

APMP Updates

to the 2021 SIM General Assembly

12 November 2021



What is APMP ?

Asia Pacific Metrology Programme (APMP) is

- An association of **National Metrology Institutes (NMIs)** from the Asia-Pacific region for improving regional metrology capability;
- One of the six **Regional Metrology Organisations (RMOs)** to implement the CIPM MRA for the worldwide mutual recognition of measurement standards and of calibration and measurement certificates;
- One of the **Specialist Regional Bodies (SRBs)** working with APEC to facilitate the development and implementation of QI that addresses APEC goals.



Regional Metrology Organizations (RMOs)

Membership

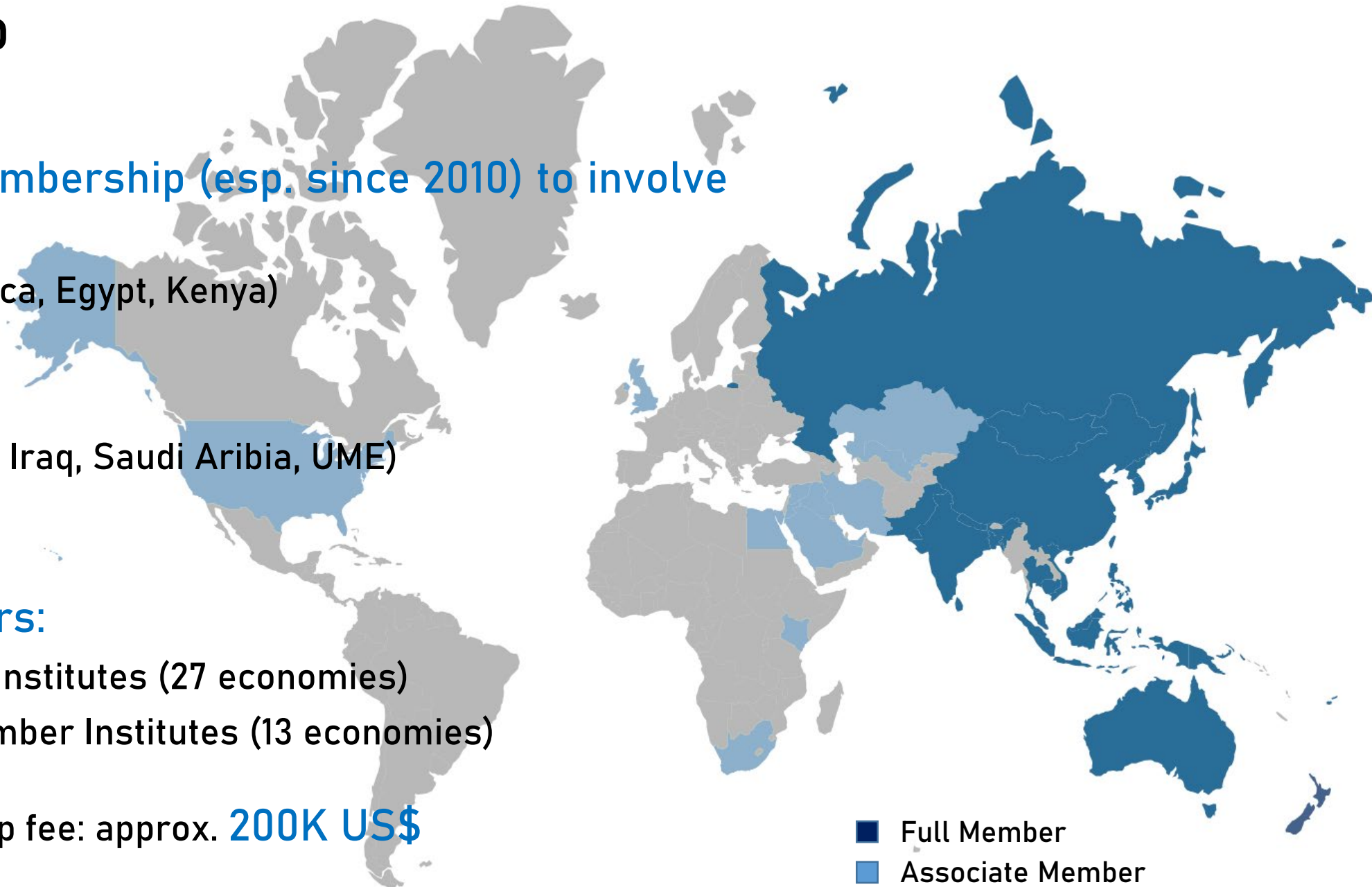
Expansion of membership (esp. since 2010) to involve countries in

