



SAFE SKIES.
**SUSTAINABLE
FUTURE.**

ESAF 2025 Regional Aeronautical Meteorology Workshop



Movenpick Hotel: Nairobi, Kenya
7-8 July 2025

Regional Performance Metrics in Aeronautical Meteorology (MET)

Ms. Chinga Mazhetese

Regional Officer Environment/ Aeronautical Meteorology, ICAO ESAF
Regional Office

ICAO ESAF 2025 Regional Workshop on Aeronautical Meteorology

Nairobi, Kenya, 7-8 July 2025

Presentation Overview

01

Key Performance Indicators (KPIs)

02

Applicable PIRG Conclusions and Decisions

03

Upcoming Assembly and Previous Resolutions

04

Regional MET Challenges

05

Upcoming activities

06

Conclusion

Key Performance Indicators

- **ICAO Business Plan (2023-2025)**

<https://www.icao.int/Meetings/a41/Documents/ICAO%20Business%20Plan%202023-2025%20V1.0%2025%20July%202022.pdf>

- STRATEGIC OBJECTIVE AIR NAVIGATION CAPACITY AND EFFICIENCY
 - ICAO serves as a global forum that brings together the aviation community to define a common strategy for the evolution of the global air navigation system to improve capacity and efficiency within the **Global Air Navigation Plan (GANP)**.

Regional level

- ICAO coordinates the review and update of the Regional Air Navigation Plans. ICAO also coordinates the activities of the PIRGs to ensure their alignment with the GANP.

National level

- ICAO facilitates access to resources and technical assistance and promotes capacity-building in different areas of expertise, including MET.



Key Performance Indicators

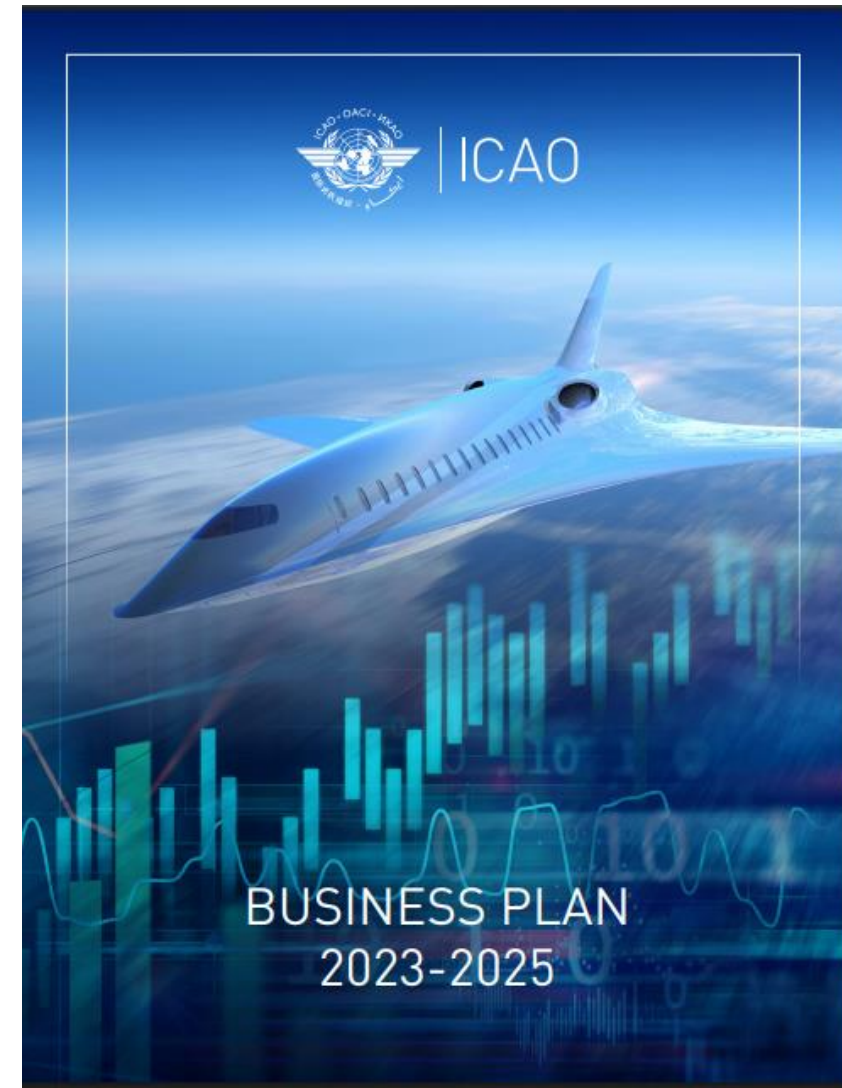
• ICAO Business Plan (2023-2025)

<https://www.icao.int/Meetings/a41/Documents/ICAO%20Business%20Plan%202023-2025%20V1.0%2025%20July%202022.pdf>

Air

Navigation Capacity and Efficiency Outputs: *CAP 7 Enhanced efficiency and increased capacity at the regional level*

- The Regional Offices will support States to enhance their capabilities to access, develop, implement, and use technologies in air navigation systems
 - to meet *current and future demands* and provide assistance for the implementation of ICAO policies and provisions such as the **Annex 3 SARPs**
- Through support to **the PIRGs**, the Regional Offices will continue to:
 - **monitor and report the status of implementation by States** of the required air navigation facilities, services, and procedures, as well as of the GANP and the regional priorities,
 - for the continuous, interoperable, and harmonized improvement of air navigation systems



- ICAO Business Plan (2023-2025)

