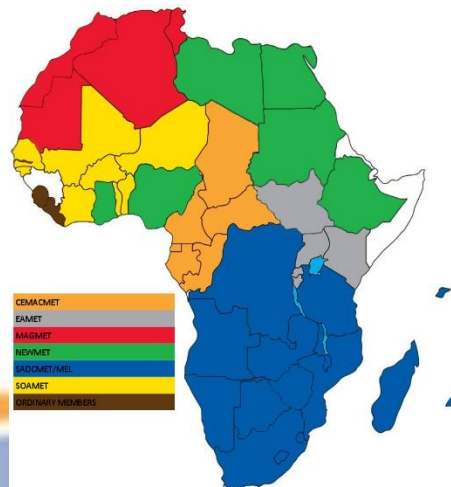




AFRIMETS
Intra-Africa Metrology System
Système Intra-Africain de Métrologie



AFRIMETS TECHNICAL COMITEE FOR THERMOMETRY (TC-T) REPORT

Efrem K Ejigu
TC-T Chair
Virtual
Jan, 2022

CONTENTS

TC-T MEETINGS

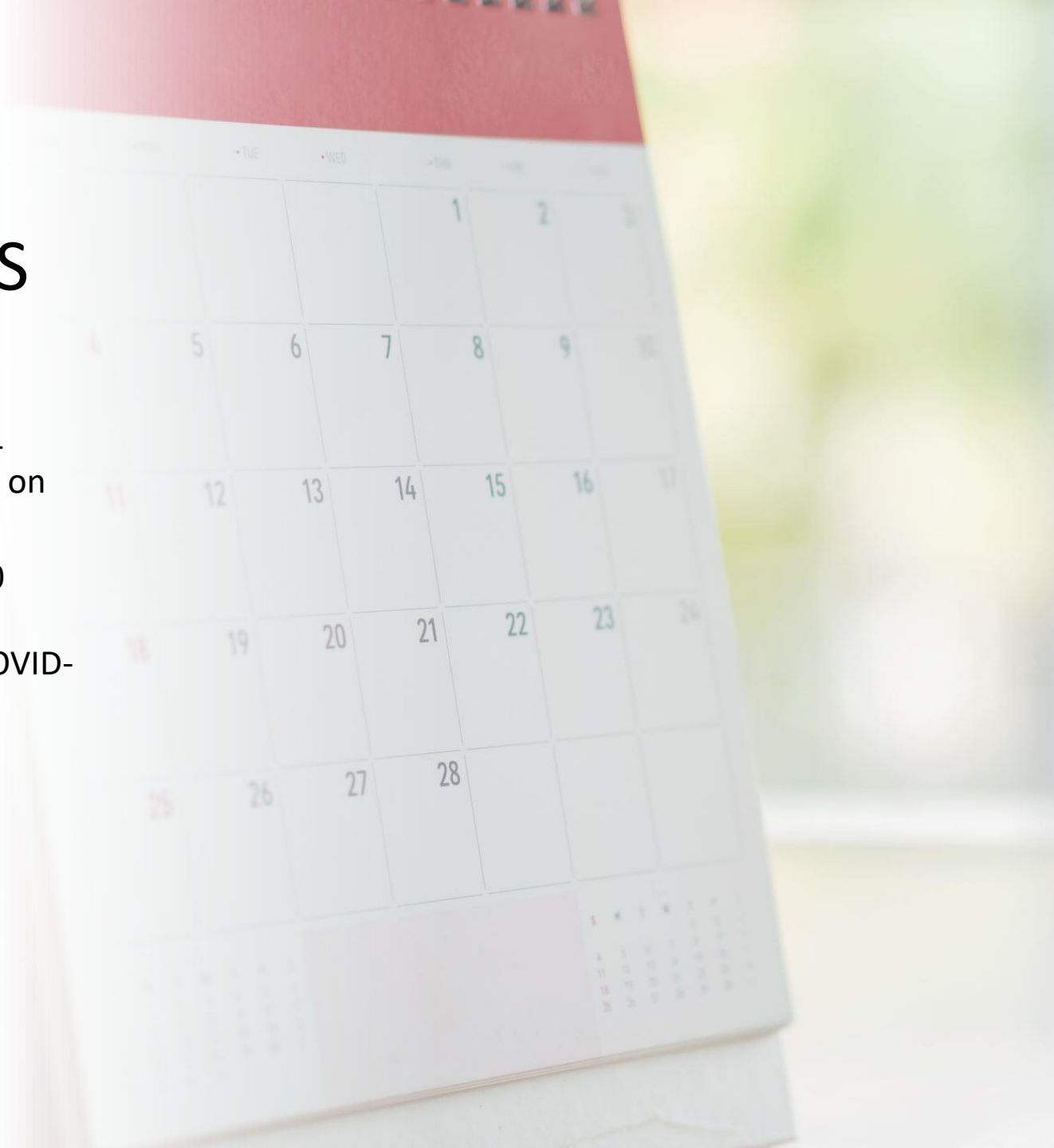
CURRENT AFRIMETS INTER-COMPARISONS

AFRIMETS PARTICIPATION IN CCT/APMP
COMPARISONS

CMC

TC-T MEETINGS

- AFRIMETS TC-T 2021 meetings conducted on virtual media
- AFRIMETS TC-T 2020 meetings was not conducted due to COVID-19 pandemic



CURRENT INTER-COMPARISON

AFRIMETS. T-S2

- Supplementary comparison of Industrial PRT calibration capability
- Range: -50 °C to 450 °C
- Started: May 2012
- Completed: **2020**

Participating NMIs: South Africa, Morocco, Ghana, Burkinfaso

Status: **Final report published on Metrologia** (Efrem Kebede Ejigu et.al. 2020, Metrologia **57** 03008) and **BIPM website**

CONT...

AFRIMETS. T-S3

- Supplementary comparison of Industrial PRT calibration capability
- Range: -50 °C to 450 °C
- Started: May 2012 and postponed
- Status: To be re-started by 2022
- Participating NMIs:
South Africa, Zambia, Zimbabwe, Botswana, Namibia, Mozambique, Democratic Republic of the Congo, Rwanda

AFRIMETS. T-S7

- Supplementary comparison of noble metal thermocouple
