



# Update on Metrology Asia Pacific Web Portal

Raising Awareness of Metrology:  
MEDEA APMP-APLMF Joint Project



## Raising Awareness of Metrology (MEDEA APMP-APLMF Joint Project)

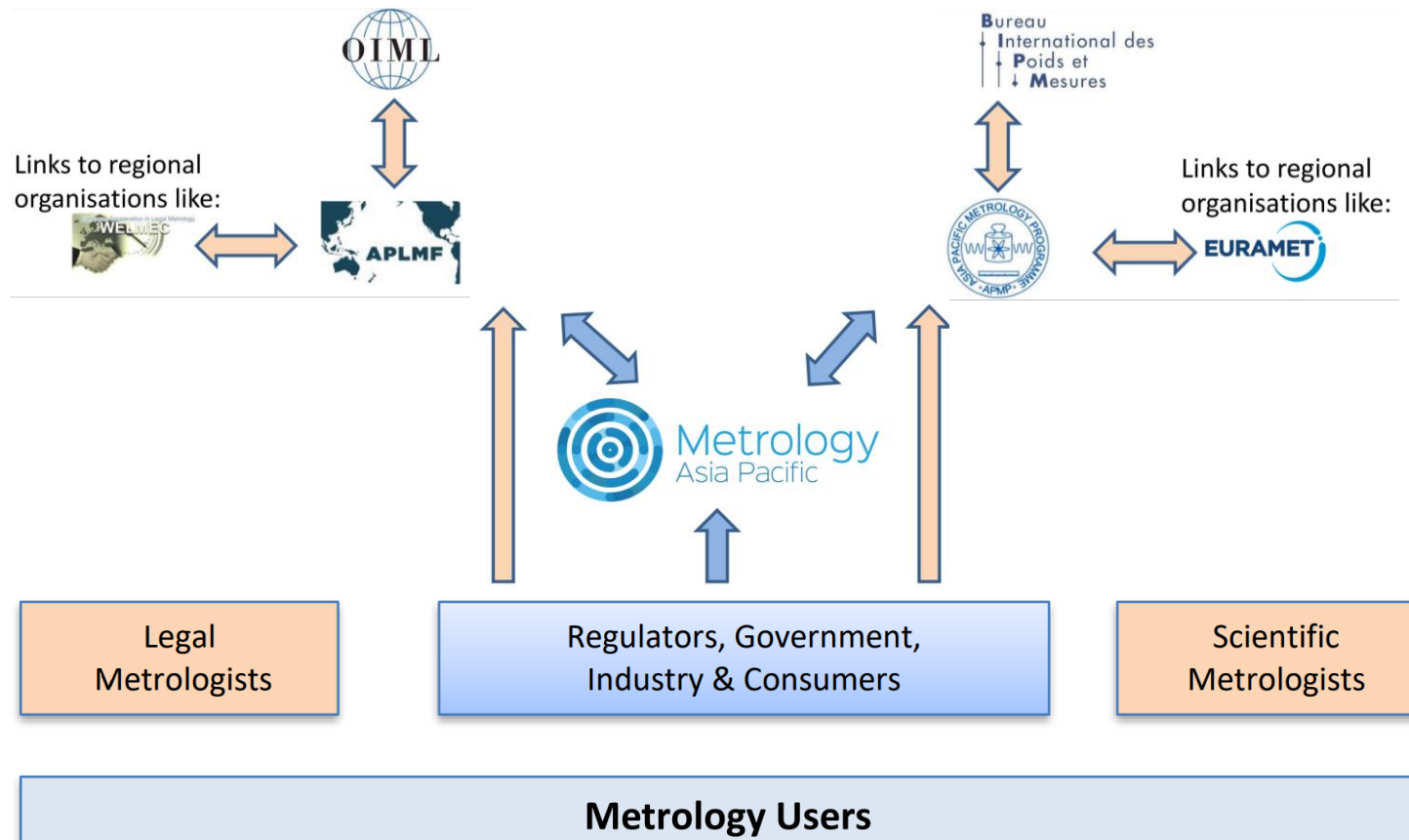
- **Project Objective:** Improve the sharing of information resources between member economies to enable them to increase awareness of the importance of metrology with consumers, industry, other regulators and government
- **Project Team:** APLMF Secretariat, Dr Angela Samuel APMP, APMP-APLMF Web Portal Working Group
- **Material Contributions:** APLMF and APMP member economies (case studies and reference documents), OIML, BIPM, APMP Focus Group Chairs , APLMF Working Group Convenors



## Develop a joint APMP-APLMF metrology web portal to facilitate sharing of information resources

- a metrology web portal that will introduce and link to useful information on authoritative metrology websites including: APMP, APLMF, OIML, BIPM.
- The overarching design objective is simplicity and ease of use, with multiple layers and links to more technical, complex information in an identified library.
- The portal will enable easy access to resources that meet multiple needs for communication and engagement with stakeholders on issues.
- Communicate about metrology to 'non-metrologists'.

