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CAPACITY & EFFICIENCY

# AFI Region Implementation of FRA

AFI FRA Gap Analysis

*By: The FRA PMT*





# Overview

- Response from 36\* states
- Presentation is based on states AND an assumption made on the FIR limits
- Other assumptions
  - Availability of a system/procedure is 100%
  - Where system supported coordination exists, its assumed they are available with all the adjacent FIRs

*Data from Tanzania covers Airspace above FL245 for HBBA & HRYR FIRs*



# AFI Region Implementation of FRA

- Status does not necessarily mean a technology is lacking/not implemented
  - It could be based on the interpretation of the questions
  - It could mean an amendment to an existing procedure is required
- States are requested to review the data submitted and confirm accuracy



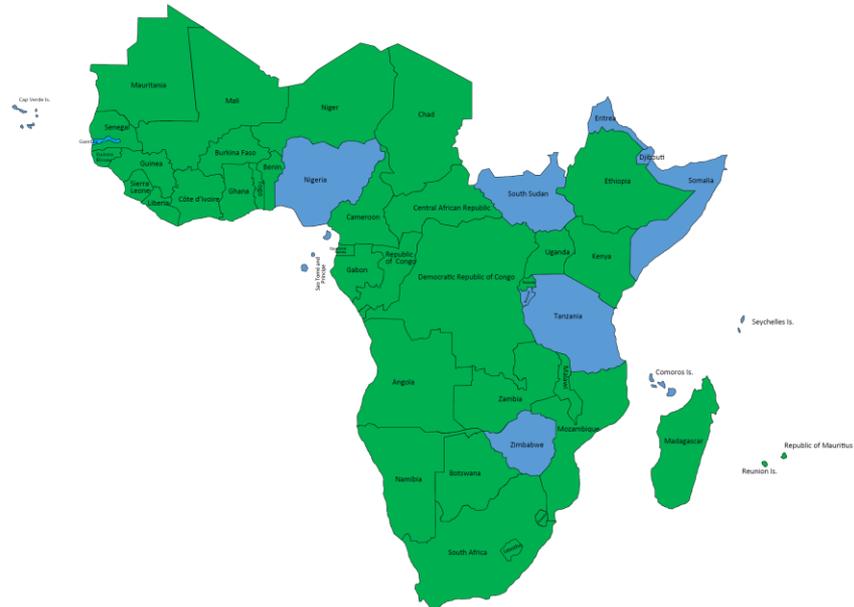
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## AFI Region Communication Capabilities

