

# Economy Report

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## *Indonesia*

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## SECTION 1 – Organisation and structure for metrology

### Organisation Structures

Specialty	Scientific Metrology	Legal Metrology
<b>Organisation</b>	Indonesian Institute of Science (LIPI)	Ministry of Trade
<b>Business Unit</b>	Center of Metrological Research of LIPI	Directorate of Metrology
<b>Head</b>	Mego Pinandito	Hari Prawoko
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Relevant organizations

- National Standardization Body (BSN) – develop and foster standardization activities in Indonesia
- National Accreditation Committee (KAN) – establish accreditation and to give consideration and advice to the National Standardization Body (BSN) in establishing accreditation and certification system
- National Nuclear Energy Agency of Indonesia (BATAN) – ionizing radiation metrology (mostly related to medical application)

### International arrangements and engagement

#### Indonesia on hosting MEDEA Training Course on Mass Standards

Directorate of Metrology (DoM) was the host of MEDEA Training Course on Mass Standards on 30<sup>th</sup> August (Tue) to 1<sup>st</sup> September (Thu), 2016, in Jakarta, Indonesia.

This training course is designed for verification officers, laboratory personnel and scientists who calibrate and/or verify standard weights in accordance with OIML Recommendation R 111: 2004 “Weights of classes  $E_1$ ,  $E_2$ ,  $F_1$ ,  $F_2$ ,  $M_1$ ,  $M_{1-2}$ ,  $M_2$ ,  $M_{2-3}$  and  $M_3$ ”. This course targets participants who deal with weights in the middle and lower classes (such as  $F_2$  and  $M_{1-3}$  specified in R 111).

Organized by PTB and APLMF, the training was held and supported by National Metrology Institute of Japan (NMIJ). The training course was composed of both lectures and practical activities. The Topics of lecturers consist of outline of mass standards, treatment of measurement uncertainty, technical requirements based on R 111, and practical procedure for calibrating/verifying standard weights. Practical season was done by demonstrating how to calibrate standard weights based on the reference procedure recommended by R 111 using a precise balance.

Participants came from Bangladesh, Bhutan, Cambodia, Indonesia, Kazakhstan, Malaysia, Mongolia, Myanmar, Papua New Guinea, Philippines, Sri Lanka, Thailand, and Vietnam.

This course provides participants with the knowledge and skills to:

- Understand the role of mass standards for scientific and trade measurements within an economy,
- Identify the important requirements for standard weights based on OIML R 111,
- Understand proper operating/environmental conditions for calibrating/verifying standard weights,
- Identify possible sources of measurement uncertainties, and
- Calibrate or verify standard weights in accordance with the procedures specified in OIML R 111.

## SECTION 2 – Key activities of 2015/16

### Protecting consumers

#### National Seminar on Metrology

In order to increase public awareness of the role of legal metrology and to celebrate world metrology day in Indonesia, Directorate of Metrology have organized a National Seminar on Metrology 2016. The topic of national seminar is *“Metrology role to improve the quality and competitiveness of national products in order to increase the economic growth”*. It was held on 24 May 2016, in Jakarta.

The purposes of the seminar are:

- Increasing knowledge and awareness of the role of legal metrology;
- Improving performance of the national legal metrology activities;
- Harmonizing program of legal metrology between central government and local government;
- Mapping or identifying constraints and problems faced by local government to implement the program of legal metrology and find solutions.

## SECTION 3 – Future focus

### New initiatives planned (next 1-2 years)

#### Legislative Changes

Legal metrology activities in Indonesia are stipulated by the Law on Legal Metrology No.2/1981, aimed to protect public interest by ensuring the measurement and legal confidence.

Indonesia is still in progress to amend metrology law, the draft has been discussed involving 16 related ministries/institutions and now in a harmonization stage in Ministry of Law and Human Rights before to be discussed in the parliament.

The need for amendment of metrology law is motivated by the following:

- The restructuring of the National Metrology System:
  - Expansion of law scope, goals, direction and reach settings
  - The adjustment of the National Metrology System in line with the provisions of international and applicable legislation
  - Enhancements and addition of definitions
- Calibration activities and transfer of authority.
- Development of metrological human resources, competency standards, and professional ethics.
- Enhancing market surveillance.
- Public participation.
- Metrology information system.
- Sanctions.

#### Division changes in governmental affairs

Metrology activities in Indonesia will be affected and changed significantly since Law No. 23: 2014 on Regional Government taking into a force. The significant change is on legal metrology activities such as initial and subsequent verification and supervision are no longer provincial government authority. It becomes Regent/City Government authority. Thus, it will affect the verification of legal measuring instruments.

#### Academy of Metrology

Following success on conducting scholarship programs on metrology and instrumentation diploma, recently in 2016, the program has been independently under Academy of Metrology (Akmet). Akmet get subsidies from the government for 50 students for the enrollment of 2016.

The program is expected to inspire other colleges to open the same major to accept more students, and to answer challenges and the needs of metrological human resources in the future.

#### Acquisition of interferometer

As an effort to reach a highest traceability in length standard, Directorate of Metrology (DoM) has already acquired interferometer instrument as a standard comparator for length measurement.

Specification of the instrument:

Product:	Renishaw XL-80 Laser
Serial Number:	950F28
Date of calibration:	20 <sup>th</sup> November 2015
Vacuum wavelength:	0.6329905770 $\mu\text{m}$ $\pm$ 0.05 ppm
Equivalent frequency:	473612829.2 MHz

Laser measurement system accuracy: Linear measurement accuracy is an assured  $\pm 0.5$  ppm. Readings can be taken at up to 50 kHz, with a maximum linear measurement speed of 4 m/s and a linear resolution of 1 nm, even at maximum speed.

Renishaw XL-80 Laser Interferometer is the highest standard length comparator for legal metrology.