

Workshop on ITU World Radiocommunication Conference 2027 (WRC-27 Workshop)

(Dakar, Senegal, 2-3 March 2026)



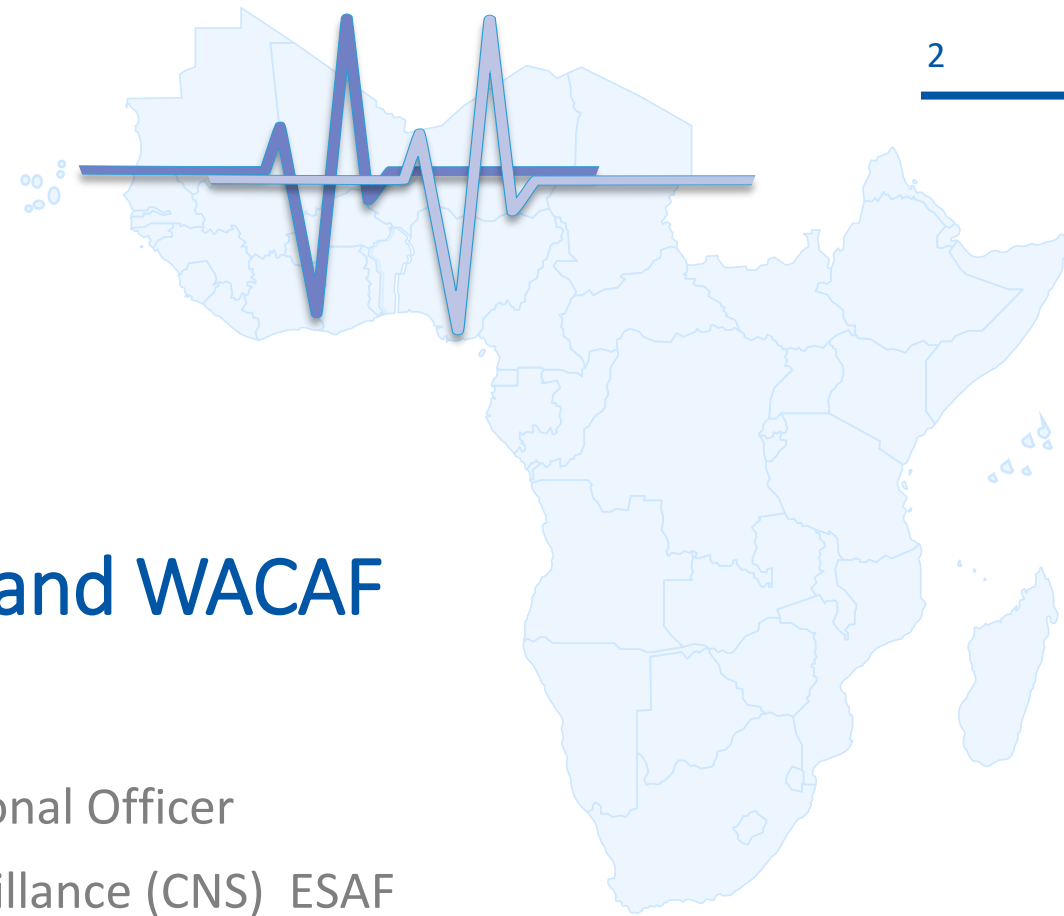
ICAO

INTERNATIONAL CIVIL AVIATION ORGANIZATION

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FREQUENCY MANAGEMENT IN AFI REGION (ESAF AND
WACAF) - *CURRENT PRACTICES AND NEW CHALLENGES*





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Overview

01 Introduction
Overview, purpose

02 Frequency management in the AFI region

Current Frequency management practices in the AFI region (Assignments, coordination methods, AFI ANP, roles of CAAs/ANSPs/NSRA, Frequency Finder)

03 AFI Regional coordination mechanisms

AASPG, IIM SG, Frequency Finder, COM List 3 updates, cross-border coordination

04 Regional challenges and emerging spectrum Issues

Challenges and opportunities

01

INTRODUCTION

Overview and
purpose



1. Introduction

1.1 Overview and purpose

Critical enabler of CNS/ATM

- Aviation safety and efficiency depend on secure, interference-free aeronautical spectrum supporting communications, navigation and surveillance across AFI and all regions.

