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# RASG-AFI

## Annual Safety Report 2020



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**Seventh Edition**

**Issued in July 2021**

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## Foreword

The Regional Aviation Safety Group for Africa-Indian Ocean (RASG-AFI) constituted the Annual Safety Report Team (ASRT) tasked with the production of an annual report on aviation safety in the RASG-AFI Region. The report provides safety information from different available sources to determine the main safety risks in the Region and making recommendations to the RASG-AFI for safety enhancement initiatives. Stakeholders are therefore encouraged to collaborate and cooperate with the ASRT in sharing and exchanging safety information for the good of aviation safety within the Region.

The progress and effectiveness of States in achieving the objectives and priorities of regional targets are measured on an on-going basis. These regional targets enshrined as the Abuja Safety Targets, are to be revised on regular basis to ensure their alignment with the targets of the current Global Aviation Safety Plan (GASP). Monitoring and reporting progress enables States and the ICAO regional offices to modify their activities based on their performance and to address emerging safety issues. To support States in this endeavour, a safety report, which provides an indication of the progress being made, is published by the RASG-AFI on a yearly basis.

The RASG-AFI Annual Safety Report (ASR) 2020 was produced under an unprecedented circumstance that the world was confronted with - the outbreak of COVID-19 pandemic. The COVID-19 pandemic is more than a health crisis; it is an aviation safety crisis, an economic crisis, a humanitarian crisis, a security crisis, and a human rights crisis. A crisis that has highlighted severe fragilities and inequalities within and among nations; and presented new threats to the achievement of the RASG-AFI Work Programme and Targets, as the world's attention focused more on how to control the pandemic and facilitate aviation operations. Our Region has been relentless in making the required collaborative efforts with other stakeholders, driven by compassion and solidarity, to recover from the pandemic and restore aviation activities; and I am happy to report that these efforts are yielding and continue to yield fruitful results.

The ASR is an annual publication, it is intended to be released and distributed during the AFI Aviation Week Events, which is an annual event organized by ICAO and generally hosted by an AFI Member State. However, with the outbreak of COVID-19 pandemic resulting in imposition of travel restrictions by many States and Organisations, the AFI Aviation Week Events for 2021 at which this Edition of the Report was released, was convened virtually. Comments and contributions from the general readership geared towards improving the quality of the report are welcome and appreciated.

Conclusions drawn and recommendations made in the Report are for the attention and appropriate action by relevant parties for timely implementation. Subsequent editions of the Report will provide information on the outcome of the assessment and the status of implementation of such recommendations; and any alternative course(s) of action that could be undertaken in addressing the outstanding issues.

An electronic copy of the RASG-AFI Annual Safety Report is also available in PDF format, on the ICAO Western and Central African Regional Office website: <http://www.icao.int/wacaf/Pages/default.aspx> and on the ICAO Eastern and Southern African Regional Office website: <http://www.icao.int/esaf/Pages/default.aspx>.



Captain Gilbert M. Kibe  
**Chairperson, RASG-AFI**  
Director General, Kenya CAA



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## Background

This Seventh Edition of the RASG-AFI Annual Safety Report provides safety information related to accidents and other safety occurrences in the RASG-AFI region. It also provides background on the establishment of the Regional Aviation Safety Group for Africa - Indian Ocean (RASG-AFI). This edition of the Report was posted onto relevant ICAO Websites in July 2021, after officially declared released at the AFI Aviation Week Events which was conducted virtually in July, 2021 due to the Corona Virus Disease (COVID-19) Pandemic.

RASG-AFI is the main driver behind the planning and implementation of Safety Enhancement Initiatives (SEIs) at the regional level. It is composed of States, regional entities and industry, among others. RASG-AFI builds on work already done by States, existing regional organizations such as the COSCAPs and RSOOs/RAIOs. It serves as regional cooperative forum integrating global, regional, national and industry efforts in enhancing aviation safety within the RASG-AFI Region and worldwide. It endeavours to eliminate duplication of efforts through the establishment of cooperative regional safety programmes. This coordinated approach significantly reduces both financial and human resource burdens on States while delivering measurable safety improvements.

The role of RASG-AFI within the GASP includes the following:

- a) supporting and monitoring progress towards the achievement of the GASP goals at the regional level;
- b) developing and implementing a regional aviation safety plan consistent with the GASP, and coordinating its implementation at the regional level;
- c) structuring its work in line with the GASP to address organizational challenges, operational safety risks, emerging safety issues, and safety performance management;
- d) identifying safety risks and issues of priority, and encouraging States to initiate action using the roadmap;
- e) coordinating and tracking regional Safety Enhancement Initiatives (SEIs) and GASP indicators;
- f) coordinate with APIRG on safety issues and provide feedback to ICAO to continually improve and ensure an up-to-date global safety framework;
- g) monitoring safety performance indicators (SPIs) from States and identifying where action is needed;
- h) providing technical assistance to States, for example by identifying subject matter experts, and conducting workshops and facilitating training;
- i) coordinate regional efforts and programmes related to the GASP, aimed at mitigating operational safety risks;



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- j) facilitate the development and implementation of safety risk mitigation action plans by States, taking into consideration States' level of effective implementation of the critical elements of safety oversight systems and progress being made to improve the level;
- k) facilitate the development and implementation of a regional aviation safety plan (RASP) and national aviation safety plans (NASPs) by States.

