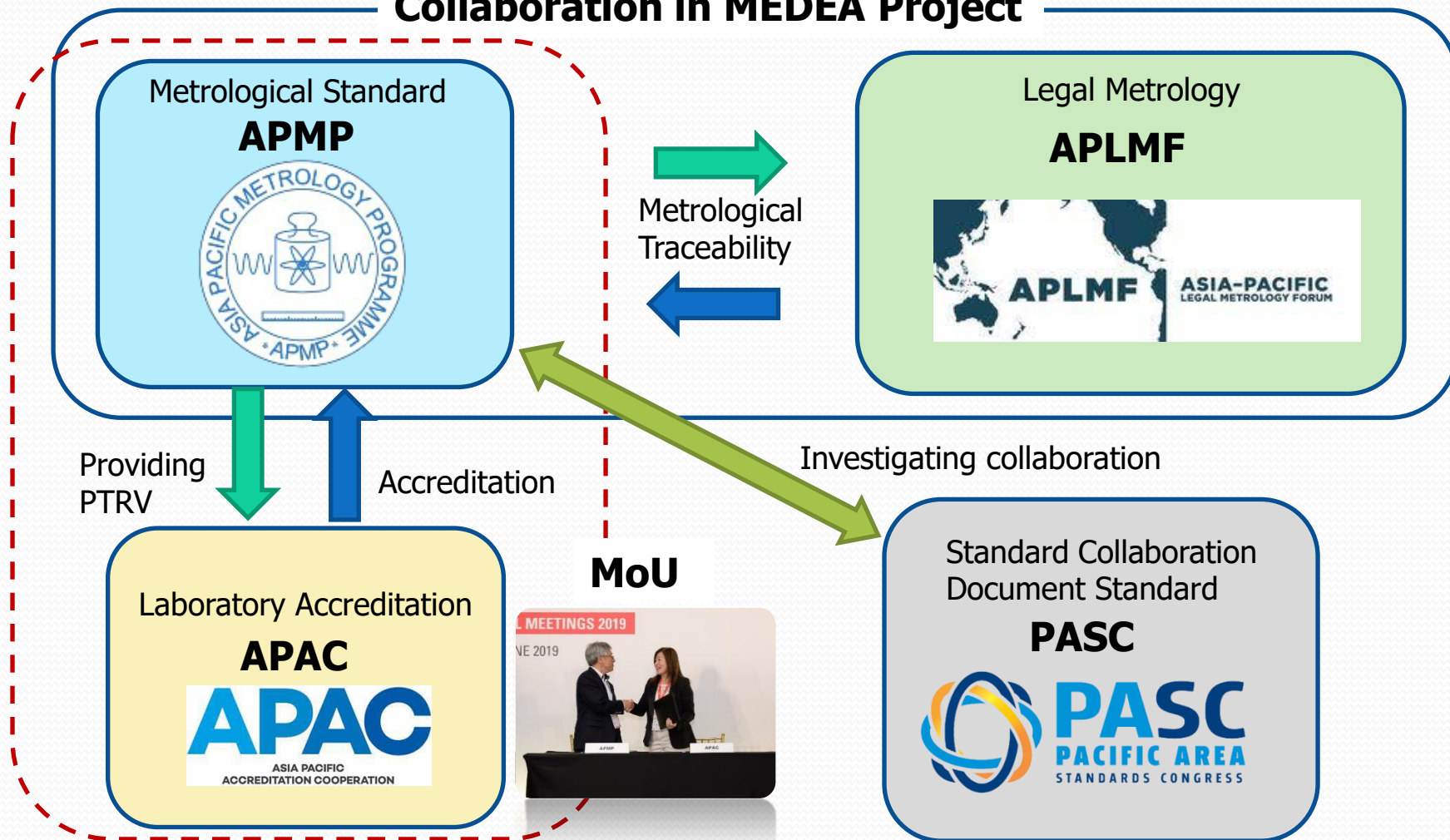


Quality Infrastructure



APEC SRBs (Specialist Regional Bodies)

Collaboration in MEDEA Project



Strategic Activities

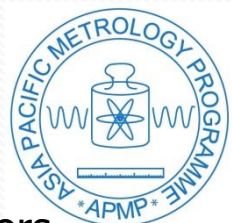
TC Initiatives: APMP funds R&D projects of significance in addressing current needs of Asia Pacific industry. Proposals approved for 2019:

- **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
- 2nd Call
- **Length:** Pilot study on EDM instrument comparison
 - **Quality System:** Workshops on the APMP's implementation of CMC review process under the CIPM MRA

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 national/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 national 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.



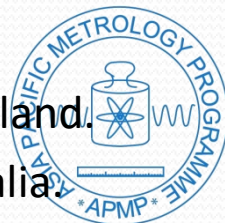
Energy Security

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

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.

BIPM-APMP CBKT Programme

"Important transitions in the CIPM MRA infrastructure," November 2019

- ❖ consists of two parts: the first part is intended to explain the updates in the CIPM MRA documents and the KCDB 2.0; the second part will discuss the APMP experiences in transitioning to ISO/IEC 17025:2017.

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

- When developing NMIs want to participate in an international comparison, they must overcome problems:
 - a considerable long time interval of international comparison
 - no international comparisons for some simple calibration services
- Bilateral comparison?



Difficulties in finding a partner NMI, since developed NMIs:

- have participated in a number of comparisons as the link lab on a voluntary basis
- obtain limited benefit from bilateral comparisons with developing NMIs

Implementation of HC

6. Check two certificates

Third party (in most case TC Chair)

2. Send the calibration certificate (A)

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graph TD; ApplicantNMI[Applicant NMI] -- "2. Send the calibration certificate (A)" --> ThirdParty[Third party]; IssuingNMI[Issuing NMI] -- "5. Send the calibration certificate (B)" --> ThirdParty; ApplicantNMI -- "3. Send the artefact" --> IssuingNMI; ApplicantNMI -- "1. Perform calibration" --> ApplicantNMI; IssuingNMI -- "4. Perform calibration" --> IssuingNMI;
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Applicant NMI

1. Perform calibration

3. Send the artefact

5. Send the calibration certificate (B)

Issuing NMI

4. Perform calibration

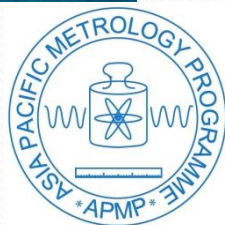
APMP Guidelines for using a Hybrid Comparison Scheme as Evidence Supporting CMC Claims: cont'd

- **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 Applicant NMI are to be thoroughly reviewed by the on-site reviewers.**
- **With all these conditions fulfilled, CMCs should not be rejected at Inter-RMO review stage 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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