- Africa (South Africa, Egypt, Kenya)
- Americas (U.S.)
- Europe (UK) and
- Middle East (Iran, Iraq, Saudi Arabia, UME)

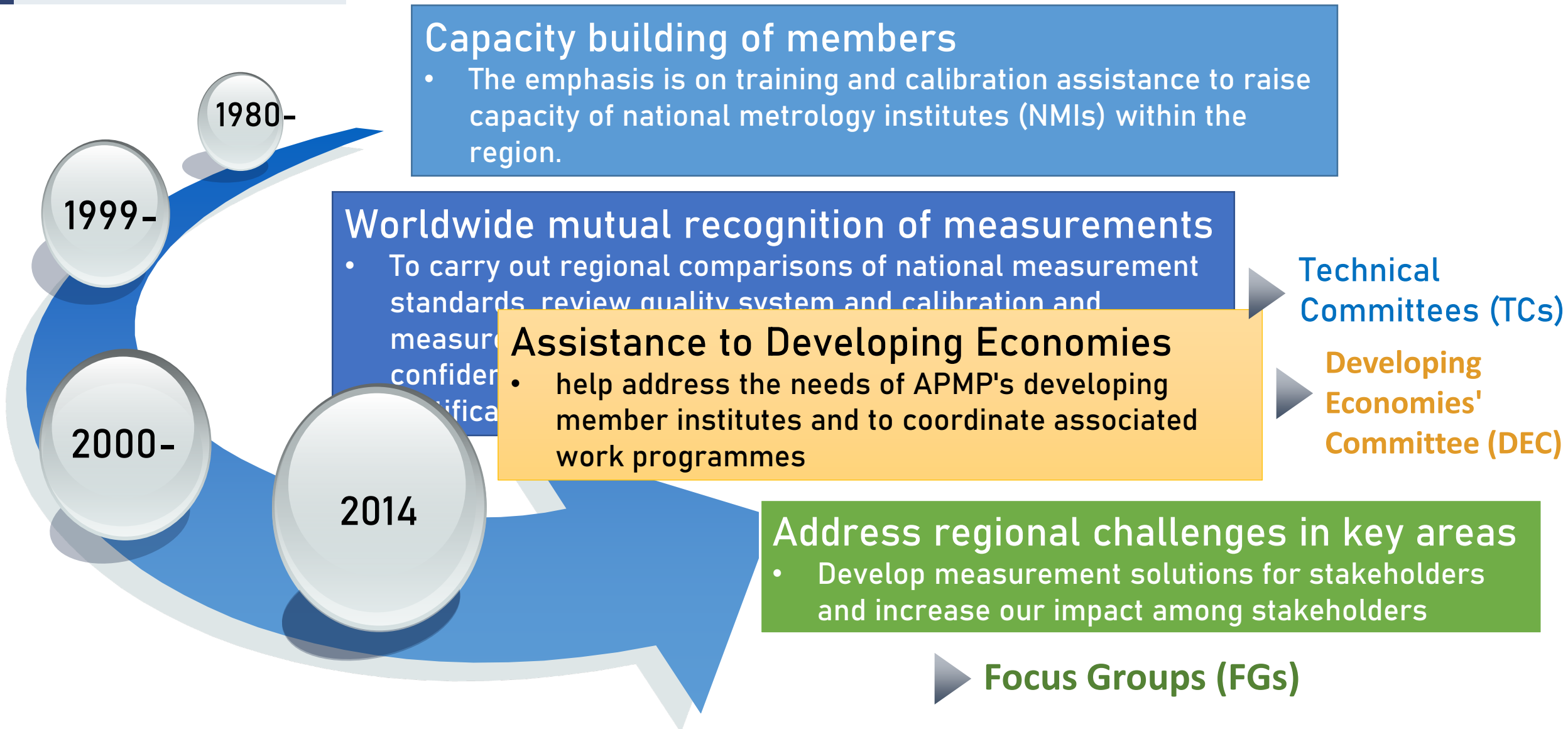
Current members:

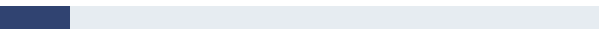
- 45 Full Member Institutes (27 economies)
- 14 Associate Member Institutes (13 economies)

Annual membership fee: approx. 200K US\$



Responsibilities evolving with time





Focus Groups

The idea of FGs was proposed by APMP Directors' workshop and approved by GA in 2014.

Cross-cutting, inter-disciplinary forums to meet sector needs and engage with stakeholders



We focus on regional needs:

- The region has a lot of developing economies and agricultural countries;
- Food safety, clean water, air pollution, energy efficiency, and health care remain as major and long-standing challenges for the region;
- We care human life related issues more;



Food Safety (FSFG)

**Medical Metrology
(MMFG)**

**Clean Water
(CWFG)**

**Energy Efficiency
(EEFG)**

**Climate Change &
Clean Air (CCCAFG)**



Main programs

APMP TC Initiatives
Advancing metrology

APMP FG Initiatives
Impact for stakeholders

DEC Program
*Capacity building for
Developing members*

(100 K US\$ per year)

(45 K US\$ per year)

Technical Committees (TCs)

Acoustics, Ultrasound and Vibration (TCAUV)
Electricity and Magnetism (TCEM)
Fluid Flow (TCFF)
Length (TCL)
Mass and Related Quantities (TCM)
Photometry and Radiometry (TCPR)
Amount of Substance (TCQM)
Quality System (TCQS)
Ionizing Radiation (TCRI)
Thermometry (TCT)
Time and Frequency (TCTF)
Materials Metrology (TCMM)

Focus Groups (FGs)

Climate Change and Clean Air (CCCAFG)
Food Safety (FSFG)
Energy Efficiency (EEFG)
Medical Metrology (MMFG)
Clean Water (CWFG)

Developing Economies' Committee (DEC)

Supplementary and mutually supportive

APMP Strategic Plan (2021-2023)

5 key aspects of current context:

- Significant and long-term impacts of the COVID-19 pandemic.
- Advances in measurement science and technology and the rise of global challenges
- Uneven development among Members
- Effective and efficient governance
- Stronger regional and international engagement

6 strategic work priorities:

Work together in the fight against the pandemic

Promote R&D excellence in emerging areas

Increase APMP's impact and value to members and to "leave no one behind"

Enhance quality and efficiency of APMP's governance and operations

Fulfill RMO obligations under the CIPM MRA

Enhance global engagement and partnership

APMP COVID-19 Response Program



Picture source: the United Nations

Launched in June 2020

This program aims to encourage and support all scientific, technical, knowledge transfer or capacity building activities that will directly improve members' measurement capabilities needed to fight against the COVID-19 pandemic, underpin national initiatives for combating the crisis, or contribute to metrological preparations for future pandemics.

Budget: US\$ 250,000 for FY2020&2021

(US\$ USD 97,640 allocated by now)

Draft Resolution on **Initiating an APMP Response Program against COVID-19**

The Executive Committee of the Asia Pacific Metrology Programme (APMP), at its 64th meeting,

Noting that

- the coronavirus disease (COVID-19) is one of the most severe epidemiological events throughout human history, posing threat to people's lives, public health and economy, and it is likely to co-exist with human beings for a long time;
- an imperative for the metrology community is to mobilize expertise for innovation and collaboration on response against COVID-19 at national, regional and international level.