<https://www.icao.int/Meetings/a41/Documents/ICAO%20Business%20Plan%202023-2025%20V1.0%2025%20July%202022.pdf>

Air

Navigation Capacity and Efficiency Outputs: *CAP 7 Enhanced efficiency and increased capacity at the regional level*

- Two KPIs used:
 1. Air Navigation Deficiencies
 2. ASBU implementation



Air Navigation Deficiencies in the AFI Region

20th meeting of the AFI Planning and Regional Implementation Group (APIRG)
(Yamoussoukro, Côte d'Ivoire; 30 November - 2 December 2015)

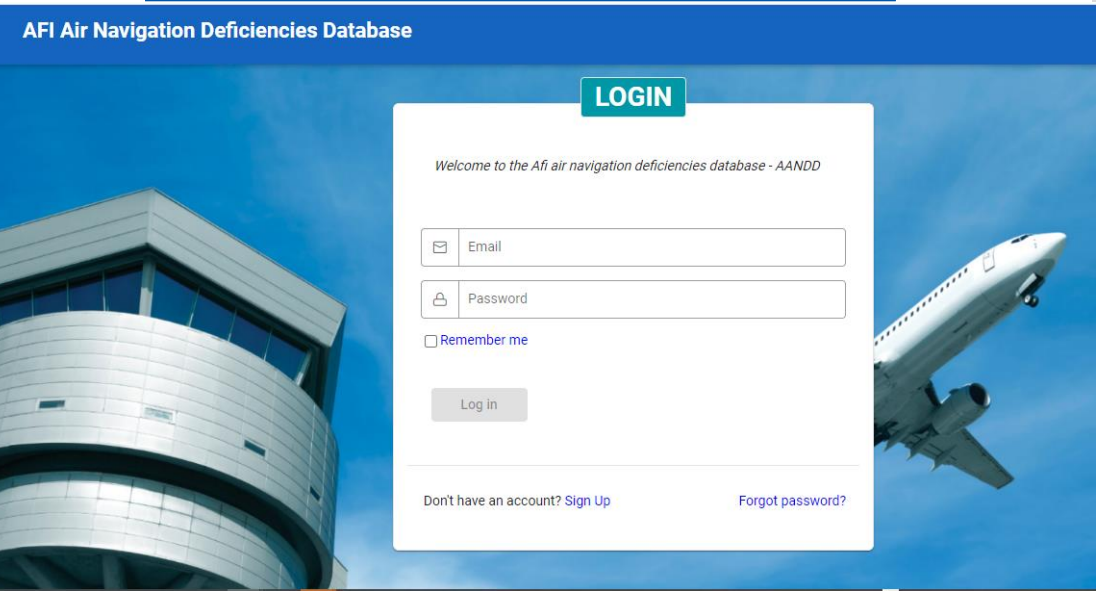
AFI Planning and Regional
Implementation Group (APIRG)



APIRG Conclusion 20/43: Action plan to remove air navigation deficiencies in the MET field

That:

- a) ICAO Regional Offices in Dakar and Nairobi, update the air navigation deficiencies in the MET field in the remaining non-visited AFI States;*
- b) AFI States where deficiencies still persist, endeavour to establish and implement an action plans aimed at removing air navigation deficiencies in the MET field; and*
- c) AFI Regional OPMET Data Banks (RODBs) present statistics on availability of OPMET data, using the following thresholds: “above 97% availability, between 50% and 97% availability and below 50% availability”.*



ASBU Implementation

ESAF ASBU Implementation Dashboard

Available on iSTARS

- 2 Focal Points per State
- AMET B0 and B1

Note: Demonstration tomorrow



The screenshot displays the 'THE ANALYTICS PLATFORM FOR ICAO EASTERN & SOUTHERN AFRICA REGIONS'. It features a header with an airplane and a mission statement. Below the header is a 'DASHBOARDS' section with seven icons: Aerodrome Certification, Safety Management, CNS, Safety-USOAP, Environment, ASBU, and ASBU Management. The ASBU and ASBU Management icons are highlighted with red boxes.