The RASG-AFI structure consists of a Chairperson, two (2) Vice-Chairpersons from States and one (1) Vice-Chairperson from the Aviation Industry, Steering Committee, Secretariat and four (4) Safety Support Teams.

All ICAO Contracting States and Territories recognized by ICAO within the area of accreditation of the ICAO Eastern and Southern African and Western and Central African Regional Offices, are entitled to participate as members in the RASG-AFI. A list of RASG-AFI Member States is provided at **Appendix 1**.

States located outside the areas of accreditation of the ICAO ESAF and WACAF Regional Offices can be invited on a case-by-case basis and in accordance with the Regional Office Manual to attend as observers.

The aircraft operators, international organizations, maintenance and repair organizations, regional and sub-regional organizations, training organizations, aircraft original equipment manufacturers, airport and air navigation service providers and any other allied organizations/representatives will be invited to attend the RASG-AFI meetings in the capacity of Partners (see **Appendix 2** for Permanent Partners).

State CAAs, supported by service providers as necessary, should participate in the work of the RASG-AFI and its contributory bodies to:

- ensure the continuous and coherent development and implementation of regional safety plans and report back on the key performance indicators (KPIs);
- support the regional work programme with participation from the decision-making authority with the technical expertise necessary for the planning and implementation mechanism, thus supporting policy decisions at the State level;
- support the implementation of effective safety management and collaborative decision-making processes to mitigate aviation safety risks, thus supporting policy decisions at the State level;
- contribute information on safety risk, including State Safety Programme (SSP) safety performance indicators (SPIs), in accordance with the GASP as part of their safety risk management activities;



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- ensure coordination, at the national level, between the CAA, service providers and all other concerned stakeholders, and harmonization of the national plans with the regional and global plans;
- facilitate the development and establishment of Letters of Agreement and bilateral or multilateral agreements;
- ensure the implementation of the GASP goals and targets; and
- embrace a performance-based approach for implementation as highlighted in the Global Plans.

A RASG-AFI Steering Committee (RASC) composed of representatives from States and international/regional organizations and industry is established to guide the work of the Group. It acts as an advisory body to the RASG-AFI membership and undertakes any actions required to ensure that the RASG-AFI achieves its objective to reduce aviation risks in the RASG-AFI Region. It is headed by three co-chairpersons (two from States and one from Industry, who are the Vice-Chairpersons of RASG-AFI). Its membership has been expanded to include the AFI Plan Steering Committee Chairperson, the Coordinator for the AFI Group at ICAO Council, and the various Safety Support Teams (SSTs) Champions. These SSTs which are headed by Champions who are members of the RASC, were established for the following priority areas namely: Significant Safety Concerns (SSCs), Fundamentals of Safety Oversight (FSO), Aircraft Accident Investigation (AIG) and Emerging Safety Issues (ESI). The term for the Chairperson, Vice-Chairpersons and Champions is two (2) years.

The following Safety Champions have been designated: SSC – Ghana, South Africa and AFCAC; FSO - Senegal and Uganda; AIG –Ethiopia, Cape Verde and IFALPA; and ESI – Kenya, ASECNA, and ACI.

The two ICAO Regional Directors for Eastern and Southern Africa (ESAF) and Western and Central Africa (WACAF) alternate in serving as Secretary to the RASG-AFI and APIRG to balance the Secretariat responsibilities between these two regional Groups.

At its Fifth Meeting held in Accra, Ghana, in July, 2019, RASG-AFI elected the following officials to the Bureau, who are entrusted with steering the affairs of the Group for two years ending at RASG-AFI/7 Meeting in 2021: Chairperson – Kenya; 1<sup>st</sup> Vice-Chairperson – Togo; 2<sup>nd</sup> Vice-Chairperson – Sierra Leone; 3<sup>rd</sup> Vice-Chairperson – IATA. The RASG-AFI Steering Committee is co-chaired by the 1<sup>st</sup> Vice-Chairperson and the 2<sup>nd</sup> Vice-Chairperson of the RASG-AFI and Boeing representing the Industry (see **Figure 1**).

A Joint APIRG-RASG/AFI Coordination Task Force, which was established by the RASG-AFI/3 Meeting, is a subsidiary body to APIRG and RASG-AFI intended to strengthen existing arrangements and responsible for coordinating the activities of the two Groups.