State  
VHF Coverage

Legend	
VHF Coverage	
No VHF Coverage	
Countries with no Data	



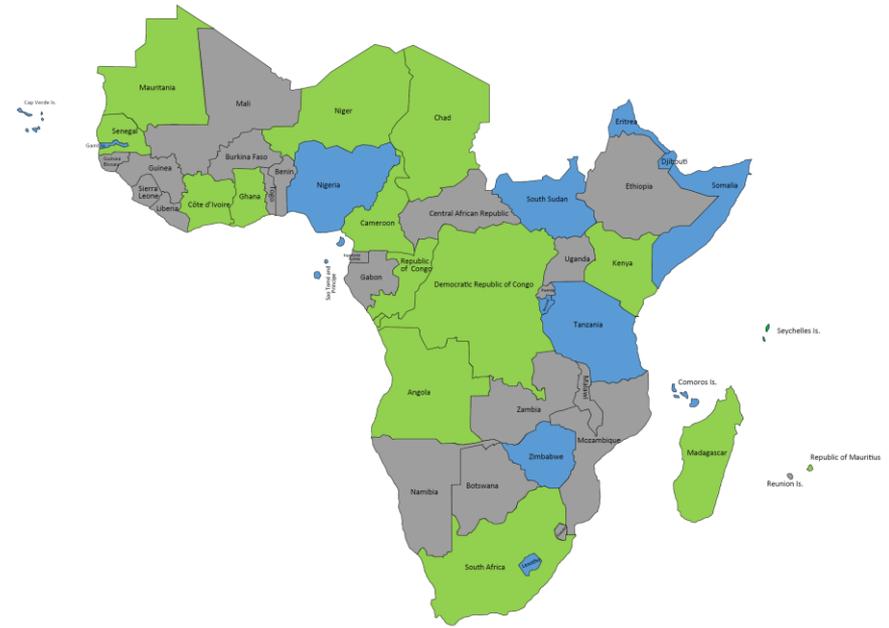




State  
CPDLC  
Coverage

Legend	
CPDLC Coverage	
No CPDLC Coverage	
Countries with no Data	

### AFI Region Communication Capabilities



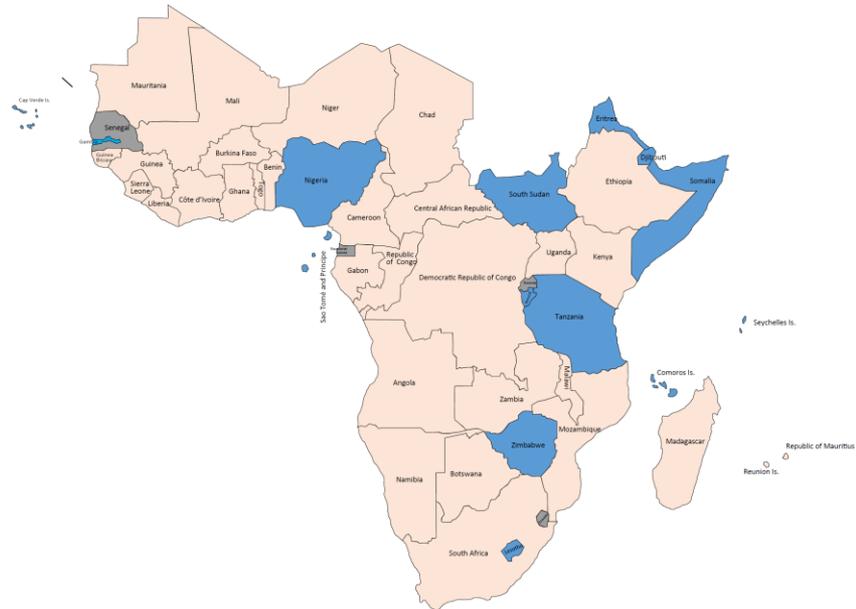




## AFI Region Navigation Infrastructure Space Based Infrastructure

State  
GNSS Coverage

Legend	
GNSS	
No GNSS	
Countries with no Data	

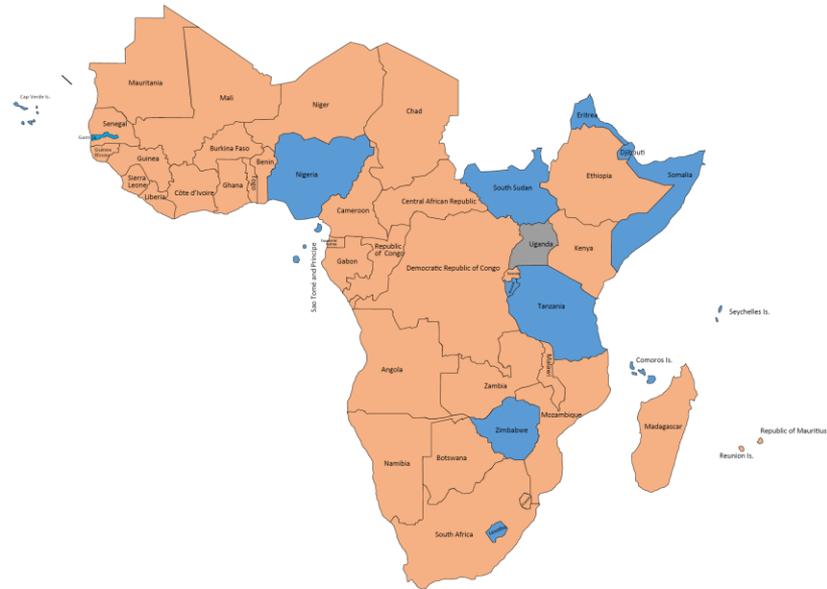




## AFI Region Navigation Infrastructure Ground Based Infrastructure

State  
