



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



AFRIMETS TECHNICAL COMITEE FOR THERMOMETRY (TC-T) REPORT

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Virtual CCT meeting
2020

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AFRIMETS TC-T INTER COMPARISON

AFRIMETS.T-S2

- Supplementary comparison of Industrial PRT calibration capability
- Range: -50 °C to 450 °C
- Started: May 2012
- Participating NMIs: South Africa, Morocco, Ghana, Burkinfaso
- Status: **Draft B** report under review by the CCT-WG-KC

CONT...

AFRIMETS.T-S3

- Supplementary comparison of Industrial PRT calibration capability
- Range: -50 °C to 450 °C
- Started: May 2012
- Status: Currently can't proceed due to lack of fund (busy looking for a solution)
- Participating NMIs:
South Africa, Zambia, Zimbabwe, Botswana, Namibia, Mozambique, Uganda, Rwanda, Democratic Republic of the Congo

AFRIMETS.T-S7

- Supplementary comparison of noble metal thermocouple
- Range: 0 °C to 1200 °C
- Status: measurement started (to be shipped to NIS)
- Participating NMIs:
South Africa, Egypt, Zambia, Botswana, Kenya, Zimbabwe, Ghana, Morocco, Ethiopia

FUTURE INTER-COMPARISONS

- SPRT, AFRIMETS TS-6 (Hg - Zn)
 - Pilot: NIS
 - Reference: South Africa
 - Participants: South Africa, Egypt, Zambia, Zimbabwe, Kenya
South Africa, Egypt, Morocco, Ghana, Ethiopia
 - Status: Protocol under review
 - Fund: PTB
- Radiation Thermometer (600 °C to 1100 °C)
 - Pilot: NIS
 - Reference: South Africa
 - Participants: South Africa, Egypt, Zambia
 - Status: Protocol to be prepared,
 - Fund: to be secured
- Humidity: Dew point (-20 °C – 30 °C)
 - Pilot: NIS
 - Reference: South Africa
 - Participants: South Africa, Egypt, Morocco, Kenya
 - Status: Protocol to be prepared
 - Fund: to be secured