Essential for operations in AFI Region

- In a region of 48 States with vast remote and oceanic airspace, protected frequencies ensure HF/VHF communication, datalink (CPDLC/ADS-C), radionavigation, and SSR/ADS-B surveillance continuity.

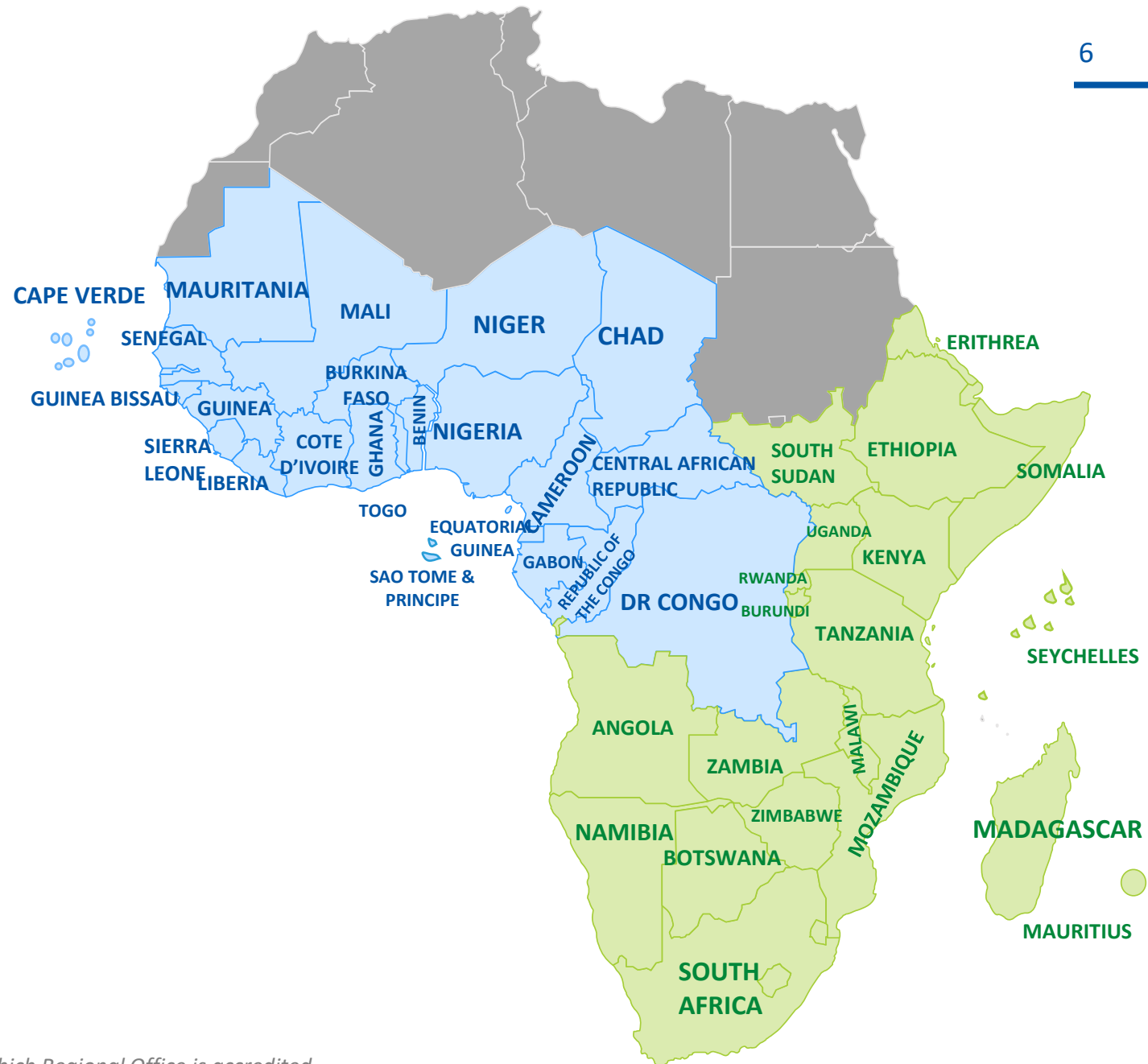
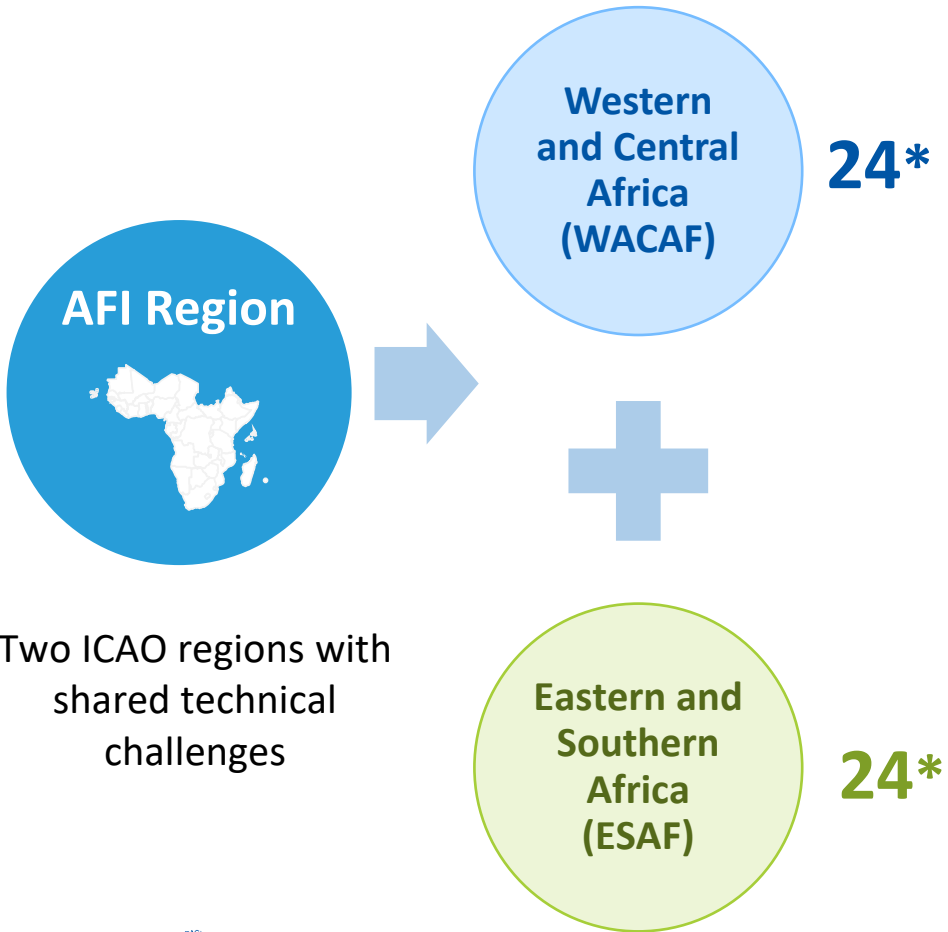
Rising risks require strong coordination