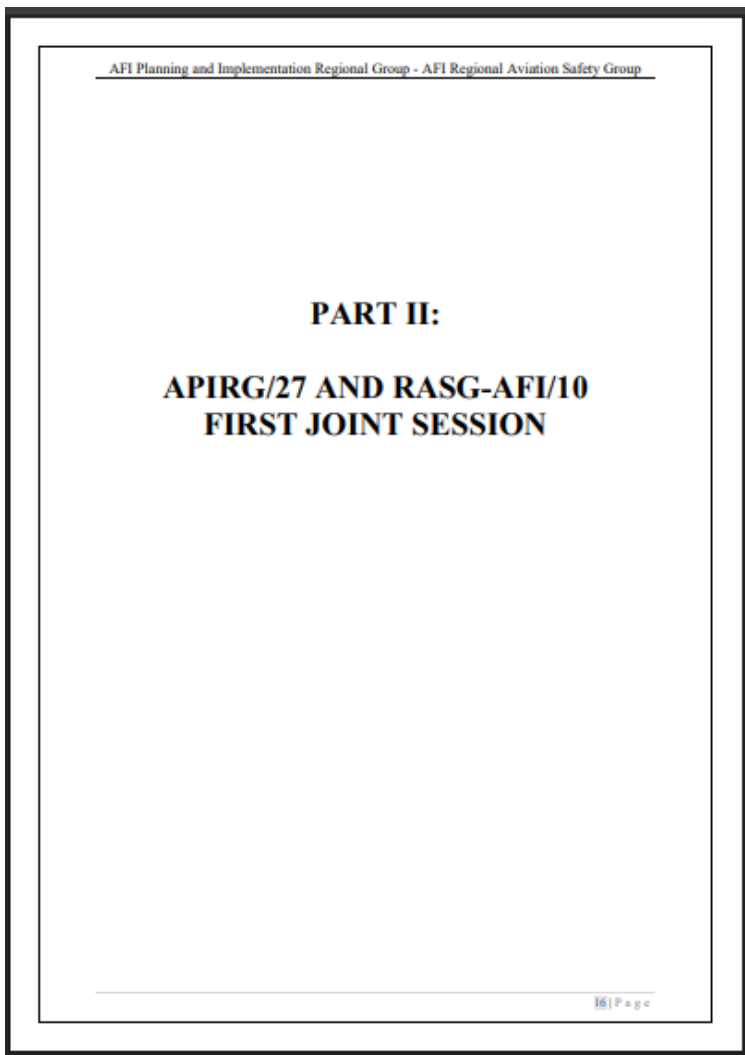
THE ANALYTICS PLATFORM FOR ICAO EASTERN & SOUTHERN AFRICA REGIONS

The ESAF Office is one of the Organization's implementation arms accredited to 24 States in the Eastern and Southern Sub Regions of Africa. Its corporate mission is to closely liaise with the States, appropriate organizations, and regional civil aviation bodies, to promote ICAO policies, decisions, standards and recommended practices and air navigation plans, and provide assistance whenever possible.

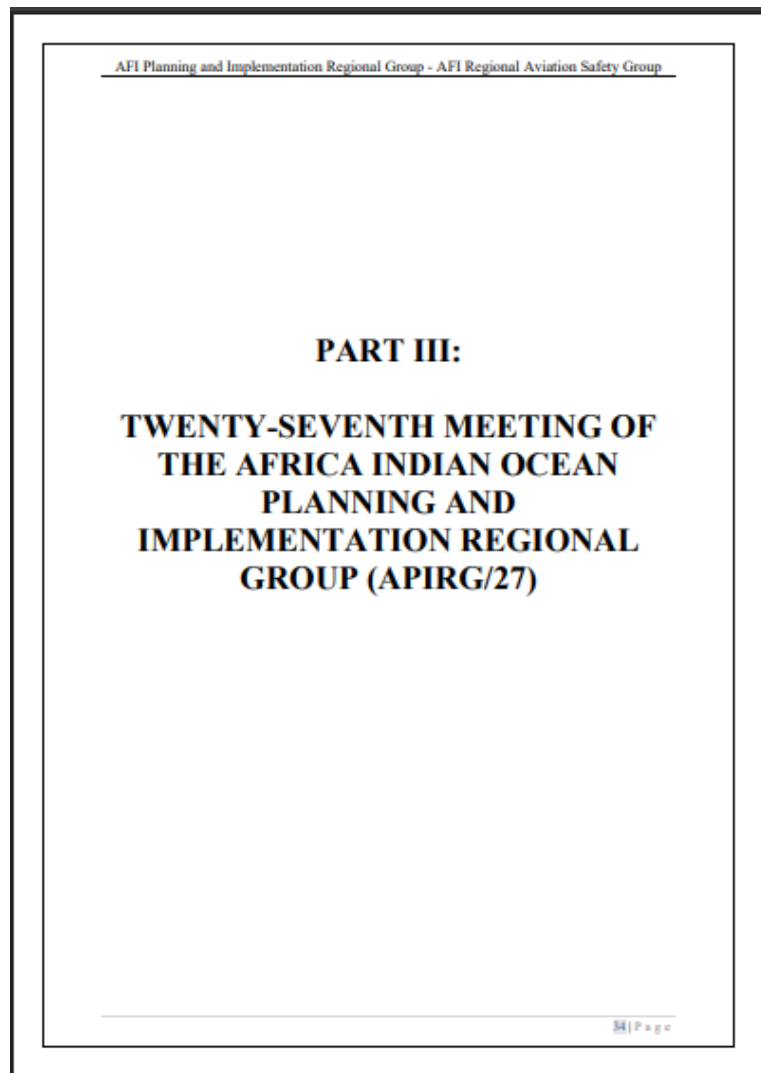
DASHBOARDS

- AERODROME CERTIFICATION
- SAFETY MANAGEMENT
- CNS
- SAFETY-USOAP
- ENVIRONMENT
- ASBU
- ASBU MANAGEMENT

Twenty-Seventh Meeting of the Africa-Indian Ocean Planning and Implementation Regional Group (APIRG27): East London, South Africa (Nov 2024)