VOR Coverage

Legend	
VOR	
No VOR	
Countries with no Data	

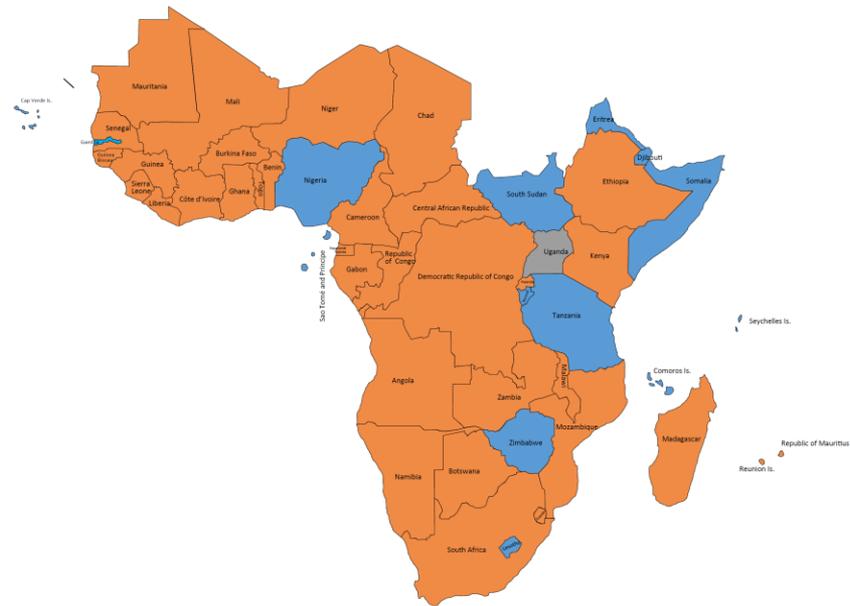




## AFI Region Navigation Infrastructure Ground Based Infrastructure

State  
DME Coverage

Legend	
DME	
No DME	
Countries with no Data	

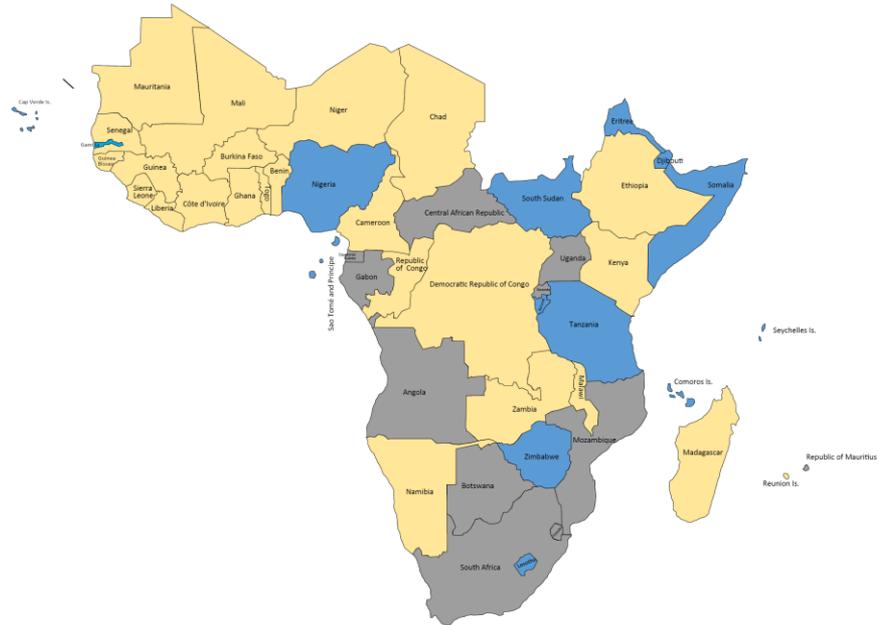




## AFI Region Surveillance Capabilities ADS-B Ground/SPACE

State  
ADS-B  
Coverage

Legend	
ADS-B	Yellow
No ADS-B	Grey
Countries with no Data	Blue

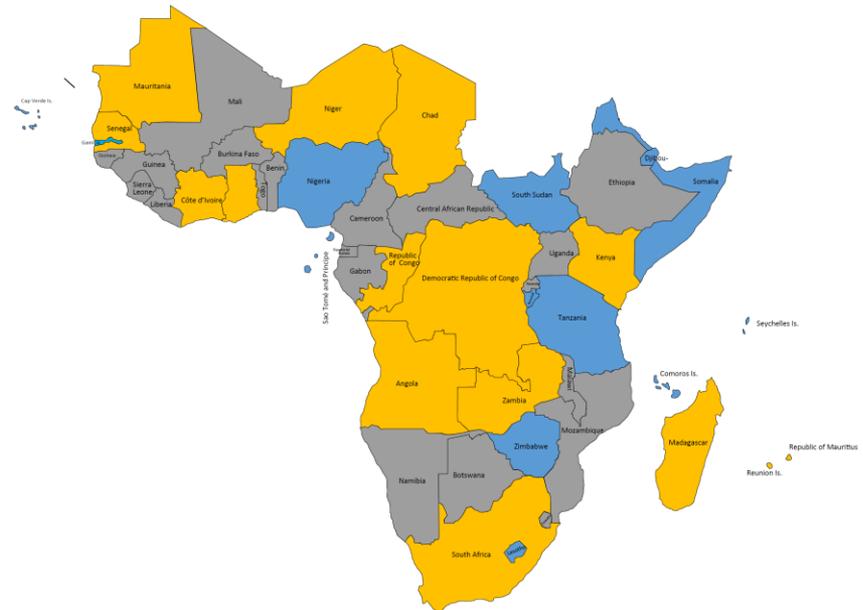




### AFI region Surveillance Capabilities ADS-C

State  
