



29th ASIA-PACIFIC LEGAL METROLOGY FORUM ONLINE MEETINGS 1-2 November 2022



PTB and MEDEA 3.0 Updates 2022

Presented by:

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Kuala Lumpur, Malaysia
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PTBs Technical Cooperation in Asia – what's new?

Strengthening Quality Infrastructure for Sustainable Economic Development in Nepal

Main partner: Nepal Bureau of Standards & Metrology (NBSM)

Project term: 01/22 – 12/24

Contact PTB: Ms Franziska Wende; franziska.wende@ptb.de

Digital transformation of Accreditation in the Asia-Pacific

Main partner: Asia Pacific Accreditation Cooperation (APAC)

Project term: 05/22 – 04/25

Contact PTB: Ms Cora Roos; cora.roos@ptb.de



PTBs Technical Cooperation in Asia – what's new?

Strengthening Quality Infrastructure Services for Environmental and Climate Monitoring in Indonesia

Main partner: National Standardization Agency (BSN) / BSN-SNSU

Project term: 03/22 – 02/25

Contact PTB: Ms Jana Körner; jana.koerner@ptb.de

Promotion of Quality Assurance Services for Sustainable Energy in Vietnam

Main partner: Directorate for Standards, Metrology and Quality (STAMEQ)

Project term: 04/22 – 03/25

Contact PTB: Ms Irina Santourian; irina.santourian@ptb.de



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Trends of Digitalization

Digital Calibration Certificate (DCC)

- DCC summer school took place in June 2022
- Opportunity to enter direct exchange with other interested colleagues and the developers of the DCC

IMEKO TC 6 M4DT conference

- Exchange on individual developments and challenges
- Future topics: DCC, trainings on programming languages, guidelines on digitalization, remote calibrations, AI/ML
- Result: exchange group in stackfield, followed by PTB 9.3 International Cooperation

Publications



MEDEA 3.0

Promoting regional cooperation in metrology in the Asia-Pacific region



MEDEA 3.0

- ✓ 05/2021 – 04/2024
- ✓ Joint project by APMP, APLMF and PTB
- ✓ Funding: Federal Ministry for Economic Cooperation and Development, Germany, 1.2 Mio. EUR

MEDEA 3.0 Objective

Selected metrology systems in developing economies in the Asia Pacific are increasingly supporting the implementation of national priorities of the 2030 Agenda and COVID-19 response measures.

SDGs in focus



SDG 3: Health

SDG 6: Water

SDG 8: Economic Growth

SDG 9: Industry, Innovation and Infrastructure



MEDEA 3.0 Activities

Organisational systems

Capacity development of both APMP and APLMF to support their members has improved.

- Development of **knowledge products** on metrology for sustainable knowledge management (eLearning, testing or calibration guidelines, test sheets)
- Implementation of the **APLMF Work plan** and APMP DEC strategic plan

Awareness

Government decision makers and other stakeholders are made familiar with the contribution of metrological services and systems to the national Agenda 2030 priorities and COVID-19 response.

- Development of **policy briefs** or guidelines on metrology with regard to national Agenda 2030 priorities and/or selected SDGs
- **Success stories** demonstrating the relevance of metrology services for the national Agenda 2030 priorities and COVID-19 response to relevant government decision makers and/or stakeholders.

Technical and leadership capabilities

Partner institutes have developed capacities and strategies that support national Agenda 2030 priorities and COVID-19 measures.

- **Training and development programmes** for measurement systems and management capabilities which are aligned with national agenda 2030 priorities – implementation of action plans
- NMIs/LMA have **set priorities to develop measurement services** and systems aligned with national Agenda 2030 priorities and COVID-19 response



MEDEA 3.0 Activities | Application of RDT

Monitoring and evaluation of progress in metrology based on the Rapid Diagnostic Toolkit (RDT) – developed by the World Bank Group and PTB

Who?

- Developing economies in the Asia-Pacific
- Legal metrology & scientific metrology institutes

What?

- Pillar 3: Service delivery and technical competency
- Pillar 4: External relations and recognition
- Scientific Metrology (APMP)
- Legal Metrology (APLMF)

When?

- Baseline, 2024



→ The application of the RDT is a precondition to receive funding by the project



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MEDEA 3.0 Activities | Application of RDT

Baseline

Legal metrology technical staff	Calibration and verification services	Market surveillance	Training system	Type approval of measuring instruments	Liaison with regional organizations	Liaison with international organizations	Coordination within the QI	Designated organizations	Consultative forum
4	1	3	1	0	2	0	4	0	0
2	1	1	2	0	0	0	1	0	0
1	0	2	1	3	4	3	2	0	1
4	4	4	4	4	4	4	1	4	4
4	3	2	3	3	2	1	0	1	4
2	3	2	0	0	2	2	0	0	0
4	4	4	4	4	2	0	4	3	4
3	4	2	2	4	1	0	1	2	1
0	0	0	0	0	0	0	0	0	0
2	0	1	1	1	4	0	0	2	2
0	0	2	0	0	0	0	1	0	0
4	4	2	3	4	1	1	1	0	1
4	0	3	3	4	2	2	2	3	4
4	3	4	4	4	2	2	1	2	2

