



AFRIMETS
Intra-Africa Metrology System
Système Intra-Africain de Métrologie



NEWMET Report to AFRIMET Meeting

2024

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Chair of NEWMET

NEWMET Members

- NEWMET comprises national metrology institutions of the following member states;
Egypt, Ethiopia ,Sudan, Libya, Ghana, Nigeria, Liberia, Sierra Leone and recently Somalia (Newest member).

Background and Membership at BIPM

- Egypt is a full member of the BIPM since 1962 and signed the CIPM MRA in Oct. 2000.
- Sudan joined CGPM in Jun. 2014 and is an associate member. In Jun. 2014 signed the CIPM MRA ,but unfortunately stopped in 2021
- Ghana joined CGPM in Sept. 2009 and is an associate member. In Feb 2010 signed the CIPM MRA
- Ethiopia joined CGPM in Jan. 2018 and is an associate member. In Jan. 2018 signed the CIPM MRA
- Nigeria applied as an associate member at CGPM
- Libya ,Sierra Leone, and Somalia not yet,

NEWMET Activities undertaken during the reporting year

Country reported

- **Sudan**
- **Ethiopia**
- **Ghana**
- **Egypt**
- **Lybia**

NEWMET Activities undertaken during the reporting year

• Country report of Sudan

Although SSMO lost its main building in Khartoum, the building was burned. It contains the following:

- Gold and gemstone testing laboratories that were rehabilitated with modern equipment during the years 2021 and 2022. It was compensated by purchasing modern equipment at the approval.
- Some calibration laboratories have beginning of this 2024 to support three laboratories in the Authority's branches in the safe states.
- Equipment and tools for testing prepackages were purchased during the year 2022 and began distributing them to the branches, and the distribution may not have been completed due to war conditions.
- A draft law for metrology has been developed with the assistance of COMESA and is under revision procedures for been rehabilitated and completed, but they may have been vandalized, but this has not been determined due to war conditions.

NEWMET Activities undertaken during the reporting year

- **Country report of Ethiopia**

List of updated calibration capabilities covered:

- Two CMCs in EM was published in the fields of fixed resistance low value below or equal to 1Ω and fixed resistance value above 1Ω .
- Temperature parameter 4 CMC is published.
- Mass and related quantity Volume 1 CMC is under JCRB review.
- Provision of specifics training, particularly on torque, hardness, force, pressure and chemical metrology.
- Reform the Institute to include mechanical , Chemical and thermal and electromagnetic reseach.
- Developing their infrastructure and moving to the new building within 3 months.

NEWMET Activities undertaken during the reporting year

- **Country report of LNCSM (Libya)**

There is a plan for establishing a national system for calibration and measurement includes providing training to personnel, establishing a new buildings, Equipment, and legislations.

Currently active at ARAMET activities.

NEWMET Activities undertaken during the reporting year

- Country report of Ghana

GSA has updated calibration capabilities in:

Mass–Volume –Pressure – Temperature –Humidity

Mass Calibration Laboratory: Conventional Mass – OIML Class F1, (1 mg to 20 kg).
Weighing scales up to 2000 kg.

Volume Calibration:

Piston Pipette and hand dispenser (1 μ l to 10 ml) ,glassware (0.1 ml to 1 L), Standard measuring cans (1 L, 2 L, 5 L, 10 L, 20 L)

Pressure Calibration

Absolute Pressure (0.8 bar to 2001 bar), Gauge Pressure (-1 bar to 2000 bar)

NEWMET Activities undertaken during the reporting year

Temperature Calibration

Thermometers with resistance sensor (-80 °C to 600 °C), with thermocouple sensor (-80 °C to 1000 °C), Resistance thermometer (-80 °C to 600 °C), Liquid-in-glass thermometers (-30 °C to 200 °C).

Humidity Calibration

Hygrometer / Thermohygrometer (10% to 90 %)

Air temperature / thermohygrometer (-40 °C to 150 °C)

Temperature program is in progress to Vertical upgrade fixed point includes upgrade of facilities and training of staff in Germany and south Africa.

Mass laboratory is aiming to extend its accreditation to E2 weight calibration.

DAkkS Surveillance assessment of accreditation was done in October 2023.

Building new Laboratories for primary calibrations in Mass.

Training in Slovenia and Germany.

NEWMET Activities undertaken during the reporting year

Country report of Egypt

Scientific Research:

NIS Staff **has published** more than 90 papers in 2023.

Ongoing progress of Staff scientific activities in PhD and MSc thesis.

- Recent Progress in technical activities :

- Progress in the establishment and commission of NIS Watt balance.
- Design of 100 kN.m Multifunction torque standard machine.
- Design a set-up of spring impact hummer.
- Electromagnetic field strength measurements.

International Projects;

- **PTB bilateral project** :Strengthening metrology in Egypt to improve competitiveness and the export potential in the field of proceesed Food.

NEWMET Activities undertaken during the reporting year

- **Country report of Egypt**
- International Conferences & Meetings: virtual meetings regarding BIPM CCs, AFRIMETS TCs and APMP workshops.
- (88) Participation in key and supplementary international comparisons
- (111) Internationally recognized Calibration and Measurement Capabilities (CMCs)
- Accreditation according to ISO/IEC 17025 for 51 calibration and testing activities, and according to ISO/IEC 17043 for 43 Proficiency testing activities.
- Start the activity of Conformity assessment laboratory
- NIS Knowledge Transfer Program (KTP): NIS hosted 2 trainee from Tanzania in 2024.



THANK YOU