ADS-C  
Coverage

Legend	
ADS-C	
No ADS-C	
Countries with no Data	

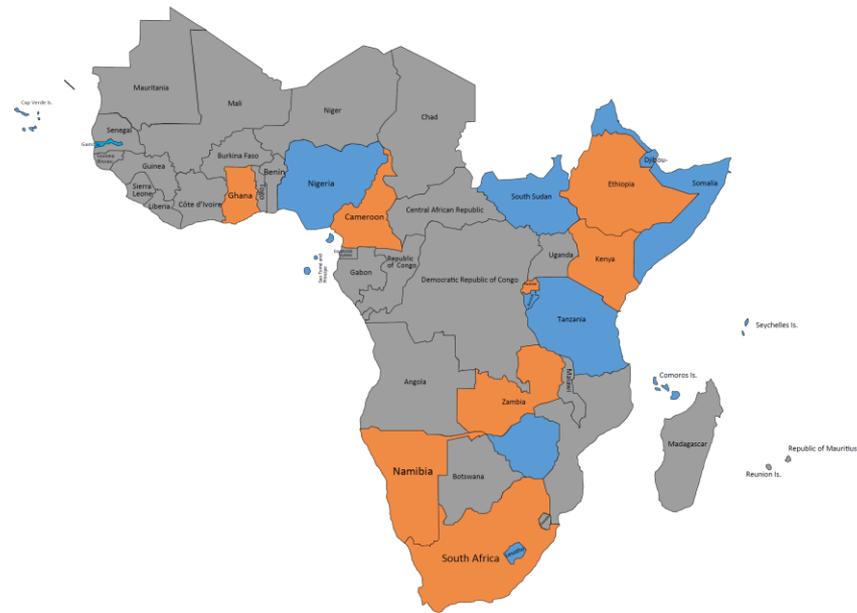




### AFI Region Surveillance Capabilities PSR

State  
PSR Coverage

Legend	
PSR	
No PSR	
Countries with no Data	





## AFI Region Surveillance Capabilities SSR

State  
SSR Coverage

Legend	
SSR	
No SSR	
Countries with no Data	

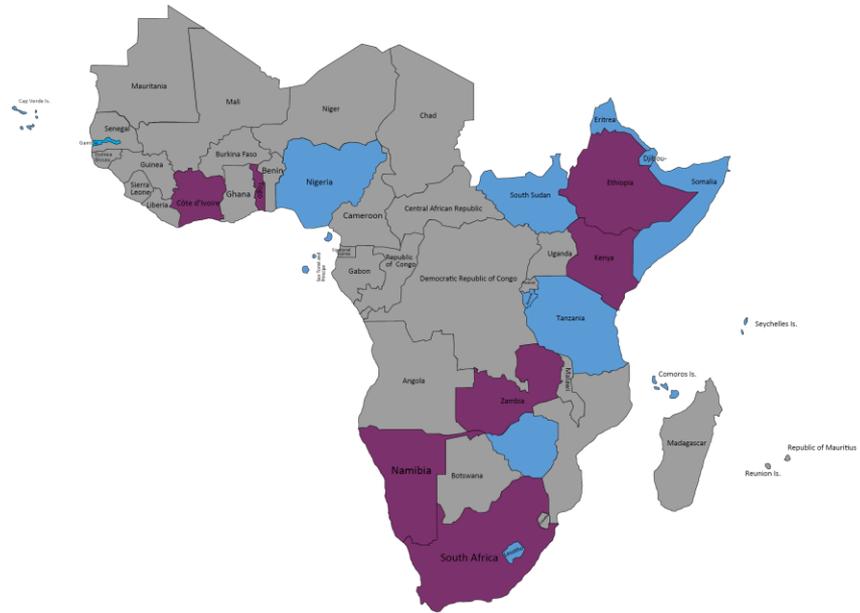




## AFI Region Surveillance Capabilities MLAT

State  
MLAT  
Coverage

Legend	
MLAT	
No MLAT	
Countries with no Data	