Membership of the APIRG/RASG-AFI Joint Coordination Task Force comprises:



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- a) Representatives from APIRG (Chairperson, First and Second Vice-Chairpersons of APIRG; Chairperson and Vice-Chairperson of the Airspace and Aerodrome Operators Sub-Group (AAO/SG); and Chairperson and Vice-Chairperson of the Infrastructure and Information Management Sub-Group (IIM/SG));
- b) Representatives from RASG-AFI (Chairperson and Vice-Chairpersons of RASG-AFI; and the Champions of the SSTs);
- c) Representative from AFCAC;
- d) Representatives from the Industry (ACI, CANSO, IATA, IFALPA, AFRAA, IFATCA, AIRBUS, BOEING, etc.);
- e) Representatives from ICAO recognized Regional Organisations (RSOOs, RAIOS, etc.).

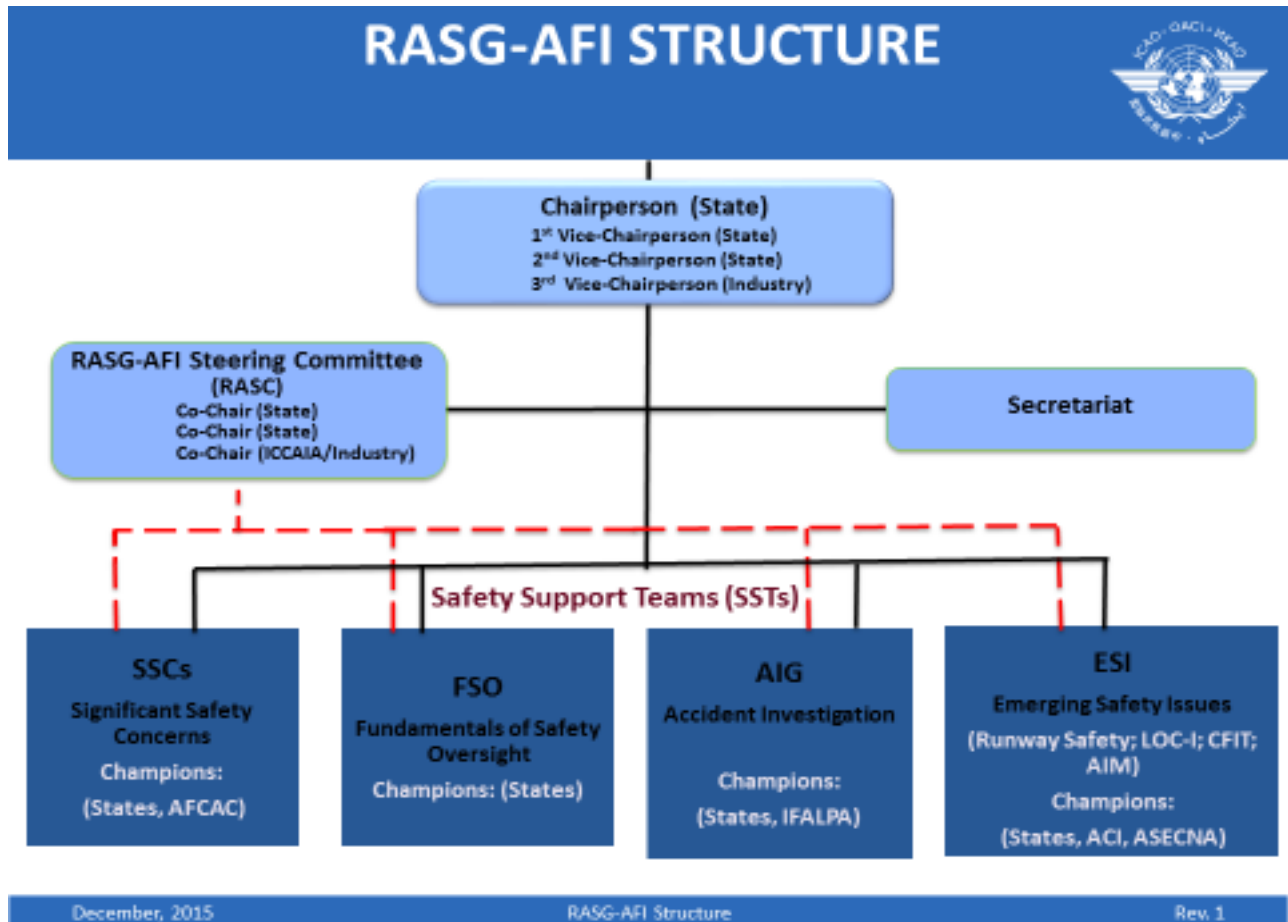
RASG-AFI has established an Annual Safety Report Team (ASRT) comprising RASG-AFI Partners, for the purpose of: gathering safety information from different available sources to determine the main safety risks in the RASG-AFI Region; generating an Annual Safety Report; making recommendations to the RASG-AFI for safety enhancement initiatives.

This Annual Safety Report has a consolidated vision of aviation safety using sources of information from regional stakeholders, and serves as a key component of RASG-AFI. To this end, RASG-AFI members are encouraged to share their safety data with the ASRT.