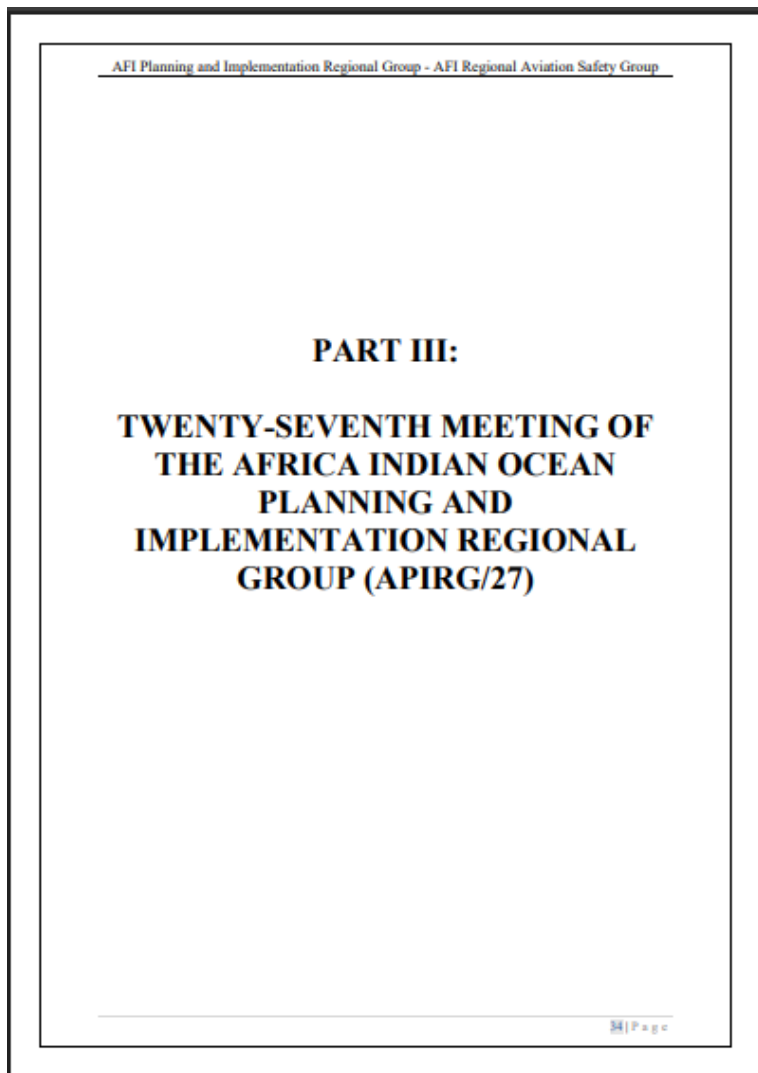
- **APIRG/27 & RASG-AFI/10 Decision 6/02:** Adoption of the Procedural Handbook of the Africa – Indian ocean Aviation System Planning and implementation group (AASPG).
- **APIRG/27 & RASG-AFI/10 Decision 6/03:** Transitional arrangements between APIRG and RASG-AFI groups and the new AASPG.
 - The IIM and AAO sub-groups under APIRG will report to AASPG through the Programme Review and Coordination Committee (PRCC). The new SMO sub-group held its first meeting in April 2025.



Twenty-Seventh Meeting of the Africa-Indian Ocean Planning and Implementation Regional Group (APIRG27): East London, South Africa (Nov 2024)

- **APIRG/27 Decision 27/07: Scope of the minimum reporting framework:** That, to ensure consistency of the minimum reporting areas with the Council definition of air navigation deficiency, the list of minimum reporting areas to be revised as appropriate by 31 December 2024.
- **APIRG/27 Conclusion 27/08: Conduct of the third volcanic ash exercise in the AFI Region:** The proposal of Kenya to lead

the third volcanic ash exercise was endorsed and Kenya will direct and coordinate the third volcanic ash exercise by 30 November 2025.



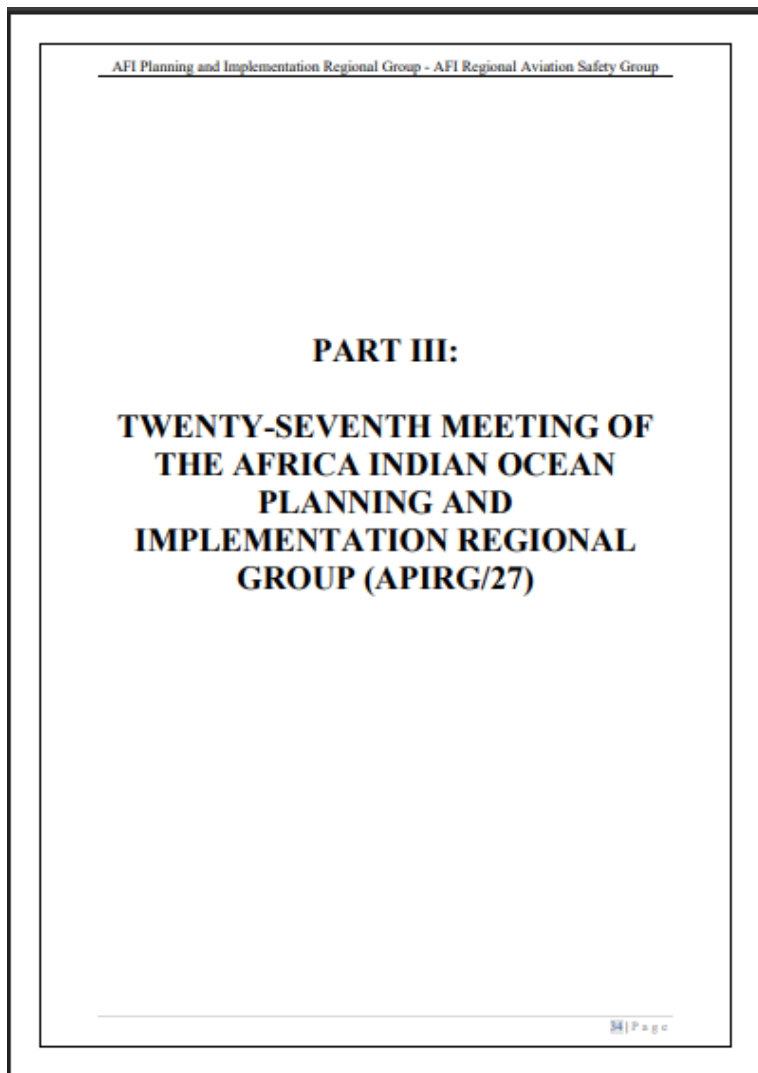
Twenty-Seventh Meeting of the Africa-Indian Ocean Planning and Implementation Regional Group (APIRG27): East London, South Africa (Nov 2024)