### AFI Region Ground Based Safety Net Capabilities Conflict Alert (STCA/MTCA)

State  
STCA Coverage

Legend	
APW	Yellow
No APW	Grey
Countries with no Data	Blue

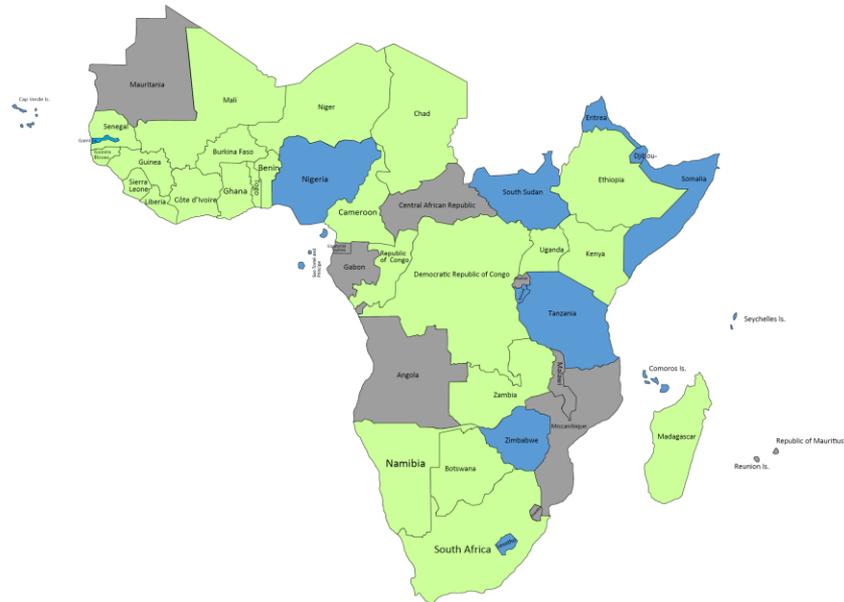




## AFI Region Ground Based Safety Net Capabilities Conflict Alert - Area Proximity Warning (APW)

State  
APW Coverage

Legend	
APW	
No APW	
Countries with no Data	





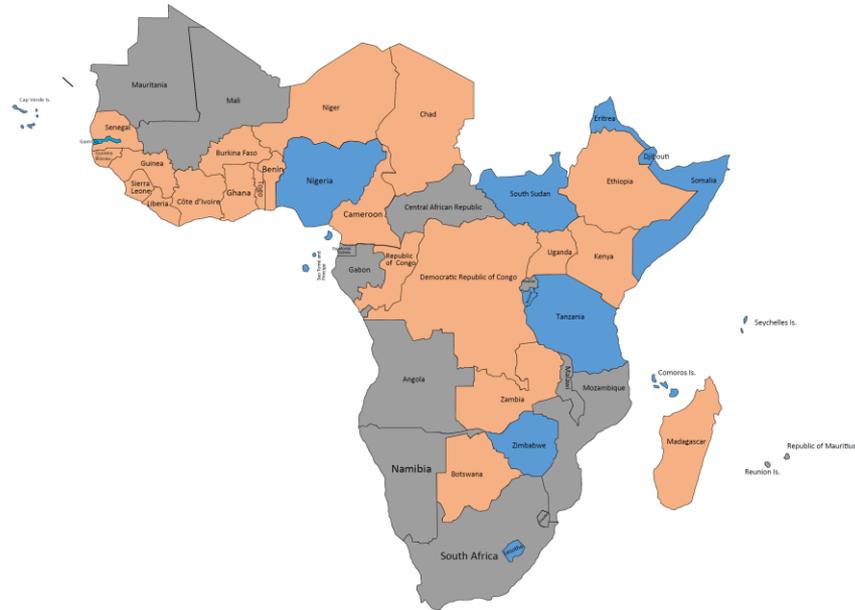
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## AFI Region Conflict Detection/ Resolution Tools Conflict Detection and Resolution (CD/R)