- Interference, infrastructure gaps, and encroachment from 5G/IMT and FM broadcasting heighten the need for proactive regional frequency management to safeguard safe, seamless air navigation.



1. Introduction

1.1 Overview and Purpose



(*) Contracting States to which Regional Office is accredited

02

FREQUENCY MANAGEMENT IN THE AFI REGION

- 2.1 Regional requirements
- 2.2 Role of ICAO Regional offices
- 2.3 Aeronautical Frequency Coordination – Key highlights
- 2.4 Current practices in AFI Region



2. Frequency management in the AFI region

2.1 Frequency management requirements in AFI ANP

GENERAL REGIONAL REQUIREMENTS

AFI eANP Volume 1 : §2.9 *“Frequency assignment planning in the Region(s) should be carried out in accordance with the provisions of Annex 10 and ICAO Handbook on Radio Frequency Spectrum for Civil Aviation (Doc 9718), supplemented, as necessary, by regional recommendations and technical criteria developed for this purpose.”*

SPECIFIC REGIONAL REQUIREMENTS

AFI ANP, VOLUME II PART III – COMMUNICATIONS, NAVIGATION AND SURVEILLANCE (CNS), §2.45 to 2.52, and §2.54
“States shall support of ICAO position for WRCs”

States in the AFI Region should coordinate, as necessary, with the ICAO Regional Office all radio frequency assignments for both national and inter-national facilities and align assignments with the Frequency Allotment Plan for AFI [AFI/6, Recommendation 13/13]



2. Frequency management in the AFI region

2.2 Role and function of ASAF and WACAF Regional Offices







Advocate ICAO Spectrum Policy

Promote and defend ICAO Position for WRCs at regional and international levels

- Participate to African preparatory meetings for WRC-27 -to ensure aviation priorities are reflected in States' positions.
- Engage in ITU Regional Radiocommunication Seminars for AFI (ATU) and other relevant platforms.

Coordinate Aeronautical frequency management

-  Frequency Assignment coordination and selection
-  Facilitation of coordination between States to address cross-border interference resolution.
-  Maintain Frequency Lists
-  Serve as focal point for Interrogator Codes (IC) Code management


Provide technical guidance to States on GNSS RFI reporting and mitigation measures-

2. Frequency management in the AFI region

2.3 Aeronautical Frequency Coordination – Key highlights

1

ICAO ESAF and WACAF offices Role

 **Centralized portal:** Single points for aeronautical frequency and IC coordination



2

Use of Frequency Finder

For frequency selection, compatibility testing, and global database registration.

3

State responsibilities

-  **Timely submissions:** Provide all frequency and SSR/IC assignments for international coordination.
-  **National spectrum coordination:** Notify ITU and liaise with national authorities as needed.

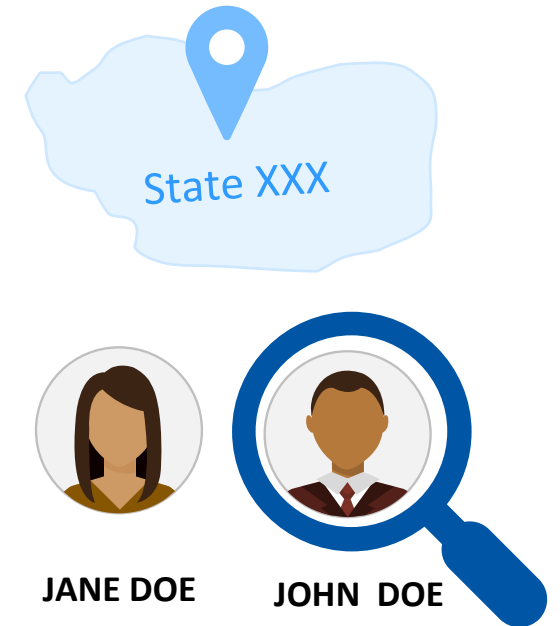
2. Frequency management in the AFI region

2.3 Aeronautical Frequency Coordination – Key highlights (cont'd)

State's Spectrum Points of Contact (POC)

- ICAO ESAF & WACAF Regional Office maintain POC lists for:
 - Frequency affairs
 - SSR/SIC-SAC coordination
 - Interference notifications
 - Access to Frequency Finder tool