- Range: 0 °C to 1200 °C
- Started: June 2019
- Pilot/coordinator: NMISA/NIS
- Status: measurement at KEBS. Initial measurement at NMISA and measurement at NIS is completed.
- Participating NMIs:
South Africa, Egypt, Zambia, Botswana, Kenya, Zimbabwe, Ghana, Morocco, Ethiopia.

AFRIMETS PARTICIPATION IN CCT/APMP INTER-COMPARISONS

- CCT K7 2021
 - Key comparison of water triple point cells
 - Range: water triple point
 - Started: 2021
 - Status: Measurement started, first leg measurement completed
 - Participating AFRIMETS NMIs: **South Africa**
- 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: Measurement completed, Report writing (pilot)
 - 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, measurement to start soon
 - Participating AFRIMETS NMIs: **South Africa**

CMC submission

- ❑ Laboratoire Public d'Essais et d'Études, Laboratoire National de Métrologie (LPEE/LNM) (Thermometry Service classification 2.2.2 & 2.7.1)
 - Platinum resistance thermometer (-40 °C – 260 °C)
 - Temperature sensor with display unit (-40 °C – 260 °C)

Status: CMC published

- ❑ National Institute of Standards (NIS) (Thermometry Service classification 2.2.2 & 2.3.3)
 - Platinum resistance thermometer (-50 °C – 550 °C)
 - Pure-metal thermocouple at fixed points Zn, Al, Ag, Co-C, Pd-C