- APIRG/27 Conclusion 27/09: New SADIS application programming interface (API) and WIFS API services: in preparation for the upcoming SIGWX changes and to ensure the use of the new IWXXM format SIGWX data sets
- SADIS user States and Organizations to conduct awareness activities on the upcoming T+24 SIGWX changes effective on 26 November 2024 by sharing the SIGWX flyer or by directing

them to <https://www.metoffice.gov.uk/services/transport/aviation/regulated/wafs2023> by end of December 2024;

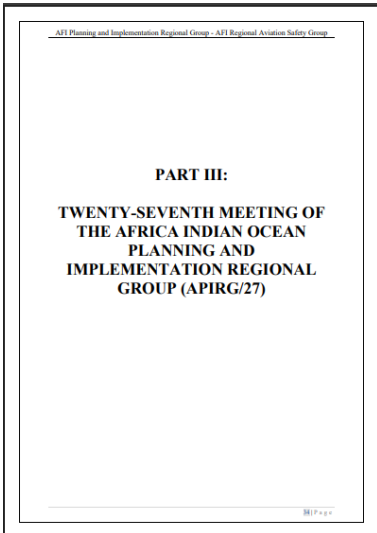
- States and Organizations to:
 - develop plans to upgrade their systems to be able to visualize the higher resolution WAFS gridded data sets and new IWXXM SIGWX data sets;
 - use the new SADIS API by November 2025

Twenty-Seventh Meeting of the Africa-Indian Ocean Planning and Implementation Regional Group (APIRG27): East London, South Africa (Nov 2024)



- APIRG/27 Decision 27/10: Preparation of the Air Navigation Services Summit:
- APIRG/27 Conclusion 27/11: Revision of IIM Project membership: States and Organizations to ensure the effective participation of experts in projects' activities and Subgroup meetings.

Applicable PIRG Conclusions and Decisions

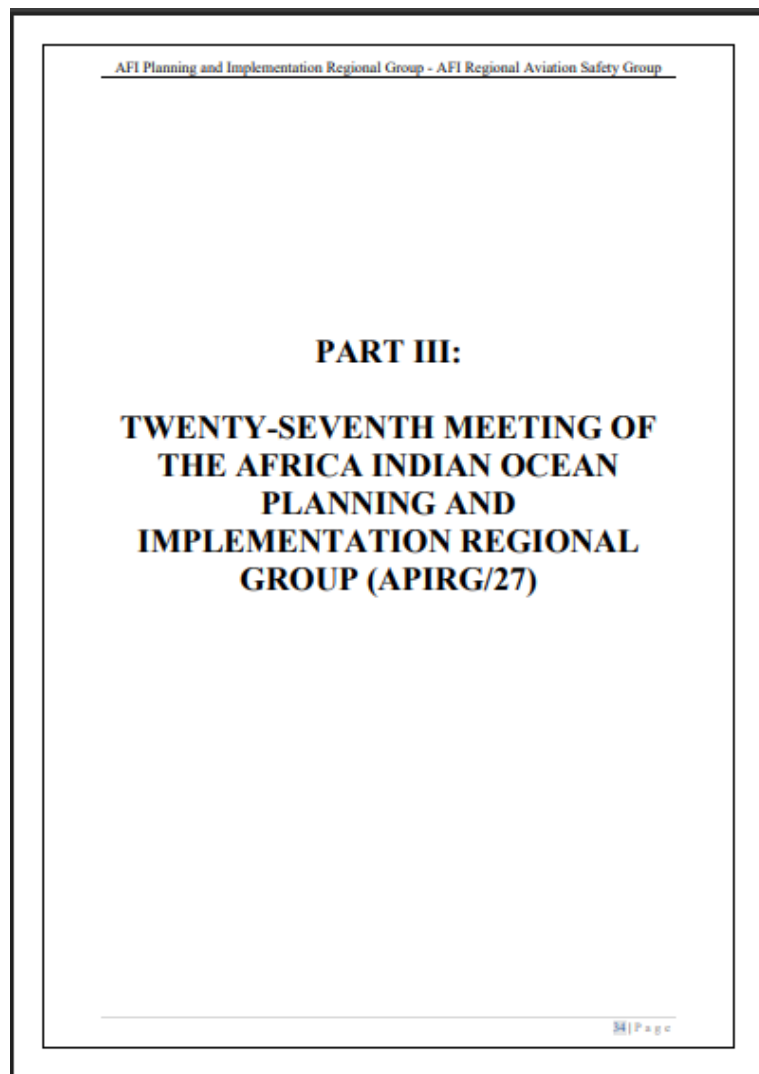


Twenty-Seventh Meeting of the Africa-Indian Ocean Planning and Implementation Regional Group (APIRG27): East London, South Africa (Nov 2024)

APIRG/27 Decision 27/13: Improving the quality and availability of OPMET data in the AFI Region:

APIRG/27 Decision 27/13: Improving the quality and availability of OPMET data in the AFI Region	
Why:	<i>That, to improve the quality and increase the availability of OPMET data in the AFI region,</i>
What:	<ul style="list-style-type: none"> a) <i>States with persistent OPMET availability challenges are required to take the necessary actions to ensure that OPMET data is disseminated in accordance with the AFI AMBEX Scheme by 31 October 2025;</i> b) <i>RODBs Dakar and Pretoria should strengthen coordination and collaboration with concerned States to achieve a harmonized implementation of AMBEX-related procedures by the end of 31 October 2025;</i> c) <i>States to plan and implement follow-up actions on the Conclusion 24/34 requesting the update of the list of required OPMET information in Table MET II-2 of Volume II of the eANP by the end of October 2025; and</i> d) <i>IIM/SG Projects, COM 2(Implementation of Ground/ Ground Communication) and COM 4 (Implementation of interoperable</i>

