Progress Meeting of the CODEVMET Project Team on the Update of the AMBEX Procedures Manual

(CoTAM)

CoTAM working programme, Item 3.3

Collect the questionnaires and perform a gap analysis, emphasizing operational, technical, technological, and human resource aspects.

1. Introduction

In accordance with the CODEVMET Project Team for the Update of the AMBEX Procedures Manual (CoTAM) working programme, a survey related to assessment of the AMBEX System in the AFI Region were conducted from 23 May to 04 June 2025.

- To identify the GAPs
- To monitor compliance of AFI States with ICAO Annex 3 provisions.
- To assess **OPMET data** availability via the **GTS/AMHS** to other regions and to identify missing bulletins, format issues, or incorrect routing.

Only a few AFI centers (Dakar, Niamey, Ouagadougou and Lome) took part in the survey. However the Toulouse ROC provides a working papar and IP from the Euopean DMG 44 to the METP (Montreal, 3rd – 7th March 2025). The Dakar RODB provides the statistics for the first quarters, 2025, for WACAF and ESAF States.

2. Identified Gaps in the AFI AMBEX System

2.1 Outdated Bulletin Headers and Routing Tables

- Missing OPMET data due to many factors, operational, technical, human factors, only a few centers reach the required level of 97%,
- Some AFI States continue to use bulletin headers that do not reflect ICAO Annex 3 amendments or new aerodrome categorizations.
- Routing tables in the AMBEX Manual are outdated, resulting in OPMET messages (METAR, TAF, SIGMET) not reaching intended recipients or reaching them with delays.

2.2 Lack of IWXXM Integration

- Despite ICAO's push toward **digital OPMET exchange (IWXXM)**, many AFI States are still reliant on **traditional AFTN text formats.** .
- Limited implementation of **AMHS** (Aeronautical Message Handling System) impedes efficient XML-based bulletin exchange., Many operational AMHS systems are transmitting in AFTN format
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2.3. Inconsistent Bulletin Timeliness and Completeness

- Bulletin creation and dissemination often exceed expected timeframes, especially for METARs and TAFs.
- Some bulletins are incomplete or missing mandatory elements ;

2.4. Missing or Inactive Stations

- Several stations listed in the AMBEX Manual are no longer operational or do not transmit any OPMET data.
- Conversely, **new operational aerodromes are not listed**, and their OPMET data is not properly integrated into regional exchange schedules.

2.5 . AFI Communication infrastructure performance

- The AFI infrastructure doesn't always meet the performance requirements of availability.
- Several AFI circuits are performing under the minimum level of 97% availability while some circuits have are not redounded,
- Others circuits are out of service for a very long time
- Lack of contingency plan

2.6 Weak Inter-State Coordination

- Some FIRs lack a designated OPMET focal point or do not engage regularly with ICAO/WMO forums (e.g., AFI METG, BMG).
- No regional mechanism exists to **monitor compliance** or enforce regular bulletin validation and updates.

2.6 . Limited Training and Awareness

- Many MET staff in AFI States are unfamiliar with AMBEX rules or ICAO/WMO bulletin composition standards.
- Lack of national guidelines aligned with AMBEX leads to inconsistent formatting and message encoding.

2.7. Poor Monitoring and Quality Control

- There is **no centralized dashboard or validation mechanism** to check bulletin quality, timeliness, or delivery reliability.
- Quality control tools such as SADIS OPMET Monitoring and ROC validation are underutilized or inaccessible to many States.

2.8 Others issues

- **Bulletin Duplication or Conflicts: Several bulletins received from different stations with conflicting TAFs for the same location**.
- **Lack of Bulletin Monitoring Tools**: Most States do not actively use ROC or SADIS monitoring tools to assess compliance.
- **Capacity and Staffing Limitations**: In smaller States, staffing shortages contribute to limited bulletin production during night shifts or weekends.

3 Summary of Key Gaps

Category	Description
Technical Gaps	Outdated headers, no IWXXM, AFTN/AMHS reliance
Operational Gaps	Missing stations, untimely/incomplete bulletins
Coordination Gaps	Lack of regional updates, no enforcement of AMBEX procedures
Capacity bulding Gaps	Insufficient training, low awareness of Annex 3 / AMBEX changes
Quality Assurance Gaps	No automated monitoring or bulletin validation at regional level

3 Recommendations

- **Update the AMBEX Handbook** based on current ICAO and WMO standards and taking into account the update routing tables, the current operational stations, valid headers, and routing schedules.
- **Promote the smooth introduce of IWXXM exchange**, especially in those centers with AMHS.
- **Improve the AFI Aeronautical Fixed Service infrastructure to align with the required performances to support IWXXM exchange.**
- **Create regional OPMET dashboards** (via AFI ROCs or ICAO offices)
- **Capacity building on AMBEX including training, workshops** through ICAO/WMO on OPMET formatting and routing for MET and COMs personnel.
- **Establish a central AFI OPMET Monitoring mechanism**, to track bulletin performance.
- **Update national AMBEX focal points** to report on compliance and support bulletin validation and promote inter-State coordination.
- **Organize regular Coordination meetings to continuously monitor the efficiency of the AFI AMBEX systems.**

4. Conclusion

The AFI Region has made progress in sustaining OPMET exchange operations, but significant disparities remain in bulletin availability, quality, and regional coordination. Targeted support, infrastructure upgrades, and updated guidance (e.g., AMBEX revision) are essential to achieving full compliance and ensuring flight safety

5. ACTIONS BY THE CoTAM

The CoTAM is invited to take note of this paper and to provide inputs, to improve and finalize the AMBEX gap analysis

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ATTACHEMENT

Dakar RODB availability for 1st Quarter 2025
EUR BMG monitoring to METP ((Montreal, 3rd – 7th March 2025).
BCC and RODB survey report