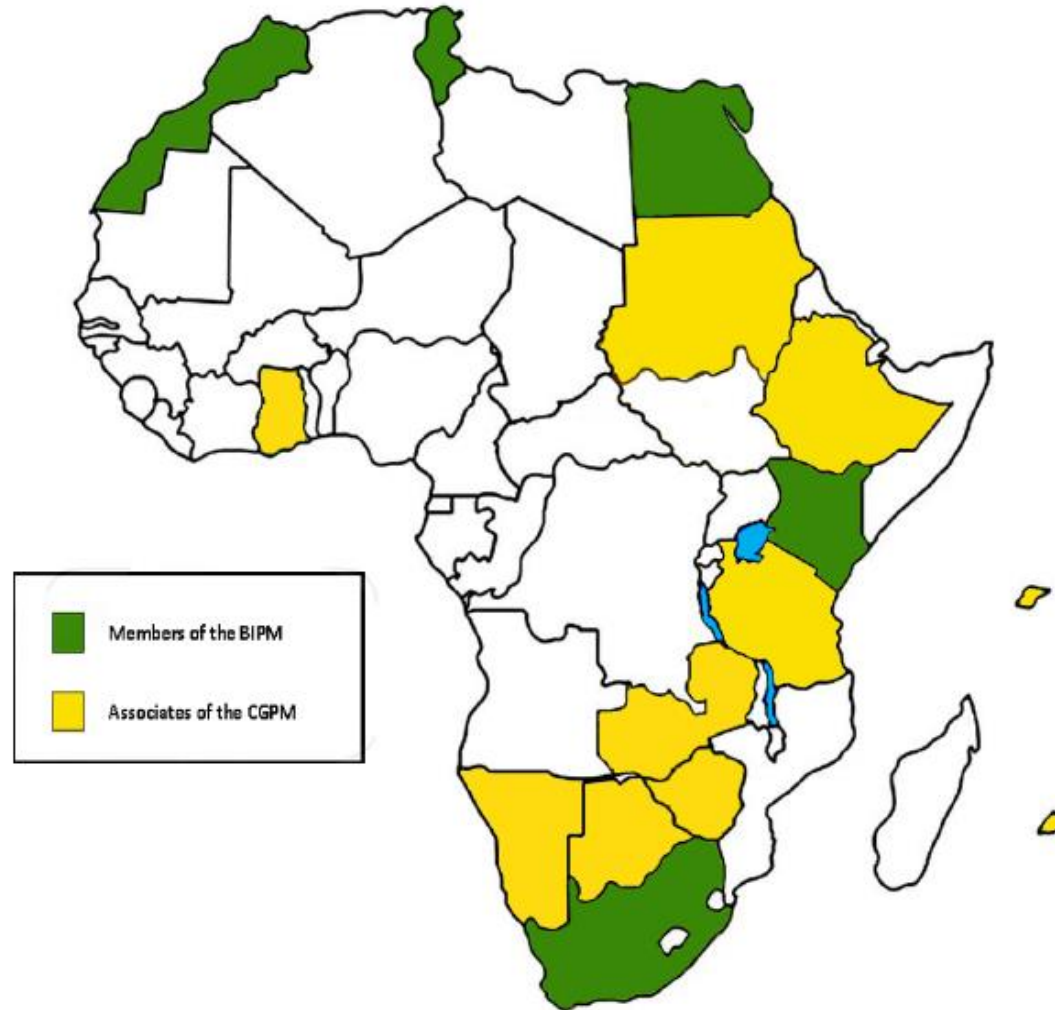
AFRIMETS PARTICIPATION IN APMP TC-T INTER-COMPARISONS

- APMP.T-K4.2
 - Key comparison of local realizations of aluminium (Al) freezing-point temperature
 - Range: Al fixed point
 - Started: 2018
 - Status: Measurement completed, Report writing (pilot)
 - Participating AFRIMETS NMIs: South Africa
- APMP.T-S11/S12
 - Local realization of radiation thermometer scale from Indium point to 2800 °C
 - Range: 156 °C to 2800 °C
 - Started: 2013
 - Status: Measurement completed, Report writing (pilot)
 - Participating AFRIMETS NMIs : South Africa

- APMP.T-S16
 - Supplementary comparison of noble metal thermocouple
 - Range: 1000 °C to 1560 °C
 - Started: 2017
 - Status: second leg measurement
 - Participating AFRIMETS NMIs: South Africa
- APMP.T-S13
 - Supplementary comparison of humidity
 - Range: -60 °C, -70 °C, -80 °C, (-90 °C)
 - Started: 2014
 - Status: Measurement
 - Participating AFRIMETS NMIs : South Africa

- APMP.T-S17
 - Supplementary comparison of Air Thermometers
 - Range: -70 °C to 90 °C
 - Status: Protocol approved
 - Participating AFRIMETS NMIs: South Africa

CMC submission



CMC submission

- ❑ Botswana Bureau of Standards (BOBS) (Thermometry Service classification 2.4.1)

- Liquid in glass thermometer (0 °C – 200 °C)

Status: Review process completed, CMC published

- ❑ Zambia Metrology Agency (ZMA) (Thermometry Service classification 2.2, 2.3, 2.4 & 2.7)

- Platinum resistance thermometer (-40 °C – 450 °C)

- Base metal thermocouple (220 °C – 450 °C)

- Digital thermometer (0 °C – 450 °C)

- Liquid in glass thermometer (-40 °C – 200 °C)

Status: Review process completed, CMC published

❑ Zimbabwe (SIRDIC) (Thermometry Service classification 2.2, 2.3, 2.4, 2.7 & 2.8)

- Platinum resistance thermometer (-40 °C – 280 °C)
- Base metal thermocouple (-40 °C – 280 °C)
- Digital thermometer (-40 °C – 280 °C)
- Ice point (0 °C)
- Electrical simulation (-200 °C – 1200 °C)
- Liquid in glass thermometer (-40 °C – 280 °C)

Status: Review process completed, CMC published

❑ Kenya Bureau of standards (KEBS), (Thermometry service classification 2.2)

- Platinum resistance thermometer

Status: Quality system peer-review

WORKSHOP/TRAINING

- ❑ NMISA provided training workshop to BOBS and Ghana in 2019 and 2020 respectively funded by PTB
 - SADC MET temperature S-RMO comparison participants (LIG, TC & Temp Data loggers)
 - ILC protocol, report, and CMC preparation
 - CMC submission & review

- ❑ NIS provided training to SON and SSMO temperature staff, training to SON was both at NIS lab and SON lab (2018)



Thank you