State  
CDR Coverage

Legend	
CD/R	
No CD/R	
Countries with no Data	

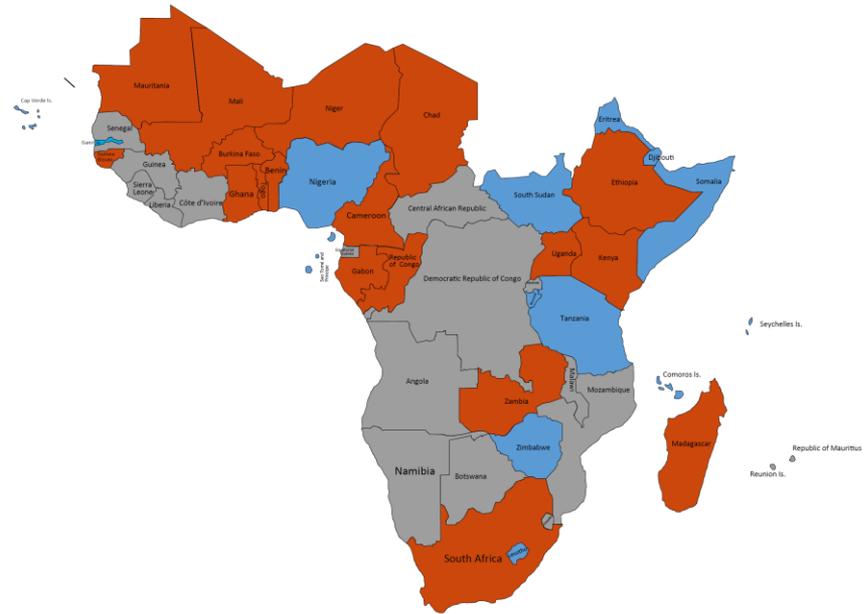




### AFI Region Conflict Detection/ Resolution Tools Monitoring Aids (MONA)

State  
MONA  
Coverage

Legend	
MONA	
No MONA	
Countries with no Data	







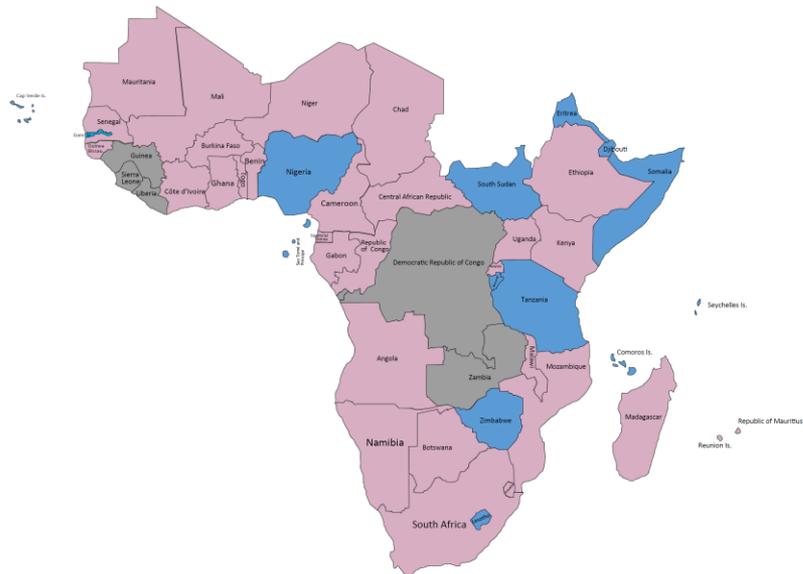
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## AFI Region System Support Co-ordination (SYSCO) Aeronautical Fixed Telecommunication Network (AFTN)