Status: Review process started, CMC submitted for **Inter-RMO** review
CMC at Al point is published

❑ Kenya Bureau of Standards (KEBS) (Thermometry Service classification 2.2.2)

➤ Platinum resistance thermometer (-10°C – 200 °C)

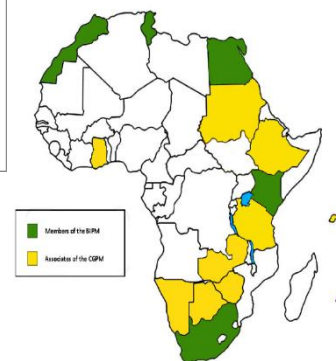
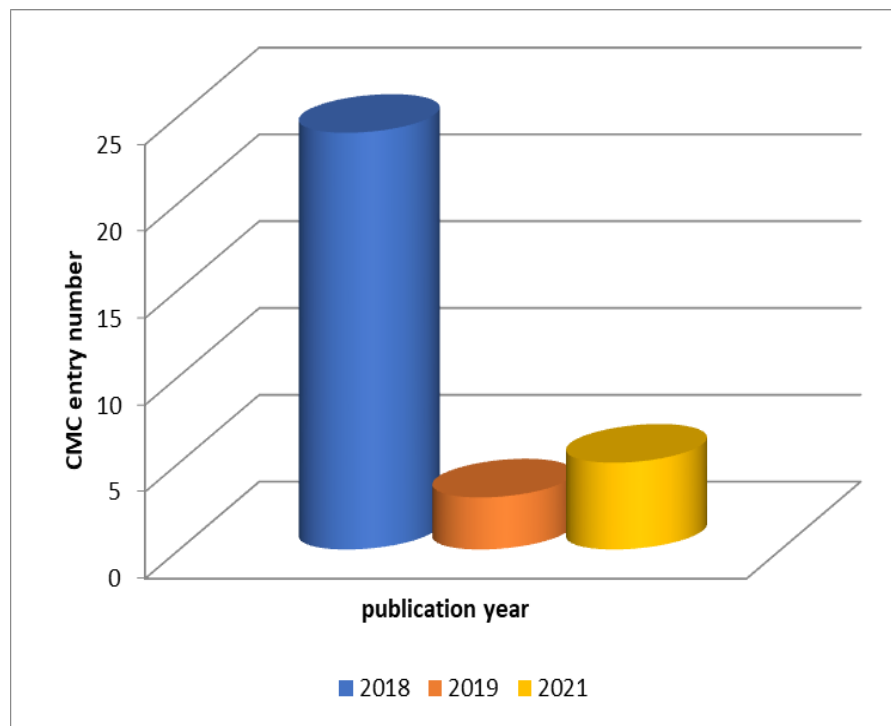
Status: Review process started, CMC submitted for **Inter-RMO** review


❑ Ghana Standards Authority(GSA)

Status: Quality system peer-review

Approved and published CMC in the past five years

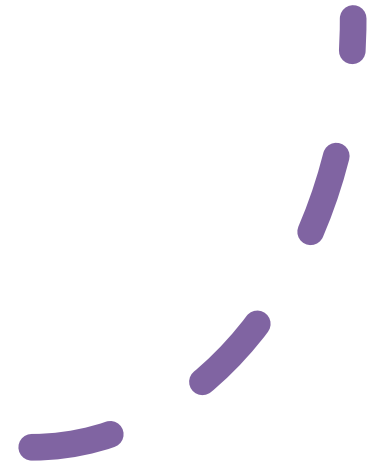
Member country	No. of CMC
Zimbabwe (SIRDC-NMI)	13
Zambia (ZMA)	11
Botswana (BOBS)	3
Morocco (LPEE/LNM)	4
Egypt (NIS)	1



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Inter- RMO CMC review

- AFRIMETS TC-T is actively participating in inter-RMO CMC reviewing.





Thank you