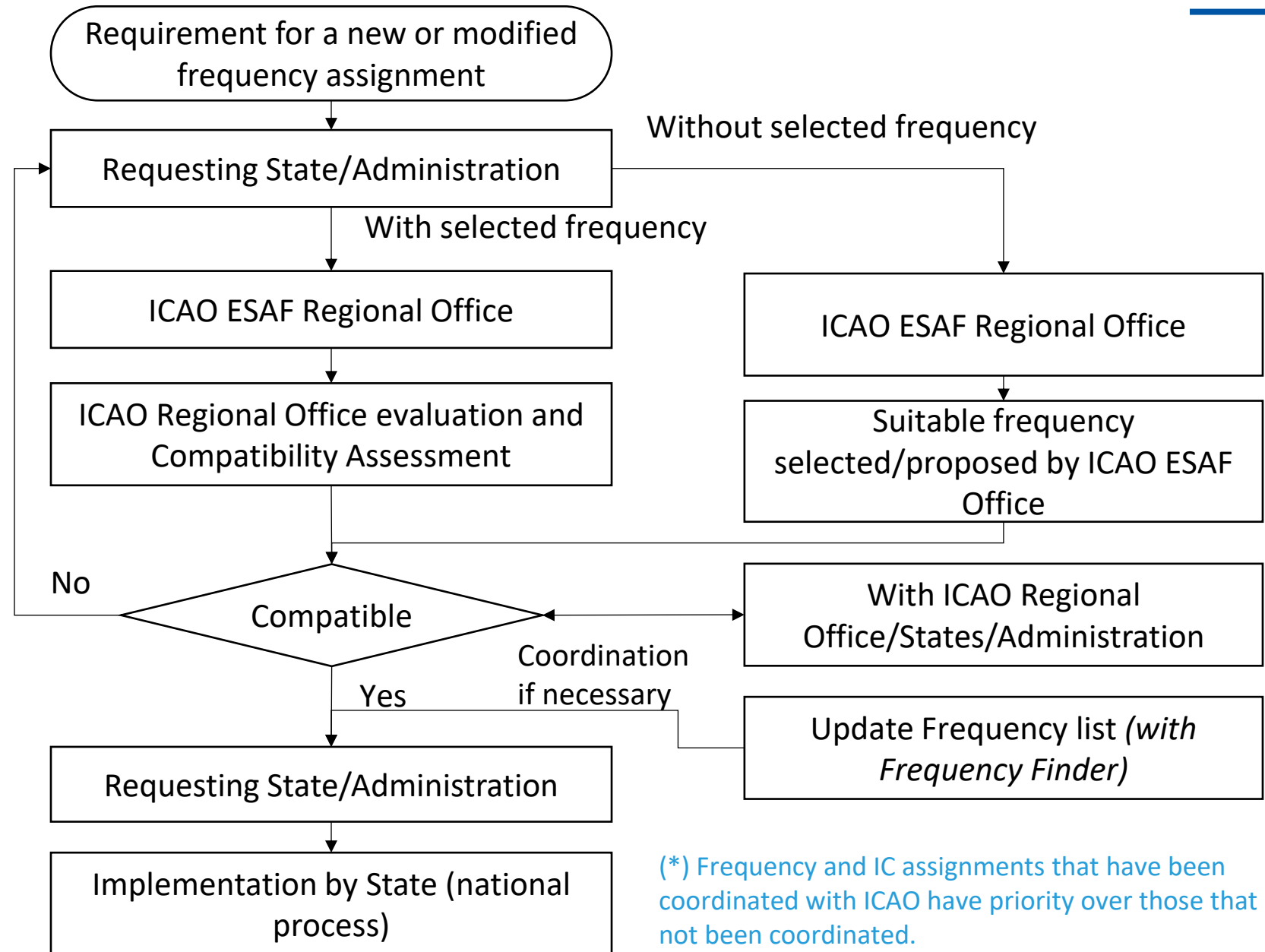
- States should regularly update their focal points to ensure rapid coordination