# Between Portal and Other International Metrology Organisations





## Project Goals

- **Create a relevant and valued web portal** – design and deliver a great digital experience where metrology information is centrally curated, easily accessed and well managed.
- **Curate great content** – work to collect, curate and provide access to the resources, data and tools that will provide value to the target audiences e.g. links to training resources available globally.
- **Showcase metrology** – present information in a way that clearly presents benefits, methodologies, statistics etc and provides developing economies and industry with the tools and resources required to show the value of building and improving their metrology infrastructure.
- **Encourage community contribution and sharing** – create a digital resource that the community value and want to participate in. This will ensure the portal remains current, dynamic and valued.
  - Development and use of case studies of successful metrology interventions or information campaigns.
  - Development, promotion and sharing of resource and collateral materials.



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## WG-members

APMP	APLMF
Achaya Teppitaksak (NIMT)	Zainal Bin Mastapa (Malaysia)
Loreibelle Abian	Mr Michael Jason Aguila Solis
Mrs Unurbilag Darmaa	Mr Kangyoung Sung
Dr Rina Sharma	
Dr Zen Yang	
Mr Sophors Em	



# Science communication for metrology

- Writing technical reports and proposals
- Speaking to and writing for your peers
- Communicating with non-specialists
- Relationships with customers and collaborators
- Liaising with government or funders
- Public-facing activities – e.g. talks at universities
- Community outreach – e.g. schools or youth groups



# How to Write a Case Study

## Example #1: Template

Most common approach

Short (~500 words)

Simple, clear language

This format is useful for stakeholders (e.g. government and funders)

This works especially well for a case study on a specific project

<b>Header image</b>
<b>Title</b> < 7 words
<b>Subtitle</b> < 12 words
<b>The Challenge</b> 125 words
<b>The Solution</b> 200 words
<b>The Impact</b> 100 words
<b>Quote / Statement</b> < 75 words
<b>Graphic or Statistic</b>

## Example #2: Article

A story or news-style piece

Longer (~800 words)

More detailed / more technical

Especially good for ongoing relationships or long-term projects



## Thailand



### Bringing metrology into the classroom

See how the awareness of metrology is being raised through a nationwide initiative to work with educators in Thailand

## Korea



### Paving the way for Korea's Electric Vehicle era

See how metrology is supporting the automotive industry and the introduction of Electric Vehicles

## Malaysia



### Putting length metrology into 3D laser scanning

The National Metrology Institute of Malaysia (NMIM) supports vehicle inspection to adopt a critical new technology

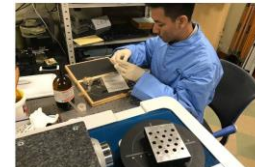
## Philippine



### Multinational Manufacturer Embraces NMI's Services

Filipino metrologists help Japanese company to stay balanced

## Cambodia



### Upskilling metrology workforce through international collaboration

Cambodian metrology technicians gain new skills through working with China

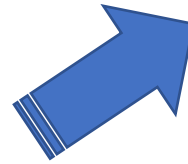
## Mongolia



The issue with water flowmeters  
Metrologists tackle an ongoing challenge in Mongolia's water supply



# Case studies Added



## Climate change and clean air

*These pages are being populated with Case Studies and/or links to external resources on how measurement is addressing challenges in each of these areas. Thank you for your patience and assistance as we build this content.*

UK

## Climate change and clean air



**Analysis extends lifetime of new fuel cell**  
See how NPL helped produce innovative, low cost fuel cells using manufacturing techniques from the printed circuit board industry.



**Reducing reliance on plastic drums**  
NPL helped Fibrestar prove that sustainable fibre drum containers perform as well as plastic competitors.



The National Physical Laboratory (NPL), UK, highlights the role of metrology in tackling Climate Change here:

[NPL-Climate-Change](#)

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# Case studies Added: Existing From Current Website



## Uniform analyses for clean drinking water in Europe- PTB

Clean water is a matter of survival for humans, particularly when it is used for drinking, cooking and for food manufacture. PTB scientists receive award for concept of comparability and traceability of water analyses.



## Improving the quality and efficiency of crop production

Using algorithms and machine learning to unlock data and provide meaningful information.



## Analysis extends lifetime of new fuel cell

See how NPL helped produce innovative, low cost fuel cells using manufacturing techniques from the printed circuit board industry.



## Improving yield estimates in bifacial photovoltaics

NPL helped develop uncertainty calculation tools for assessing the risks associated with solar farm sites.



## Reducing reliance on plastic drums

NPL helped Fibrestar prove that sustainable fibre drum containers perform as well as plastic competitors.