Figure 1: RASG-AFI Organisational Structure





## 1. Executive Summary

This Seventh Edition of the RASG-AFI Annual Safety Report presents safety information collected from ICAO, Boeing, ACI Africa, IATA, and other aviation partners, particularly information related to aviation occurrences in the RASG-AFI Region, generally within the period 2008 to 2020; and the analyses performed by the Annual Safety Report Team (ASRT). This edition of the ASR maintains some key elements from its previous edition, such as goals for States to improve their effective safety oversight capabilities and to progress in the implementation of State Safety Programmes (SSPs). Due to the impact of COVID-19, the RASG-AFI had to re-strategise its approach to achieve these goals by resorting to virtual activities through innovative means (using platforms such as, MS Teams, ZOOM, etc. to conduct webinars, meetings, workshops, etc.). The vision of the RASG-AFI is to achieve and maintain the aspirational safety goal of zero fatalities in commercial operations by 2030 and beyond, which is consistent with the United Nations' 2030 *Agenda for Sustainable Development*.

The Annual Safety Report includes the following three main sections:

1. Reactive safety information
2. Proactive safety information
3. Predictive safety information

The reactive safety information section represents the largest portion of the report. It contains analysis of accident data provided from the different sources in order to draw conclusions on areas that require much attention and make recommendations for resolving the safety deficiencies by means of mitigating and corrective measures.

The proactive safety information is based on the results of the ICAO USOAP-CMA Activities, IOSA, ISAGO as well as other occurrences (Incidents) reported by States or airlines in order to identify emerging risks in the Region. Due to COVID-19, eleven ICAO Universal Safety Oversight Audit Programme (USOAP) Continuous Monitoring Approach (CMA) Activities earlier scheduled for some RASG-AFI States in 2020 were postponed either at the request of the concerned States or suggestion of ICAO with the agreement of the State. Only Ethiopia received an ICVM in 2020 with an increase in the EI score from 73.2% to 89.89%. South Africa received an Off-Site validation activity with an increase in the EI score from 87.41% to 88.68%. The Gambia also received an Off-Site validation activity during the year under review however, no progress was noted. At the end of 2020, at the global level, there were 4 (4) unresolved SSCs in 8 States: Bhutan (ANS); Eritrea (OPS); Organisation of Eastern Caribbean States (OECS: Antigua and Barbuda, Grenada, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines) and Pakistan (PEL). Out of these SSCs, one (1) was in the area of aircraft operations (OPS), one (1) in Air Navigation Services (ANS) and six (6) in the area of Personnel Licensing (PEL); out of these 8 States, one (1) State (Eritrea) is in the RASG-AFI region. The same results indicated that lack of adequate and effective technical staff qualification and training represented the most significantly affected USOAP Critical Element (CE-4) in the Region. Furthermore, the technical areas showing lowest levels of EI were Air Navigation Services (ANS), Aerodromes and Ground Aids (AGA), and Accident and Incident Investigation (AIG). Therefore,

improvements in these areas continue to be amongst the priorities of the RASG-AFI Region.

The aim of the predictive safety information is to collect and analyse safety data to proactively identify safety concerns before accidents or incidents occur, to develop timely mitigation and prevention measures. This section provides analysis of the status of safety data management in the region, as well as the implementation status of State Safety Programme (SSP) and Safety Management System (SMS) in the RASG-AFI Region, by the States and industry respectively.

State Safety Programme (SSP) is a framework that allows the State safety oversight authority and aviation related service providers to interact more effectively in the resolution of safety concerns. Goal 3 of the GASP requires all States to implement an effective SSP by end of 2025, as appropriate to their aviation system complexity. By end of 2020, slight progress was registered in the implementation of SSP within the RASG-AFI Region: 13 States attained Level 3 and at various stages of attaining Level 4; 5 attained Level 2 and at various stages of attaining Level 3; and 5 attained Level 1 and at various stages of attaining Level 2. Only One State (Rwanda) attained Level 4. (see **Figure 14** and **Table 4**).

Analyses of available safety information on the RASG-AFI Region showed that the top high risk category of occurrence (HRC) to focus safety enhancements is related to Runway Safety (RS) – Runway Excursion (RE) and Runway Incursion (RI). Although no accidents related to CFIT was recorded from 2015 to 2020, there is still a need for concerted efforts by all aviation stakeholders to maintain this trend; and address runway safety related accidents, thereby drastically reducing the RASG-AFI accident rate to world average of 0.9 per million departures. The selection of types of occurrences which are deemed the regional high risk categories of occurrences, previously referred to as “regional safety priorities” is based on actual fatalities from past accidents, high fatality risk per accident or the number of accidents and serious incidents. The following HRCs, in no particular order, have been identified in this 7<sup>th</sup> Edition of the ASR:

- Runway Excursion (RE);
- Runway Incursion (RI);
- Loss of Control In-flight (LOC-I);
- Controlled Flight into Terrain (CFIT); and
- Mid-Air Collision (MAC)/ Aircraft Proximity (AIRPROX) Occurrences.

Aircraft accidents are categorized using the definition provided in Annex 13 to the Chicago Convention— Aircraft Accident and Incident Investigation.