2. Frequency management in the AFI region

2.4 Aeronautical Frequency Coordination current practices / procedure

ESAF

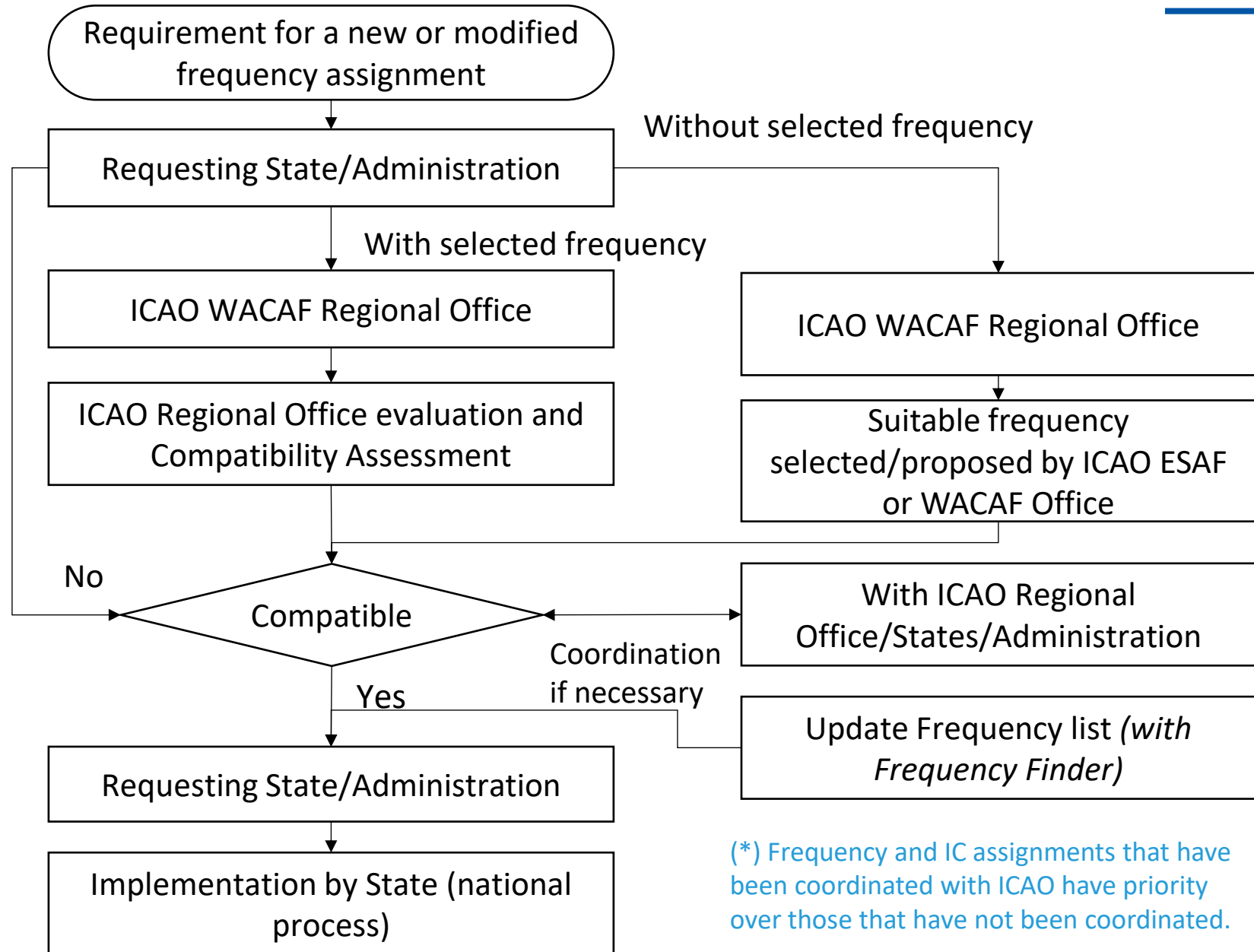
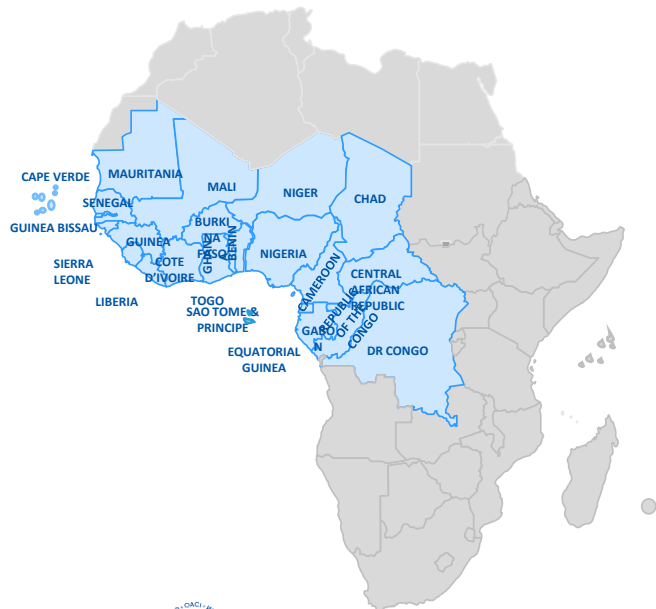


(*) Frequency and IC assignments that have been coordinated with ICAO have priority over those that have not been coordinated.