Recognizing the response activities initiated by national, regional and international metrology organizations, including:

- international comparisons and/or pilot studies launched by working groups of the CIPM

Projects approved

Possible metrological supports for COVID-19 crisis management

Comparison measurement and training courses on the ventilator tester

Investigation of the human speech/cough droplet size measurement and comparison for COVID-19 infection control

Accurate measurement of SARS-CoV-2 and development of nucleic acids reference material

Establish and validate national capabilities to support the growth in use of thermal imagers for public thermal screening

Project highlight: ventilator

Measurement comparison and training courses on ventilator testers

Problems:

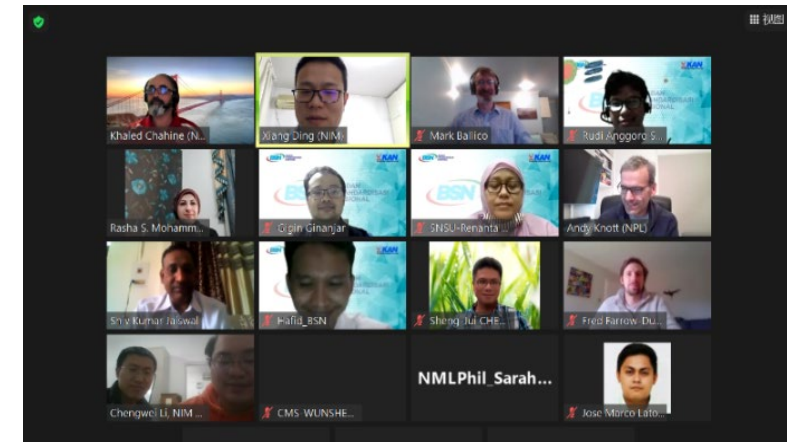
1. Un-calibrated ventilators may bring fatal risks to patients
2. Urgent need from health sector v.s. no calibration capabilities in many developing economies
3. Existing methods for calibrating key parameters of ventilator testers have never been validated by any international comparison

Solutions:

1. Organize training workshops & mentorship trainings to developing institutes on ventilator traceability systems
2. Organize the first regional comparison on ventilator testers to verify existing calibration methods

14 APMP member institutes participant !
5 institutes have started to develop their measurement system !

Contact: Dr. DING Xiang, dingxiang@nim.ac.cn



Kick-off meeting on 19 March 2021

Project highlight: SARS-CoV-2 nucleic acids RMs

Accurate measurement of SARS-CoV-2 and development of nucleic acids reference Materials

Problems:

- “False negative” of nucleic acid test kits due to low virus content and problems in sample preservation and transportation
- SARS-CoV-2 nucleic acid reference materials can help evaluate the performance of test kits and improve their quality control

Solutions:

- Organize a training workshop on:
 1. principle of PCR testing,
 2. international guidelines for PCR testing,
 3. development of SARS-CoV-2 nucleic acid RMs
- Organize post-workshop learning exercise, for participants to test their capabilities using the samples provided by the project

Contact: Dr. DONG Lianhua, donglh@nim.ac.cn

A Project Supported under APMP COVID-19 Response Programme

A Workshop on
Accurate Measurement of SARS-CoV-2 and Development of Nucleic Acids Reference Materials

16 JULY 2021 | 06:00 - 09:00 UTC | ONLINE

Invited Speakers:

**Rt-qPCR and the Response to COVID-19**
Professor Jim F Huggett, National Measurement Laboratory, LGC UK

**Quality Assurance and Challenges for CABs in SARS-CoV-2 Detection by Nucleic Acid Testing**
Ms Ritu Kulshrestha, Asia Pacific Accreditation Cooperation / National Accreditation Board for Testing and Calibration Laboratories (NABL)