RASG-AFI is committed to improving aviation safety and fostering cooperation and communication - sharing of safety critical information among the principal aviation safety stakeholders.

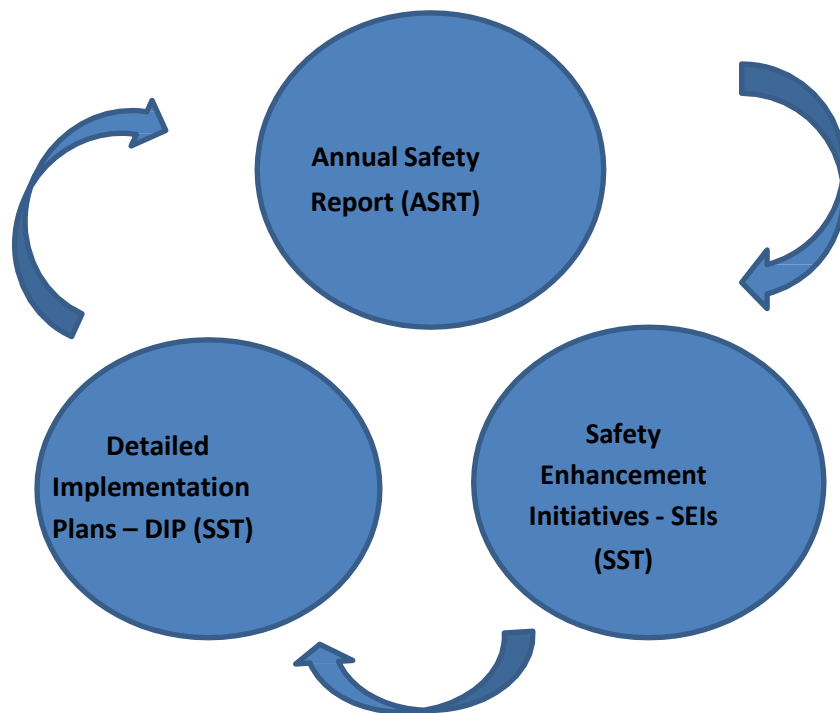


PLEASE NOTE:

- All accidents statistics sourced from ICAO (ICAO iSTARS) are based on the Country /State of occurrence in RASG-AFI.
- All accidents statistics sourced from IATA (IATA GADM) are based on the operator’s Country/State of Registry in RASG-AFI ;

The diagram below illustrates the framework to be used by RASG-AFI to identify and address safety risks in the Region.

**Figure 2: Framework for Identifying and Addressing Safety Risks**



## 2. Safety Information and Analysis

The following sections show the results of safety information analysis in terms of reactive, proactive and predictive safety information.

### 2.1 Reactive Safety Information

As a benchmark, in accordance with the revised Abuja safety targets, the African accident rate should be progressively reduced from 8.6 to 2.5 per million departures by the end of 2022, with focus on:

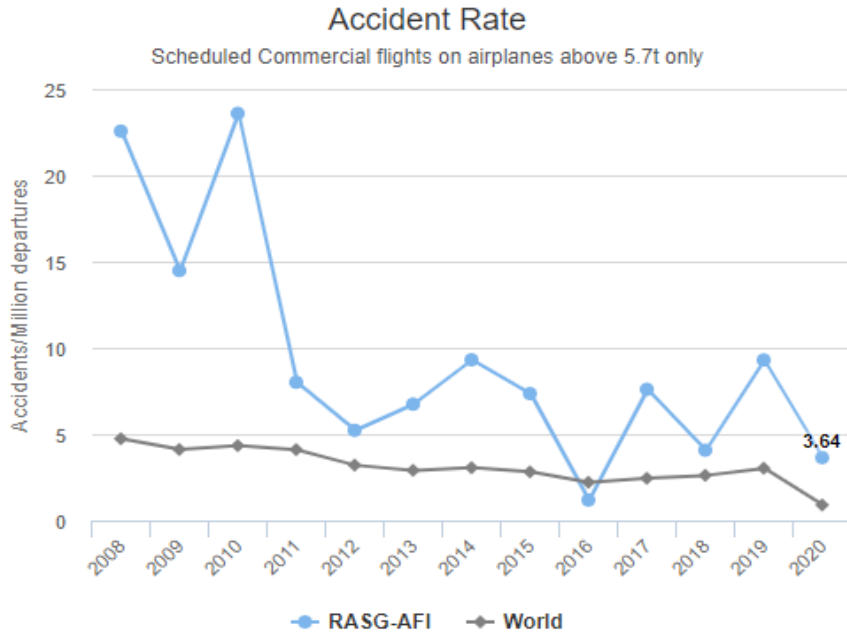
- accidents and serious incidents related to Runway Excursion (RE).
- accidents and serious incidents related to Runway Incursion (RI).
- controlled flight into terrain (CFIT) related accidents and serious incidents.
- Loss of Control In-flight (LOC-I) related accidents and serious incidents.
- Mid-Air Collision/Aircraft Proximity (AIRPROX) Occurrences

The RASG-AFI accident rate at the end of 2020 was 3.64 per million departures compared to the world rate of 0.9; runway related accidents and serious incidents (Excursions and Incursions) continue to record the highest accident rate as compared to the other HRCs. CFIT related Accidents and serious Incidents remain at a rate of 0 accident per million sectors from 2015 to 2020; and LOC-I related accidents and serious incidents had a rate of 0.80 per million sectors in 2017 and went up to 1.50 by end of 2019. However, there was Zero LOC-I accident rate in 2020. To be in line with the global accident rate and taking into account the traffic volume of RASG-AFI, the yearly accident rate for RASG-AFI should be between 0.42 and 5.14 if the ultimate target is to be met.