	<i>seamless telecommunication infrastructure) to support States in the implementation of required systems and infrastructure to facilitate the exchange of OPMET data.</i>			
Who:	<ul style="list-style-type: none"> <i>.a), c) States</i> <i>.b) RODBs Dakar and Pretoria</i> <i>.d) Com2 and COM4 Projects</i> 			
When:	<i>October 2025</i>			
Implementation following-up				
Follow-up required	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Metrics:	Metric 1: <i>Table MET II-2 of Volume II of the eANP updated</i> <i>Increased availability of OPMET data</i>	Means to collect <ul style="list-style-type: none"> • State letters • Coordination meetings • Surveys

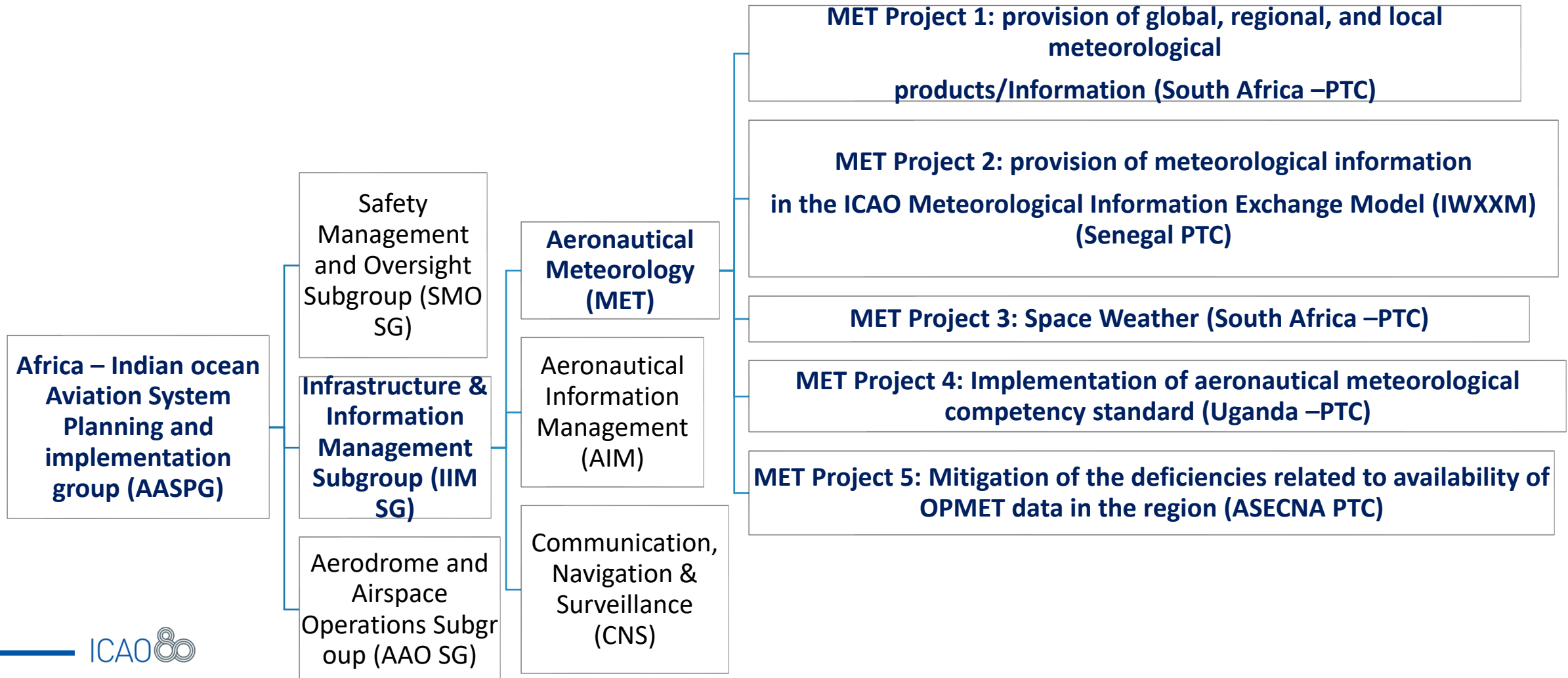


Twenty-Seventh Meeting of the Africa-Indian Ocean Planning and Implementation Regional Group (APIRG27): East London, South Africa (Nov 2024)

- **APIRG/27 Conclusion 27/16:** Monitoring of ASBU planning and implementation in the AFI Region: States to consistently report on their planning and implementation of ASBU elements.
 - **APIRG/27 Conclusion 27/17:** Establishment of National Air Navigation Coordination Committees: States to establish National Air Navigation Coordination Committees, composed of the Civil aviation authority and Service providers, for coordinating the national implementation activities
- ESAF ASBU Implementation Dashboard**
- Available on iSTARS
 - Workshop conducted in June 2025

APIRG MET Projects

Created to support States with identified challenges in the Region. *Encouraging ESAF States to nominate experts to participate in these Projects.*





Previous Resolutions

A41-10: Consolidated statement of continuing ICAO policies and associated practices related specifically to air navigation

A41-6: ICAO global planning for safety and air navigation

- Appendix B: GANP

Status of ASBU Implementation

- Information from the MET Service Providers
 - Data required for updating the AFI eANP Vol III
 - ASBU Modules and Elements

