Status of the implementation of the IWXXM in the AFI RODBs/IROGs and corresponding BCCs

ROC and RODB Pretoria

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Introduction

- ICAO Global Air Traffic Management Operational Concept (ATMOC Doc 9854)
- ICAO Global Air Navigation Plan (GANP) (Doc 9750) and its Aviation System Block Upgrades (ABSU) methodology
- Amendment 77 to ICAO Annex 3 – *Meteorological Service for International Civil Air Navigation* introduced the requirements for reporting and dissemination of meteorological data in digital format.
- APIRG/20,21,& 22 which adopted, the transition plan (AFI Transition Plan) for handling OPMET data in digital format. The plan called for the AFI States to progressively implement XML/GML based exchange format for OPMET information.

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AMD76 Nov 2013	AMD77 Nov 2016	AMD78 Nov 2019	AMD78 & 79 Nov 2020
"… states in a position to do so …" may exchange(Bi-Lateral) METAR, SPECI, TAF and SIGMET in XML	"… recommendation to issue …" METAR, SPECI, TAF, SIGMET, AIRMET, VAA & TCA in XML/GML	"… recommendation to issue …" Space Weather Advisories (SWXA) in IWXXM	"… standard to issue …" METAR, SPECI, TAF, SIGMET, AIRMET, VAA, TCA & SWA in IWXXM GML ….Data produced in both TAC & IWXXM formats…

2024	2026
TAC downgrade to recommendation	TAC – The END??

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In Scope

- National OPMET Centre (NOC) functionalities:
  - Enable issuance of TAF/METAR/SIGMET/AIRMET in IWXXM format
  - ➢ by TAC to IWXXM translation in message switch
  - Enable the MET Message Switch to process IWXXM
  - ➢ reception, validation, routing, “bulletin” creation (WMO guidance), visualisation,…
  - Enable the Pretoria ATS Message Handling System to support exchange of XML-messages [XML bulletin Compression (gzip)]
- Regional OPMET Databank (RODB) functionalities
  - receive and store OPMET data in IWXXM format
  - handle request/reply for data in IWXXM format (RQX interface and database Structure)

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Out of Scope

- Generation of IWXXM at source (observing & forecasting systems)
- Processing of IWXXM by other ATM or MET systems
- Web/SWIM services built on the (I)WXXM data model

➢ these can (or should) be part of follow-up projects

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IWXXM Status

In Operation since September 2016

- **P3 AMHS connection with extended services between MET & COM Centre**
- **Implementation of IWXXM v1.1 functionalities in MET switch**

- **TAF/METAR/SIGMET**
- IWXXM translation
- Compilation of collections
- IWXXM message transmission & reception via FTBP AMHS

- **Implementation of IWXXM functionalities in COM workstations**
- Visualisation of IWXXM messages
- RODB request/reply procedure from COM workstation

- **Decommission AFTN and activate AMHS operationally between RODB and COMs Centre**

Upgrade of IWXXM functionalities in MET Switch

January 2017

Upgrade from IWXXM 1.1 to IWXXM 2.0

To accommodate Extra message types: AIRMET, VAA, TCA

Upgrade of IWXXM functionalities in MET Switch

April 2017

IWXXM version 2.1

Upgrade of IWXXM functionalities in MET Switch

September 2020

Upgrade from IWXXM 2.1 to IWXXM 3.0

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IWXXM-AMHS Testing

Test between **Pretoria RODB and ATNS COMs Centre**

- Uncompressed, individual IWXXM XML files in a single attachment;
- GZIP-compressed individual IWXXM XML files in a single attachment;
- A compressed 2MB, 4MB, and 6MB IWXXM XML files in a single attachment, and;
- Uncompressed, multiple IWXXM XML files in a single AMHS message, each file in a separate attachment.