## Calibration of essential medical components

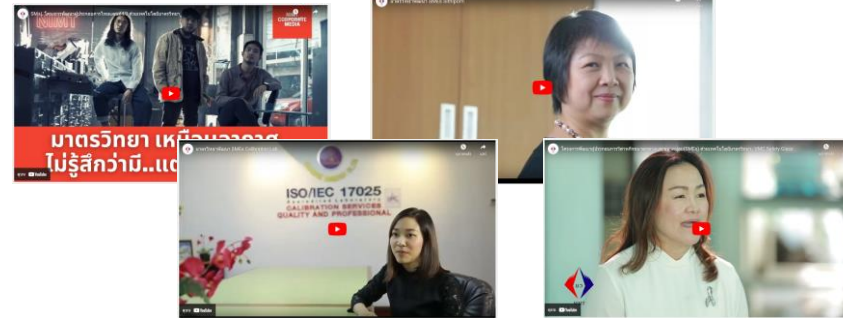
NPL ensured regular calibration of critical parts for the manufacture of a component of asthma inhalers during the COVID-19 lockdown.





# Existing From Current Website

## Thailand



Home - NMC - News & Articles - DATA-DRIVEN QUALITY ASSURANCE OF SENSORS IN IOT/IIT THROUGH SELF-DIAGNOSIS AND SELF-HEALING (SDSH)

- NMC
- About NMC
- Research & Development
- Service & Consultancy
- News & Articles
- Contact Us

### DATA-DRIVEN QUALITY ASSURANCE OF SENSORS IN IOT/IIT THROUGH SELF-DIAGNOSIS AND SELF-HEALING (SDSH)

Authors: Dr. Giti-Shah, Scientist III, Acoustics & Vibration Laboratory, BLSMO, Jabang, Scientist I, Acoustics & Vibration Laboratory



Interest of Things (IoT) has been generating a lot of interest in digitalization. Particularly for industrial applications, the Industrial Internet of Things (IIoT) has been adopted in an increasing speed. Real amount and variety of services have been and are being deployed to generate insights and enable automated control to improve process and production quality. To improve efficiency and eventually to improve profitability, sustainability and customer satisfaction. To achieve the desired outcomes, the quality, i.e. accuracy and reliability of sensing data in the IoT or IIoT is crucial.

At National Metrology Centre (NMC), we have developed a data-driven approach for sensing data quality assurance in sensor networks for IIoT and IIoT energy, Self-Diagnosis and Self-Healing (SDSH). Self-Diagnosis refers to autonomous and in-line monitoring and diagnostic of sensor health using a metrological scale, i.e. the measurement uncertainty of the sensors. Self-Healing refers to the subsequent adjustment of any readings, corrected based on metrological principles.

## Singapore

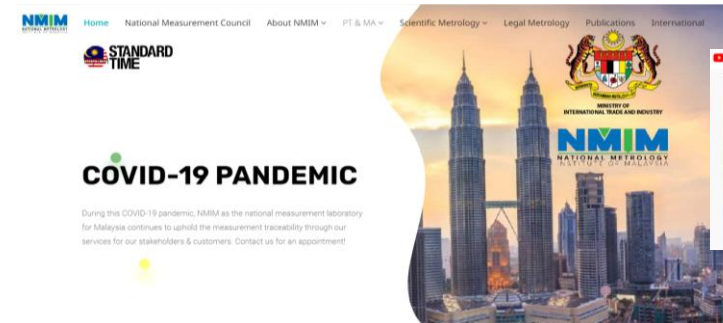
### APPLICATION 1: INTELLIGENT BUILDINGS

Green buildings require smart design and intelligence in building condition and control for better sustainability. The intelligence comes from the many sensors installed in the building such as for indoor air quality (IAQ), temperature & humidity, energy meters, and so on. For the building controls to be effective, reliable and minimize energy consumption, the sensing data must be reliable and accurate to the acceptable level.

To help buildings achieve the sustainability goal, NMC's team is deploying IIoT sensor networks with SDSH function to drive buildings from air ventilation control to achieve effective demand-controlled ventilation. Through continuous monitoring and connecting the sensing data by SDSH automatically, energy efficiency in fresh air ventilation is achieved without sacrificing indoor air quality and the long-term energy saving performance is sustained as a result of minimized sensing error.



## Malaysia



**Encouraged** WG to developed case studies for their own Website



## Continue Support From PTB

Planned	Timeline
Revise Current Web Portal	Oct 2022 – Dec 2022
Webinar - How to write a case study	January 2023
WorkShop: on how to write a case study	From February 2022

Limited number of participant allowed so if interested to join the workshop, please Contact: [zainalm@sirim.my](mailto:zainalm@sirim.my) or [Achayat@nimt.or.th](mailto:Achayat@nimt.or.th)



## Next Step

- Tidy up current functionality
- Corroborate with other working groups in APMP/APLMF
  - Additional content
  - Receive and respond to member's feedback
- Funding maintain the Portal



APLMF – Case Studies Needed!

We need your success story...