IWXXM transition

- Supports the ICAO (System Wide Information Management) SWIM
 - Aviation System Block Upgrades (ASBUs), AMET B1

Unavailability of OPMET data

- Communication infrastructure is the main challenge
 - Older system: Aeronautical Fixed Telecommunication Network (AFTN)/ Newer system: Aeronautical Message Handling System (AMHS)

Low of participation in annual SIGMET Tests

- Tropical cyclone; Volcanic Ash and Weather Phenomena

- Less than 50% of MET Watch Offices (MWOs) participate.
- In most countries, the national meteorological service or a specific department within it acts as the MWO

Air Navigation Deficiencies

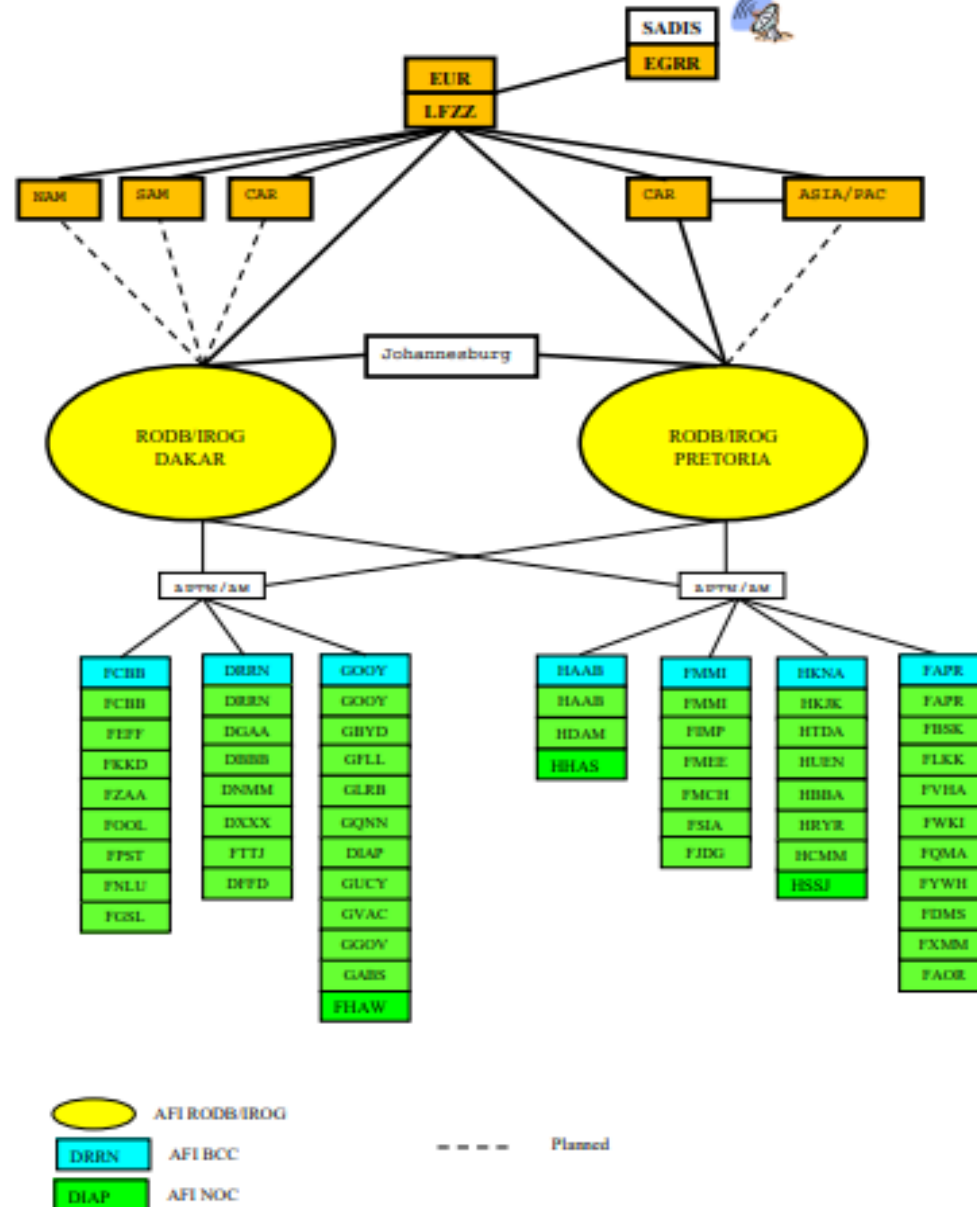
- ICAO launched the AFI Air Navigation Deficiency Database (AANDD)

MSPs are a very important stakeholder- providing the status of ASBU implementation.