The Annual Safety Report Team (ASRT) retrieves safety data mainly from ICAO, AFCAC, BOEING, AIRBUS, ACI Africa, CANSO and IATA in order to analyze the available reactive safety information.

#### Figure 3: RASG-AFI Accident Rate

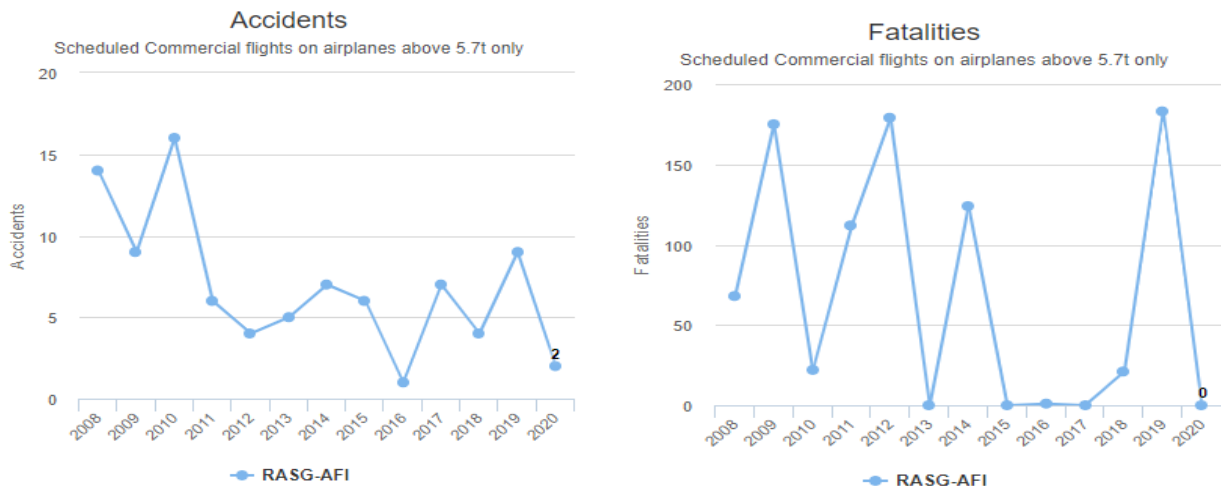
At the end of December 2020, the RASG-AFI Accident rate was 3.64 per million departures, as compared to the world rate of 0.9. This showed a downward trend for both RASG-AFI and the world (i.e. from 10.34 and 2.76 respectively, in 2019). However, this trend may be due to the drastic reduction in the volume of traffic during the period under review, due to the impact of COVID-19 pandemic.

**Figure 3: RASG-AFI Accident Rate**


Source: ICAO iSTARS

### 2.1.1 RASG-AFI Fatal Accident Rate

The revised Abuja Safety Targets include target on fatal accidents to reflect NCLB aspirational goal of zero fatal accidents in commercial scheduled flights by 2025. By end of 2020, records showed 2 accidents that occurred in the RASG-AFI region with zero fatality.

**Figure 4: Comparison of Number of Accidents and Fatalities in RASG-AFI for 2020**


Source: ICAO iSTARS

**Figure 5: Accidents and Fatalities by Risk Category**


Source: ICAO iSTARS

### 2.1.2 Regional Traffic Volume

The air transport sector flown in RASG-AFI Region has shown gradual growth from 2016 to 2020 (for both Jet and Turboprop aircraft). **Table 1** below further breaks down the volume into IATA, Non – IATA, IOSA and Non-IOSA, registered airlines in line with graphs on accident analysis.

The total traffic volume in RASG-AFI is just over half a million (0.6M) movements a year, with 49 per cent jets and 51 per cent turboprop.

This was close to a third of the 2019 volumes and it is worth noting that the traffic volume in RASG-AFI Region remains the lowest when compared with the other regions.