State  
AMHS  
Coverage

Legend	
AFTN	
No AFTN	
Countries with no Data	

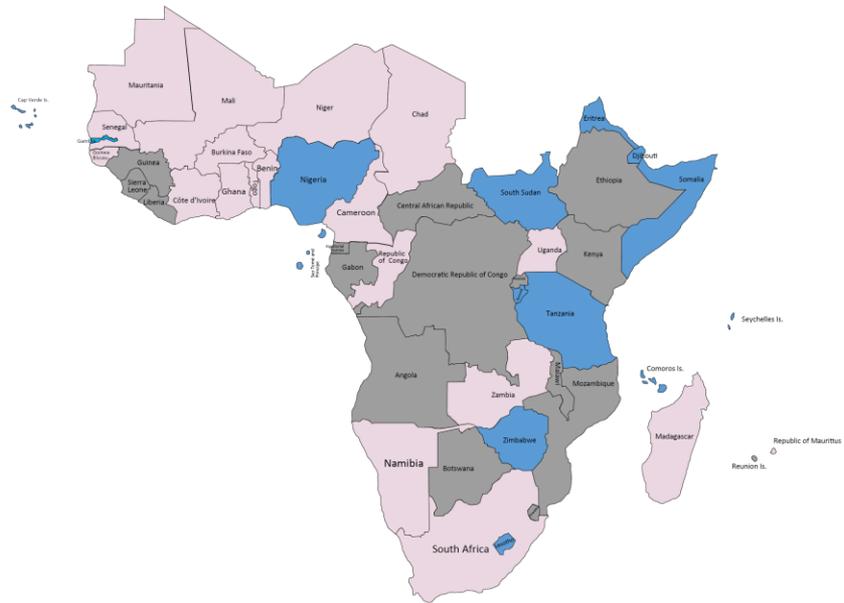




## AFI Region System Support Co-ordination (SYSCO) ATS Inter-Facility Data Communication (AIDC)

State  
AIDC Coverage

Legend	
AIDC	
No AIDC	
Countries with no Data	

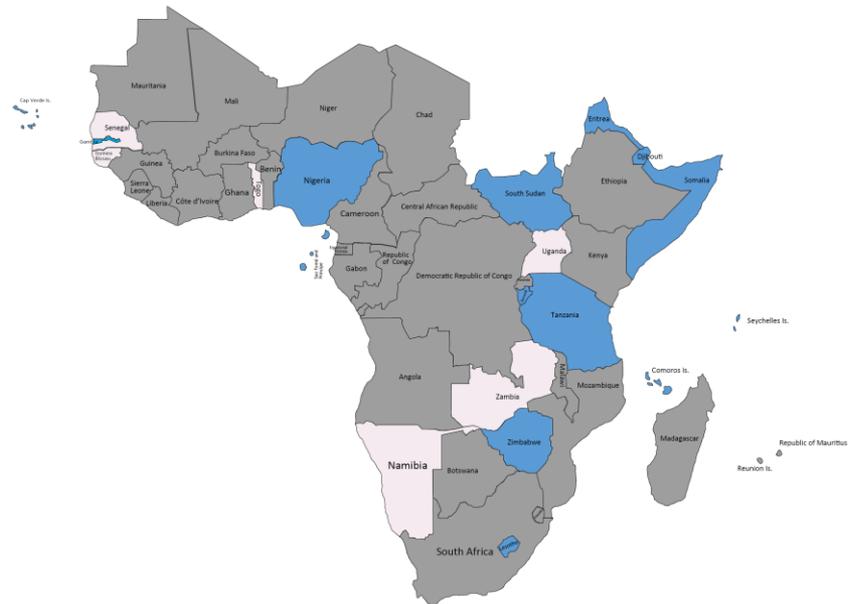




## AFI Region System Support Co-ordination (SYSCO) On-Line Data Interchange(OLDI)

State  
OLDI Coverage

Legend	
OLDI	
No OLDI	
Countries with no Data	



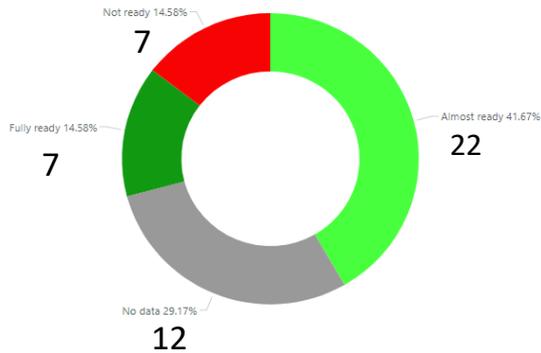




## AFI Region Implementation of Surveillance

### FRA Countries Readiness by Surveillance

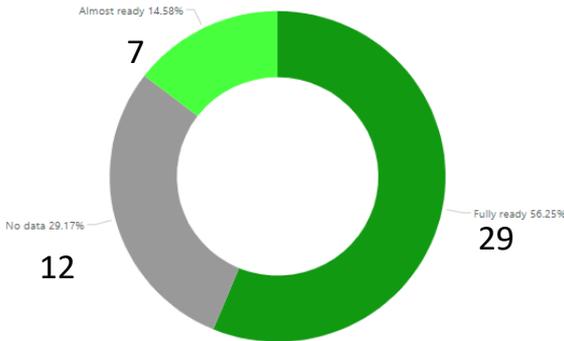
- PSR
- SSR
- ADS/B
- ADS/C
- MLAT





## FRA Countries Readiness by Communication

- VHF
- CPDLC
- HF



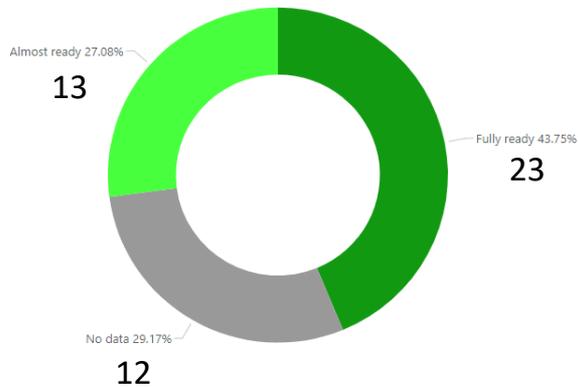
## AFI Region Implementation of Communication