Currently updating the *AFI MET Bulletin Exchange (AMBEX) Handbook*



DIAGRAMME 1: AMBEX SCHEME

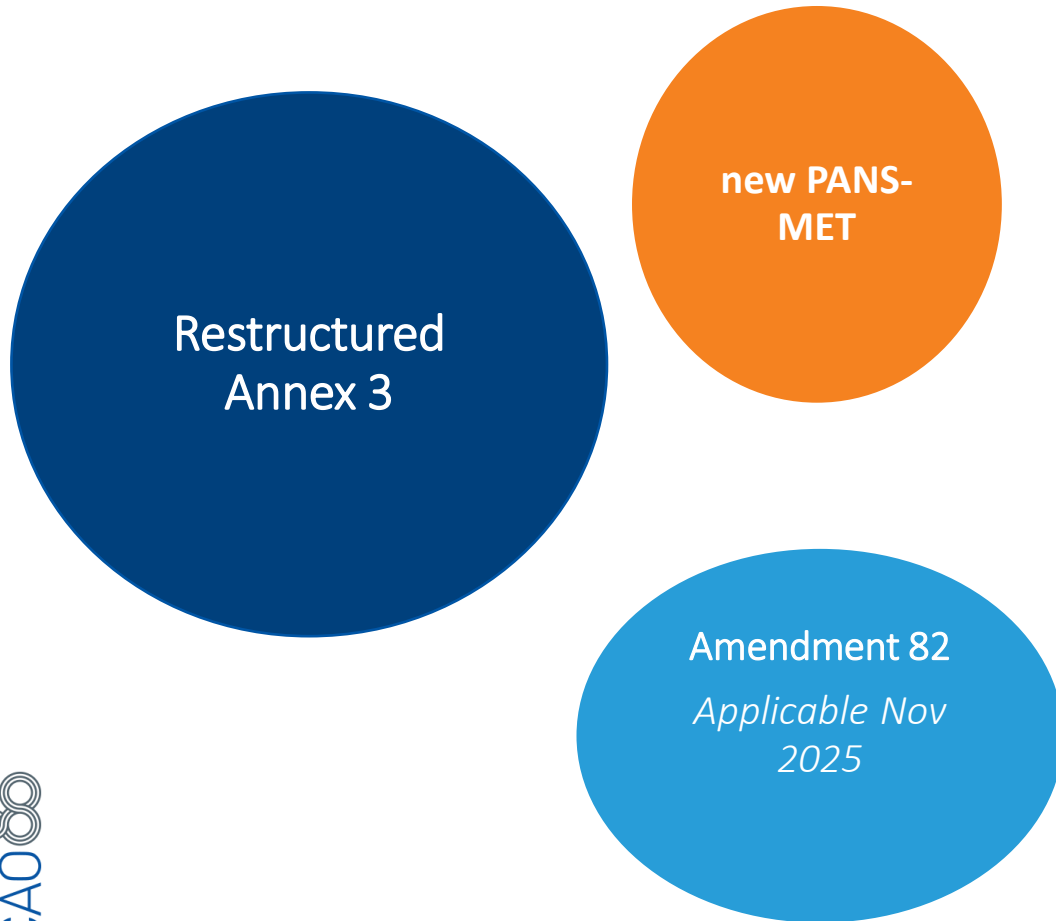


AMBEX Scheme

Restructured Annex 3 and new PANS-MET:

- Amendment 81 in November 2024:
 - Did **not** contain most of the MET changes that were part of the State Letter (SL. AN 10/1-23/1)
- applicability date of November 2025 as the 82nd amendment to Annex 3 and a new PANS-MET.

Note: Detailed Presentation tomorrow



Regional Activities

Regular Activities

- **PIRG Meetings (AASPG)**
 - IIMSG (annually)
 - Next SG from 4-8 August 2025 in Nairobi, Kenya
 - AASPG1 Meeting (annually)
 - Next meeting in November in Gabon
- **SIGMET Tests**
 - Once per year around the Nov and Dec period
- **Volcanic Ash Exercise**
 - Every two years
 - 2025 exercise to be led by Kenya
- **Cooperative Development of Aeronautical MET Services in the AFI Region (CODEVMET) Project**
 - Only Botswana is a CODEVMET member from the ICAO ESAF Region
 - Signed the MSA and paid the annual contribution



Regional Activities

Upcoming Virtual Activities

- **Webinar on IWWXM**
 - Virtual
 - Planned for September 2025

- **Webinar on QMS Implementation**
 - Planned for November 2025



Important links to Key Documents

IWXXM Guide

- <https://www.icao.int/ESAF/Pages/AFI-IWXXM.aspx>

AFI MET Bulletin Exchange (AMBEX) Handbook

- https://www.icao.int/WACAF/Documents/edocs/AMBEX%20Handbook-7thEdition_Amend.%204%20Dec.14.pdf

AFI SIGMET Guide

- <https://www.icao.int/WACAF/Documents/edocs/AFI%20SIGMET%20Guide%20Edition%202021.pdf>

APIRG Reports

- <https://www.icao.int/WACAF/Pages/apirg.aspx>

AFI electronic Air Navigation Plans (Volumes I-III)

- MET under Part V
 - <https://www.icao.int/ESAF/Pages/AFI-eANPs.aspx>

AFI electronic Air Navigation Plans (Volumes I-III)

- https://aandd.icao.int/?_gl=1*_vlhb37*_ga*_MzUxMzY2Mjc4LjE2NTU2Njg3MzE.*_ga_992N3YDLBQ*_MTcxNjI5MTU3My41NTYuMS4xNzE2MjkxOTQ2LjAuMC4w



Still Open: Secondment Opportunity at ESAF Office

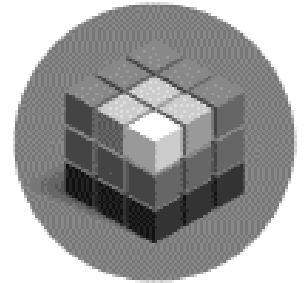
- Regional Officer: Aeronautical Meteorology (P3)
 - to be based in Nairobi
 - SL shared with States from ICAO HQ (deadline extended to until the position is filled)

Conclusion

- ICAO
 - To continue collaborating with Focal Points on MET
 - To collaborate with the WMO on areas of potential collaboration in the region
- ESAF States
 - To consider participating in ICAO Regional activities on MET
 - IMSG and APIRG meetings
 - Participating in ICAO APIRG MET Projects



Global Air
Navigation Plan



Aviation System
Block Upgrades

Questions?



Thank You!