**Table 1: Regional Traffic Growth – Jet and Turboprop Aircraft in Commercial Operations.**
**Sector Count (Millions)**

	2016	2017	2018	2019	2020	<i>Total</i>
<b>Jet</b>	<b>0.56</b>	<b>0.58</b>	<b>0.68</b>	<b>0.70</b>	<b>0.30</b>	<b>2.81</b>
Jet (IATA)	0.39	0.44	0.50	0.52	0.23	<b>2.08</b>
Jet (IOSA)	0.42	0.44	0.51	0.53	0.24	<b>2.14</b>
Jet (Non-IATA)	0.17	0.14	0.17	0.18	0.08	<b>0.73</b>
Jet (Non-IOSA)	0.14	0.13	0.17	0.17	0.06	<b>0.68</b>
<b>Turboprop</b>	<b>0.63</b>	<b>0.65</b>	<b>0.74</b>	<b>0.76</b>	<b>0.31</b>	<b>3.08</b>
Turboprop (IATA)	0.12	0.16	0.18	0.18	0.08	<b>0.72</b>
Turboprop (IOSA)	0.16	0.16	0.18	0.18	0.10	<b>0.78</b>
Turboprop (Non-IATA)	0.51	0.49	0.56	0.58	0.23	<b>2.36</b>
Turboprop (Non-IOSA)	0.47	0.49	0.56	0.58	0.21	<b>2.30</b>
<b>Total AFI</b>	<b>1.19</b>	<b>1.23</b>	<b>1.41</b>	<b>1.46</b>	<b>0.61</b>	<b>5.90</b>
Total AFI (IATA)	0.51	0.60	0.68	0.71	0.31	<b>2.81</b>
	0.58	0.61	0.68	0.71	0.34	<b>2.92</b>
	0.68	0.63	0.73	0.76	0.30	<b>3.09</b>
	0.61	0.62	0.73	0.75	0.27	<b>2.98</b>

Source: IATA GADM

### 2.1.3 The World and Regional Air Traffic Volume and Accident Data for 2020

**Table 2** below compares the air traffic volume, number of accidents, accident rates, and fatalities by the world and sub-regions for 2020. The accident rate in the RASG-AFI Region has decreased from 10.34 per million departures in 2019 to 3.64 in 2020 and the number of accidents from ten (10) in 2019 to two (2) in 2020. The accident rate in the RASG-AFI Region was still the highest as compared to the other sub-regions; one factor to this comparably high rate was due to the low number of air traffic departures/volume (549 thousand departures) as compared to the other regions (which registered millions of departures).



**Table 2: The World and Regional Air Traffic Volume and Accident Data for 2020**

Sub-Region	Departures	Number of Accidents	Accident Rate (per million departures)	Number of Fatalities
RASG-AFI	549K	2	3.64	0
RASG-APAC	8.2 M	6	0.73	118
RASG-EUR	4.2 M	5	1.19	3
RASG-MID	711.4K	1	1.41	0
RASG-PA	8 M	6	0.75	0
World	22.1M	20	0.9	121

Source: ICAO iSTARS

### 2.1.4 Analysis of RASG-AFI Region Accidents between 2008 & 2020

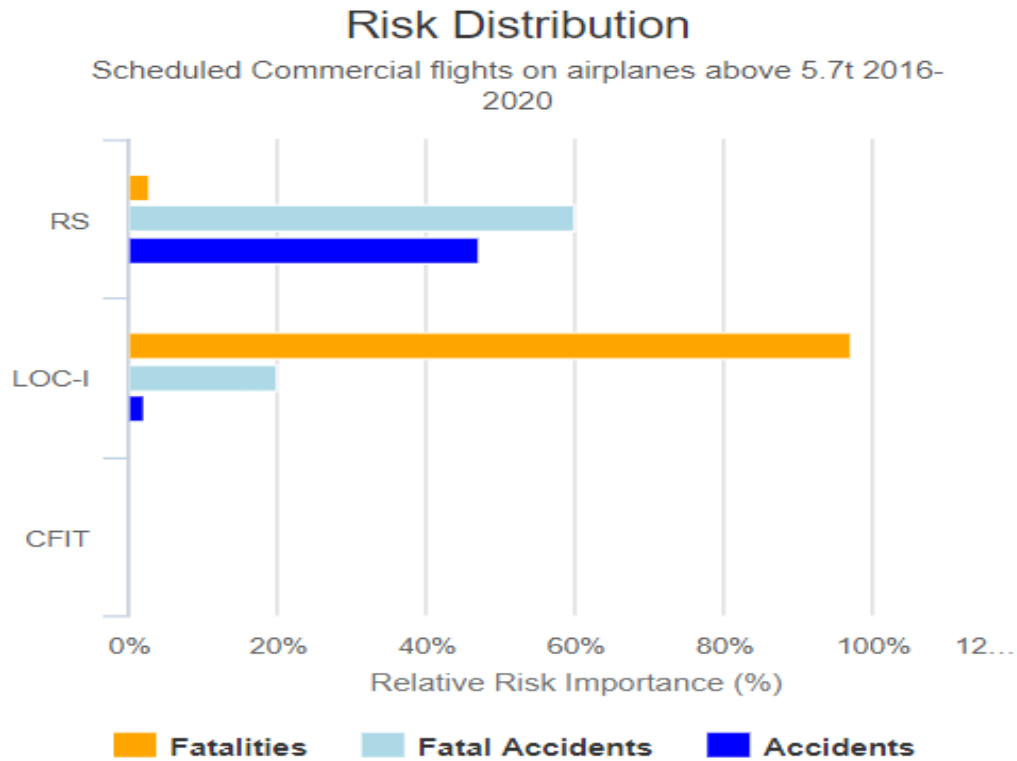
Based on the analysis of accident data covering the period 2008–2020, ICAO identified five high-risk categories (HRC) of accident occurrences:

- Runway Excursion (RE);
- Runway Incursion (RI);
- Loss of Control In-flight (LOC-I);
- Controlled Flight into Terrain (CFIT);
- Mid-Air Collision/Aircraft Proximity (AIRPROX) Occurrences.