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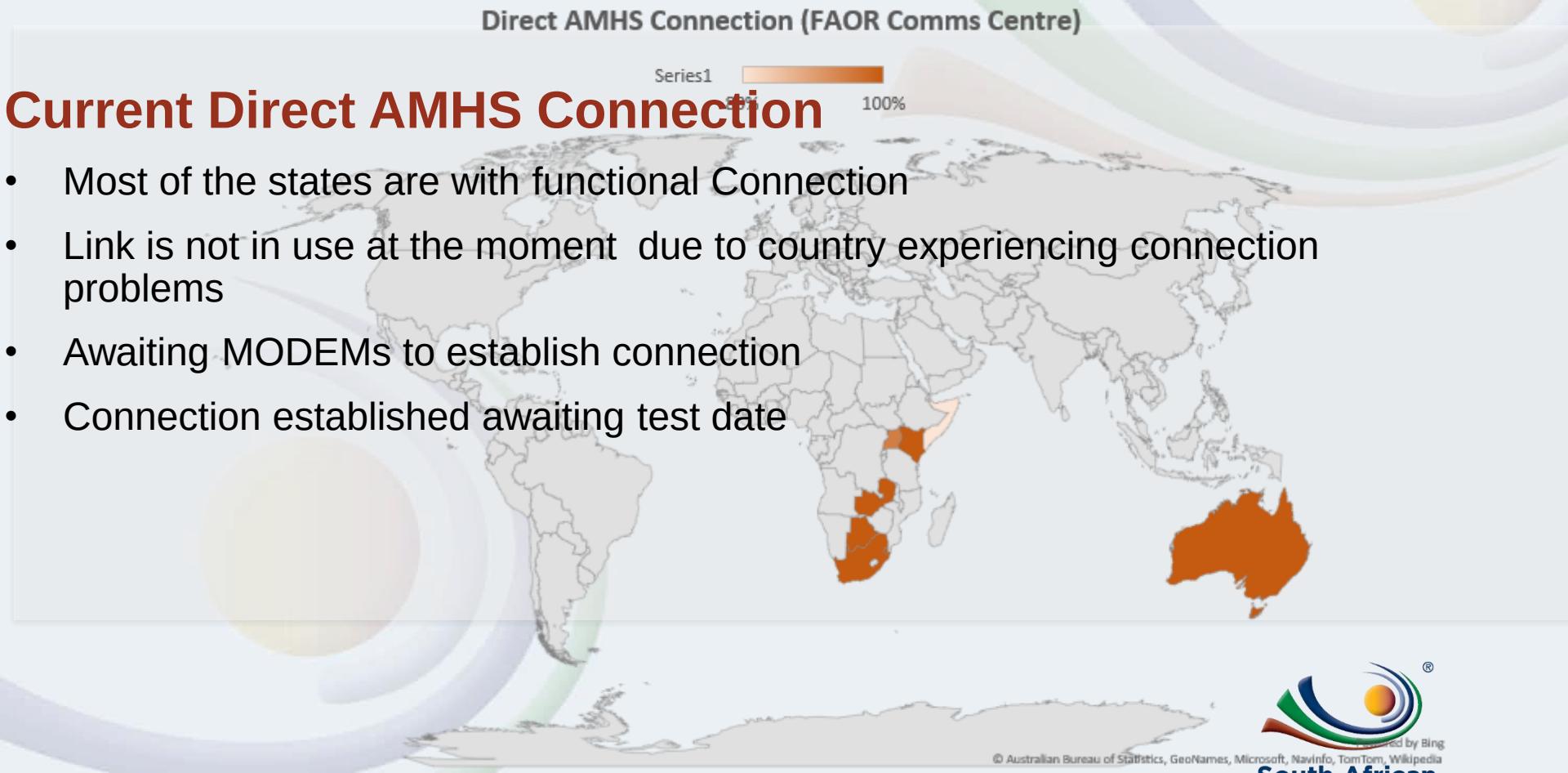
Potential IWXXM-AMHS Testing

Current Direct AMHS Connection

- Most of the states are with functional Connection
- Link is not in use at the moment due to country experiencing connection problems
- Awaiting MODEMs to establish connection
- Connection established awaiting test date