## FRA Countries Readiness by Coordination

- AFTN
- AMHS
- AIDC
- OLDI



## AFI Region Implementation of System Supported Coordination

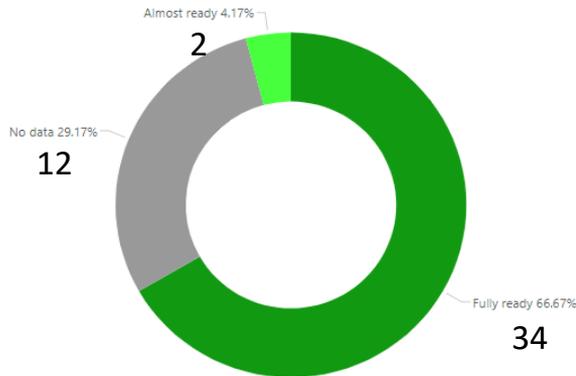




### AFI Region Implementation of Method of Navigation

#### FRA Countries Readiness by NAVIGATON

GNSS  
DME  
VOR

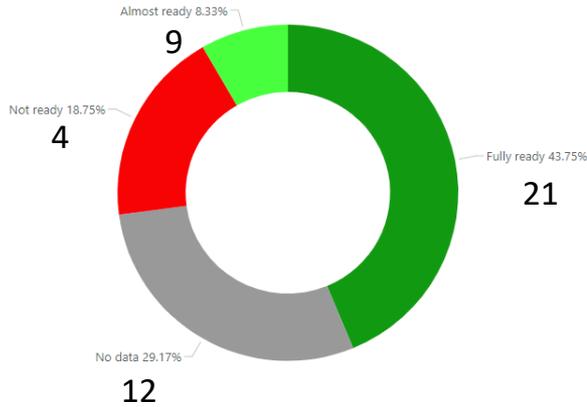




## AFI Region Implementation of Safety Nets

### FRA Countries Readiness by SAFETY NETS

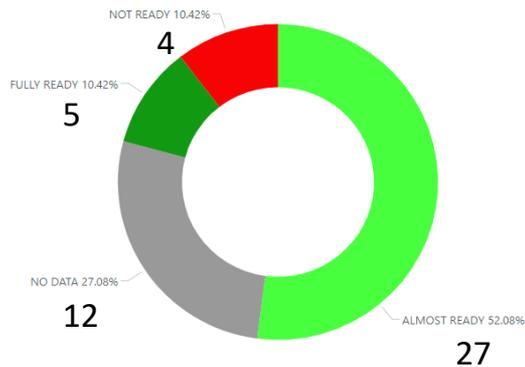
- APW
- STCA/M
- TCA
- CD&R
- MONA



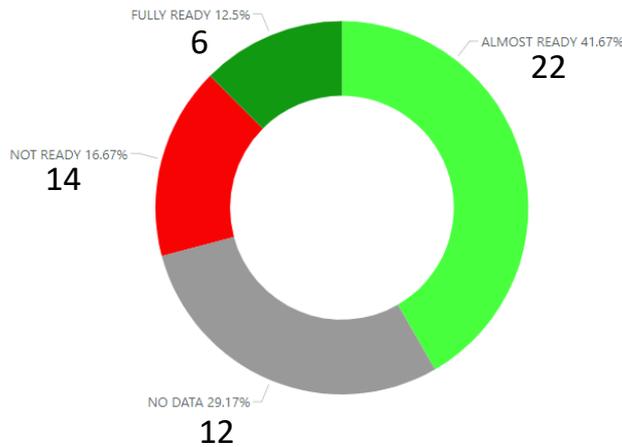
## AFI Region Implementation of Airspace Layout

### Readiness by Airspace Layout

- Fixed ATS Route Network
- Published Direct Routing
- Unpublished Directs
- Free Routing Airspace
- Implemented ATFM
- Implemented FUA



## FRA Countries Readiness by weights combined



## AFI Region Implementation of Airspace Layout





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South American  
(SAM) Office  
Lima

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Headquarters  
Montréal

Western and  
Central African  
(WACAF) Office  
Dakar

European and  
North Atlantic  
(EUR/NAT) Office  
Paris

Middle East  
(MID) Office  
Cairo

Eastern and  
Southern African  
(ESAF) Office  
Nairobi

Asia and Pacific  
(APAC) Sub-office  
Beijing

Asia and Pacific  
(APAC) Office  
Bangkok



THANK YOU