2. Frequency management in the AFI region

2.4 Aeronautical Frequency Coordination current practices

WACAF



(*) Frequency and IC assignments that have been coordinated with ICAO have priority over those that have not been coordinated.

03

AFI REGIONAL
COORDINATION
MECHANISMS

3. AFI regional initiatives on Spectrum



AFI Air Navigation Plan (eANP) Volume I, II, III

- Defines regional CNS and spectrum requirements supported by AFI frequency allotment table (Doc 9718, Volume II)
- (applicable for ESAF and WACAF Regions)



Africa – Indian Ocean Aviation System Planning and implementation Group (AASPG)

- Infrastructure and Information Management Sub-Group leads AASPG's core CNS and spectrum activities in the AFI Region.
- AASPG IIM SG AFI SPEC project enhances aeronautical spectrum protection through focused, regional coordination.



Regional Surveys and initiatives

1) Frequency Usage Monitoring (VHF/HF) - AFI

- Conducted under IIM SG COM/3 project (now AFI-COMMOD project).

2) Frequency Data Quality Control (VHF)

- Led by ICAO HQ – CNS Section.
- ESAF/WACAF States invited to review and confirm frequency data (VHF) (ongoing).

3. AFI regional initiatives on Spectrum

 **AFI SPECTRA Project** - « *AFI Aviation Spectrum Coordination & Protection Initiative* »



Project Objective

Enhance AFI States' capacity to coordinate, manage, and protect aviation spectrum, ensuring safe and uninterrupted ANS operations (ESAF and WACAF Regions)

Scope

- Reinforce CAA–Spectrum Authority coordination
- Promote ICAO tools (Doc 9718, Frequency Finder)
- Support AFI alignment to ICAO WRC positions
- Enhance GNSS monitoring & RFI mitigation
- Study impacts of emerging technologies (e.g., 5G)

Main Deliverables

- MoU template (CAA–Regulator)
- Frequency assignment & interference procedures
- GNSS RFI reporting mechanism
- Workshops on Doc 9718, Frequency Finder, WRC-27
- Regional forum for all Spectrum related aspects

04






Regional challenges and emerging spectrum Issues

Challenges
Opportunities



4. Regional challenges and emerging spectrum Issues

Main challenges

 VHF persistent interference	<ul style="list-style-type: none">✓ Harmful interference to air-ground communications from unauthorized transmissions and FM broadcast spillover✓ Need to increase coordination with radio regulatory and enforcement authorities
 GNSS Radio Frequency Interference (RFI) incidents	<ul style="list-style-type: none">✓ Increasing GNSS RFI Events and Absence of Formal/harmonized Reporting Systems✓ Reinforcing civil-military coordination to address interference risk associated with GNSS testing and conflict zones
 5G/IMT adjacent-band risks	<ul style="list-style-type: none">✓ Potential harmful interference to Radio Altimeters (4200–4400 MHz)✓ C-Band protection for AFI VSAT aeronautical networks remains essential.
 VHF Coverage gaps	<ul style="list-style-type: none">✓ Several remote or oceanic areas still experience VHF coverage gaps✓ Modernization and investment must be strengthened to ensure resilient CNS services
 Need for State frequency database updates ICAO	<ul style="list-style-type: none">✓ Recent CNS Section of ICAO HQ Frequency data quality control revealed update needs✓ Timely action by States is required.

4. Regional challenges and emerging spectrum Issues

Opportunities



Accelerate aeronautical frequency data updates and complete the verification process for submission to ICAO HQ.



Increase WRC-27 awareness by widely disseminating ICAO's Position, including to national telecom/spectrum regulators/ authorities.



Enhance GNSS RFI resilience through best-practice sharing, updated guidance, and regional GNSS interference procedures.



Strengthen and systematize the use of the Frequency Finder tool.



Reinforce regional coordination by actively participating in AASPG IIM Sub-Group spectrum activities.



Improve national coordination mechanisms with telecom authorities (interference resolution MoU ..., active participation of CAA in National / Regional WRC preparatory activities)

Thank You