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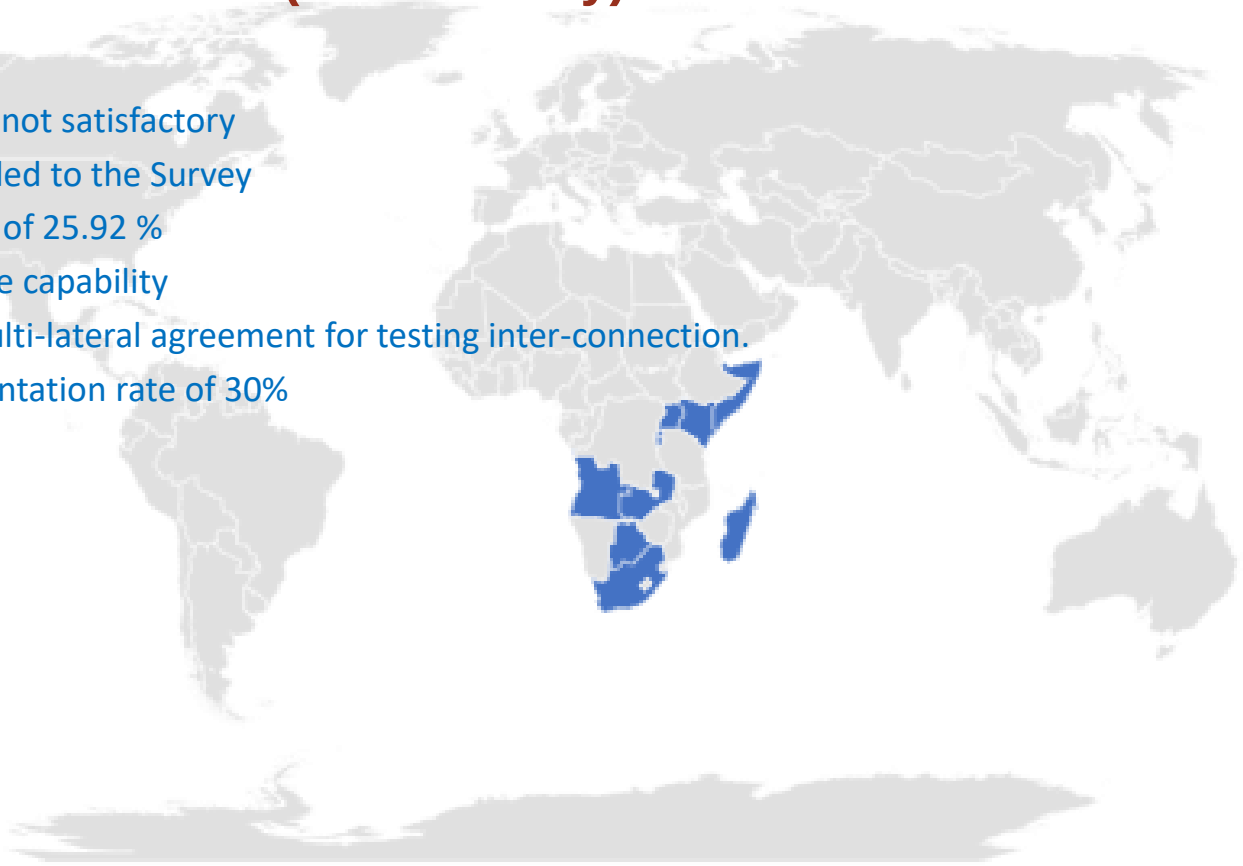
Participation Map

IWXXM Implementation (2020 Survey)

- Participation was not satisfactory
- 14 States responded to the Survey
- Participation rate of 25.92 %
- 50% Infrastructure capability
- 14% bi-lateral/multi-lateral agreement for testing inter-connection.
- Average Implementation rate of 30%



Implementation of IWXXM

- **Survey outcome[2020]**
  - Infrastructure capability (50%)
  - Adjusted AMHS terminal (36%)
  - AMHS Interconnection (43%)
  - Exchange Trials in IWXXM (7%)
  - Bi-Lateral/Multi-Lateral Agreement (14%)

Recommendations

- The need to develop capabilities for exchange of OPMET data in digital format (urgent)
- Encourage States to enter into bilateral/multilateral agreements for testing the interoperability of AMHS system.
- Consider entering into TAC to IWXXM Translation Agreement (with states that have already developed the capability)
- Identify a group responsible for transition within the region (BCCs, NOCs, RODBs, COMMs Centres, Relevant IIMSG Project Teams, etc)
- Strengthen working relationship(linkage) with IIMSG Com Project II (Inter-operability requirements within AFI Region)

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Thank you

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