



ICAO

**Twenty-Fourth Meeting of the AFI Planning and Implementation Regional Group
(APIRG/24)
(Virtual – 2 to 4 November 2021)**

Agenda Item 4: Other Air Navigation Initiatives

4.1 Initiatives by States and Industry and other air navigation issues

Title: Surveillance in South Africa

(Presented by South Africa)

| SUMMARY | |
|--|---|
| <p>This information paper presents activities regarding surveillance in South Africa. Additionally, the information paper aims at emphasizing on identified surveillance issues and actions to be taken by APIRG.</p> <p>The Meeting is invited to note the information provided and assist in resolving the issues listed herein.</p> | |
| Strategic Objectives | <ul style="list-style-type: none"> • Safety: • Air Navigation Capacity and Efficiency: • Economic Development of Air Transport: • Environmental Protection: |

1 INTRODUCTION

- 1.1. The current South African surveillance environment consists of nine co-mounts (PSRs + SSRs), nine pure MSSRs and two A-SMGCSs. Figure 1 below illustrate the current south African surveillance coverage taken at FL 145:

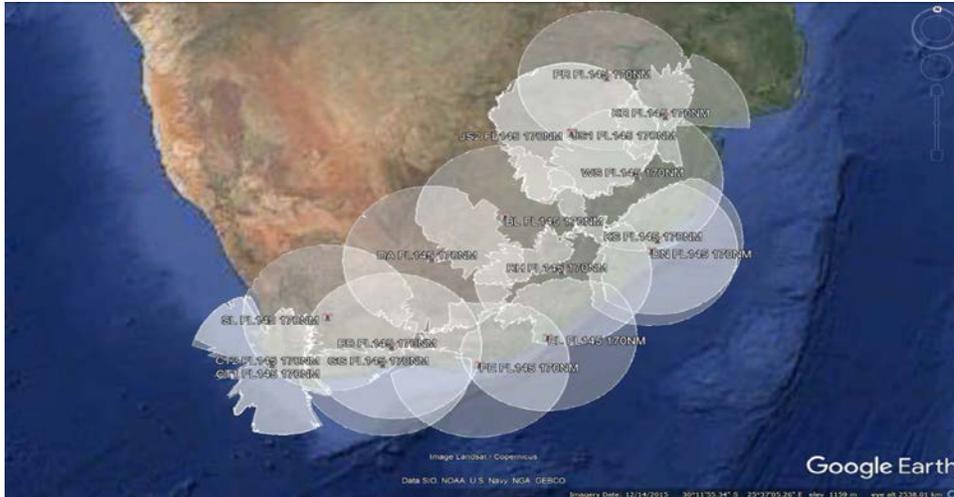


Figure 1: Surveillance Coverage

- 1.2. South Africa is currently enhancing the surveillance coverage through the introduction of Wide Area Multilateration (WAM) and Space Based Automatic Dependent Surveillance – Broadcast (ADS-B). Figure 2 below illustrate the intended surveillance coverage through the respective implementation of WAM projects:

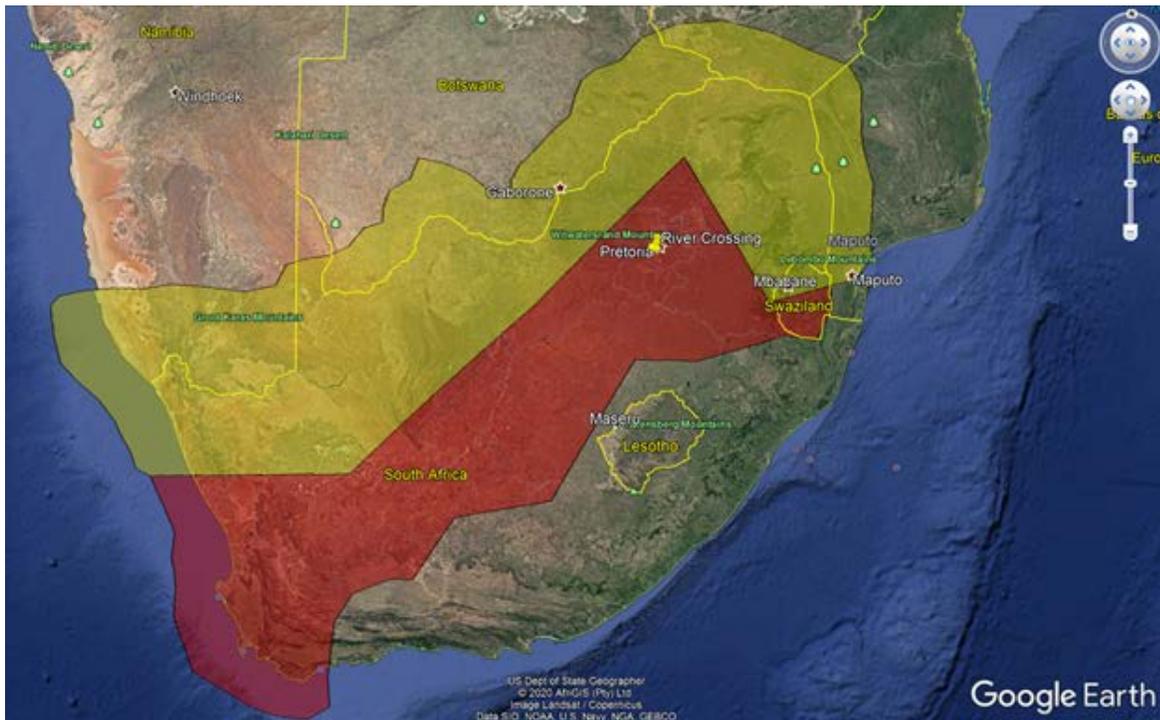


Figure 2: WAM Coverage

- 1.3. South Africa has developed and approved a national surveillance strategy in year 2020. This was done through collaboration with all aviation stakeholders to ensure that all strategic initiatives are aligned.

2. DISCUSSION

2.1. Surveillance Strategy

- 2.1.1. The objective of the ATM Surveillance Strategy is to set out the expected evolution of the ATM surveillance infrastructure until 2035 and beyond to support future ATM concepts and to promote safety, security, interoperability and cost effectiveness of the infrastructure.
- 2.1.2. The Surveillance Strategy was developed based on the operational requirements of the future ATM system in South Africa from today to 2035 in three steps; i.e. Short-term (2020 – 2024), Medium-term (2025 – 2029) and Long-term (beyond 2030).
- 2.1.3. The determined surveillance strategic actions imply a continuation of the current non-cooperative surveillance systems and cooperative Surveillance based on SSR (Mode-S) and/or WAM for the next 15 years.
- 2.1.4. Thereafter a migration to Cooperative Surveillance based on ADS-B, alone or combined with other Cooperative Surveillance systems such as SSR (Mode-S) or WAM; and
 - An increasing use of Aircraft Derived Data;
 - In brief it foresees for Terminal airspace; and
 - The continuation of Non-Cooperative Surveillance based on PSR and Passive Radar, where required.

2.2. Participation in AFI Surveillance Meetings

- 2.2.1. South African is participating in the AFI surveillance group meetings. The purpose of the group meetings is to address all AFI surveillance requirements and issues. Below is the list of activities thus far:
 - Surveillance Infrastructure in the AFI region questionnaire;
 - Review of AFI Surveillance Strategy; and
 - Addressing ICAO SSR codes.

2.3. Participation in ICAO Panel Meetings

- 2.3.1. South Africa is also participating in the ICAO surveillance panel meetings through the representation of panel members.

- 2.4. Although South Africa is actively participating in the global and national activities, it's crucial that all AFI states note the importance of deploying latest Surveillance systems and ensuring coverage within the AFI region.

3 ACTION BY THE MEETING

- 3.1. The Meeting is invited to note the information provided herein; and
- 3.2. Encourage states to share the surveillance developments to ensure full surveillance coverage within the AFI region.