**RGTM 10169: A NIST Developed SARS-CoV-2 Test Material**
Dr William Valiant, National Institute of Standards and Technology

**Development of KRISS SARS-CoV-2 Reference Materials**
Dr Young-Kyung Bae, Korea Research Institute of Standards and Science

**Development and Application of SARS-CoV-2 Reference Materials**
Dr Lianhua Dong, National Institute of Metrology, China

 REGISTER HERE BY 12 JULY 2021
[HTTPS://ZOOM.US/WEBINAR/REGISTER/WN_YXDVHPQIQD2-4KIK2-6TXQ](https://zoom.us/webinar/register/wN_YXDVHPQIQD2-4KIK2-6TXQ)

ORGANISED BY

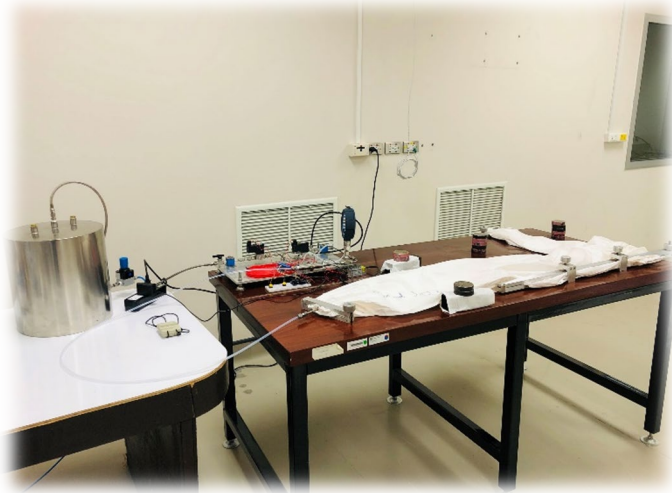
 

中国计量科学研究院
National Institute of Metrology China

Photo by GDC from Pixels

Project highlight: PPE

Non-destructive testing for medical PPE suit to verify its readiness



Objective:

To verify readiness of PPE suits for medical personnel prior to their daily usage.

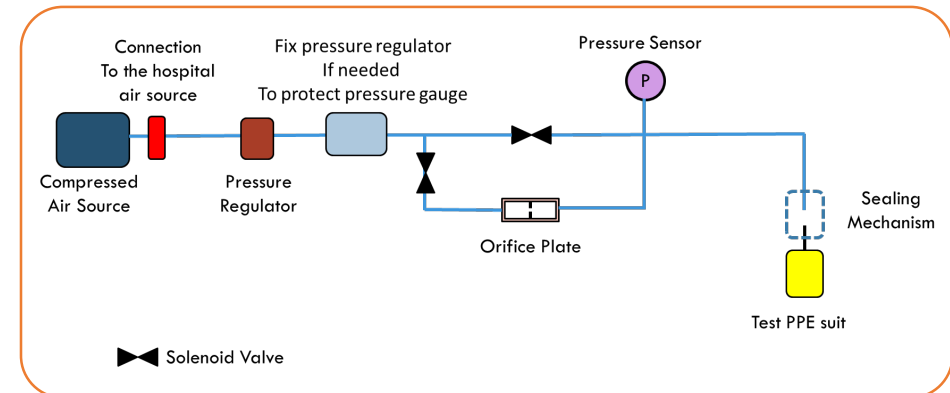
Main activities:

- To determine PPE suit leakage using pressure sensors and flow sensors.
- To investigate the most suitable pressure and flow rate for testing.
- To make the test system compact and practical.
- To transfer this technique to interested parties.

Expected impacts:

- To help provide safer PPE suits for medical personnel.
- To provide useful information for APMP members for them to develop similar test systems.