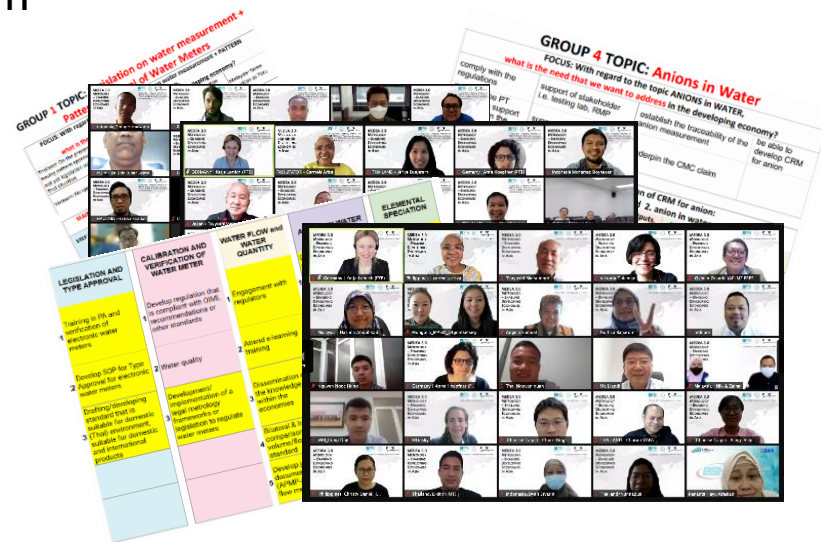
(4 – fully fulfilled, established, 3 – mostly fulfilled/established, 2 – partly fulfilled/established, 1 – few criteria fulfilled, 0 – not fulfilled/established)



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MEDEA 3.0 | Component 1 Organisational systems

- Rapid Diagnostic Toolkit Data collection and analysis (ongoing)
- Training programme for the development of eLearning courses
(Kick off: 29th September, 2nd workshop 8th of November)
- Provision of joint project and knowledge management and communication platform (ongoing)
- Potential support to APLMF WG action plans to measure their impact



MEDEA 3.0 | Component 2 Awareness

- Webinar and training series “How to write metrology case studies”,
→ development of 6 case studies, publication on (<https://metrologyasiapacific.com/>)
→ second application planned for the beginning of 2023
- Introduction to the development of Policy Briefs and identification of thematic areas (water quality and quantity, remote/digital calibration, prepackaged products)
→ Guideline for the development of 3 Policy Briefs, ongoing coaching till February 2023,
→ second application planned in 2023

The issue with water flowmeters

Metrologists tackle an ongoing challenge in Mongolia's water supply



The Challenge

Erdemil is the second-largest reservoir in a series of pipe locations of the system, are 1 much a customer pays for their supply and distribution are it recently raised concern about with verification of the flow

Our Solution

The company approached M inspection agency for help. V metrologists from our length

Putting length metrology to work

NMP supports vehicle inspection to



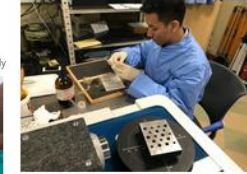
The Challenge

In Malaysia, one Government-appointed company, PUSPAKOM undertakes all mandatory inspections for commercial, public and private vehicles. PUSPAKOM's nationwide network of 54 inspection centres perform more than 3 million vehicle inspections per year.

One step in the inspection process is to measure a vehicle's dimensions – its height, length and width. This step was once carried out manually, but PUSPAKOM has adopted a novel, integrated and fully-automated system which utilizes 3D cameras to measure these dimensions. These cameras, mounted on a gantry, analyse the vehicle as it drives through producing a 3D map of its shape.

Upskilling metrology workforce through international collaboration

Cambodian metrology technicians gain new skills through working with China



The Challenge

The National Metrology Center (NMC), Cambodia is a government agency which holds the country's mandate in legal, industrial and scientific metrology. The major challenge on fabric is regarding the metrology workforce to ensure that our metrologists have the skills to address a range of practical issues in wider society. For example, the irregularity of household electricity meters is a key concern for both the Cambodian government and all citizens. And as new industries develop in the country, there is growing need for traceable dimensional and mechanical measurements. To meet these demands, and to ensure compliance with national and international standards, the NMC needs to develop and strengthen its measurement capabilities in three core areas:

Our Solution

To address these issues, the NMC participated in Lancang-Mekong Cooperation Project, a collaboration initiative between Cambodia, China, Laos, Myanmar, Thailand and Vietnam. Under the framework of this project, NMC sent four metrologists to attend the long-term joint research and personnel training program at China's National Institute of Metrology (NIM). There, they received training in the fields of electrical, dimensional and mechanical measurement. One was focused on electrical measurement, specifically around the issue of household meters. The training aimed to provide them with the skills and equipment needed to establish trust in Cambodia's electricity infrastructure.



MEDEA 3.0 | Technical trainings/eLearning

Nr. Work Packages *Health*

Potential benefit

1	Infusion Pumps (2nd workshop planned in March 2023)	APMP
2	Electrolytes, e.g. sodium, potassium, chloride in serum	APMP
3	Temperature measurements for vaccine fridges	APMP

Nr. Work Packages *Water*

Potential benefit

1	Anions in Water	APMP
2	Verification of water meters	APLMF
3	TA of water meters	APLMF
4	Elemental speciation	APMP
5	Traceability and calibration of water meters	APMP & APLMF



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Nr.	Work Packages <i>INDUSTRY</i>	Potential benefit
1	Ensuring that competencies in metrology are developed via online courses	APMP & APLMF
2	Economic sustainability of metrology institutes / bodies	APMP & APLMF
3	Metrology in enhancing resilience of global supply chains in manufacturing and export activities	APMP & APLMF
4	Software verification, (Data quality, big data analytics, data security)	APMP & APLMF
5	Automation of laboratory processes, online and remote calibration, SMART sensors	APMP & APLMF

- KRISS GMA workshop on Metrology in Acoustics, Ultrasound and Vibration [AUV], June 2023

Any other topics for training or eLearning for developing NMIs that are being discussed in the WGs, please feel free to contact us.



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Thank you very much for your continuing support,
engagement and participation!