Contact: Mr. Uthai Norranim, iro@nimt.or.th



Digital Transformation – a new Focus Group on the way

1. Participated in the BIPM Workshop (Feb 2021)



An average of 360 connections from APMP

2. APMP Survey on Digital Transformation (Feb 2021)

Objectives:

to collect information of plans, activities and challenges that APMP member NMIs have with respect to digital transformation, to understand the scene of APMP in this area and to provide a basis for future work plans.

Digital Transformation – a new Focus Group on the way

Resolution EC66:

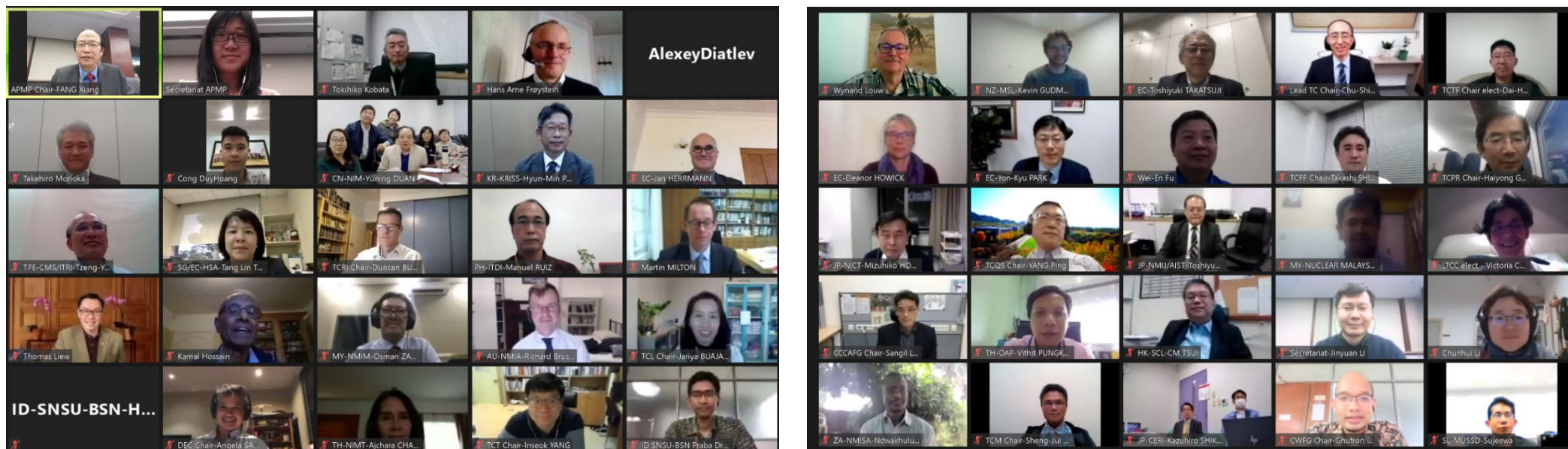
The EC recommended to establish a **Focus Group on Digital Transformation in Metrology (DXFG)** as soon as possible to act as a dedicated forum for regional collaborative activities relating to digital transformation in metrology.

Current status:

- Nomination for Members: 28 nominations from 14 member economies
- Chair-elect: Dr. Blair Hall, Measurement Standards Laboratory of New Zealand
Member of: IMEKO TC6 (Digitalization) / IMEKO TC21 (Mathematical Tools for Measurement) / CIPM Expert Group on the Digital SI / NCSLI 141 (Metrology Information Infrastructure & Automation)
- The FG and the Chair-elect are to be approved by the forthcoming APMP GA 2021.
- We value the exchange and cooperation with other RMOs.

APMP General Assembly & Related Activities, 2021

WELCOME TO
2021 APMP General Assembly
Open session: 25 Nov 2021, 06:00-09:30 UTC
&
2021 APMP NMI Directors' Workshop
"Foster Asia-pacific metrology collaboration in a digital world"
23 Nov 2021, 07:00-09:30 UTC



A subset of GA 2020 participants



Thank you!



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