As indicated in **Figure 6**, three out of the five categories (RE, RI, LOC-I) represented about 49 per cent of the total number of accidents, 80 per cent of fatal accidents and 100 per cent of all fatalities between 2016 and 2020 for aircraft with maximum mass of over 5700kg engaged in scheduled commercial flights.

The Figure shows that in these high-risk categories, 47 per cent of those accidents were related to Runway Excursion (RE) and Incursion (RI), and the highest number of fatalities were related to Loss of Control In-flight accidents (LOC-I). This is due to the high energy involved in such accidents. No CFIT related accidents and fatalities were reported during the period 2016 – 2020.

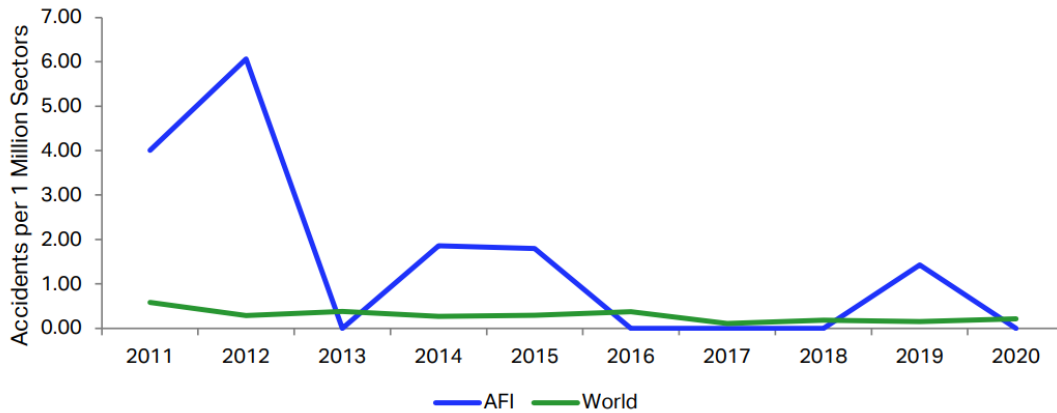
**Figure 6: Accidents and Fatalities by Risk Category for the period 2016 – 2020**



*Source: ICAO iSTARS*

**Figure 6a: Jet Damage Type (Hull Loss) RASG AFI vs World (2011- 2020)**

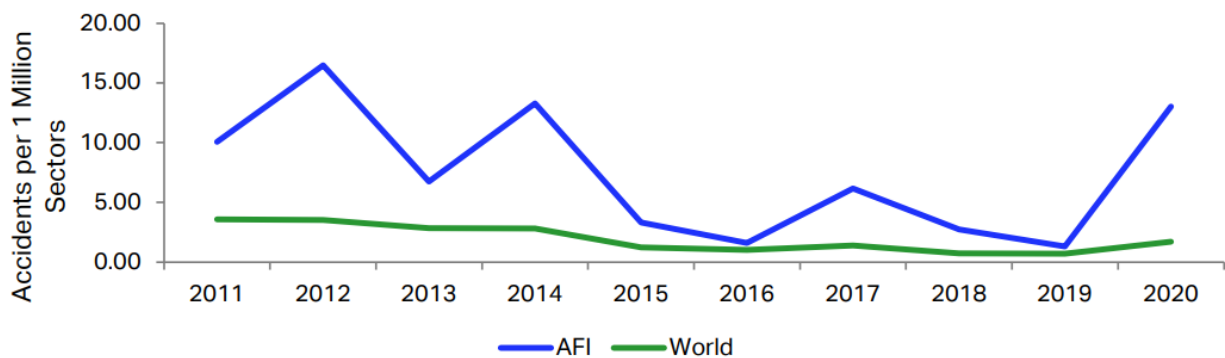
The graph below shows the accident rate according to the Jet damage type (hull loss) for RASG-AFI versus the world for the period 2011- 2020.

**Jet**


Source: IATA GADM

**Figure 6b: Turboprop Damage Type (Hull Loss) RASG-AFI vs World (2011-2020)**

The graph below shows the accident rate according to the Turboprop damage type (hull loss) for RASG-AFI versus the world for the period 2011 - 2020.

**Turboprop**


Source: IATA GADM

Figure 7: RASG-AFI Region High-Risk Accident Trend (2011– 2020)

Figure 7a: Runway Safety Related Accidents (Jet & Turboprop, 2011 – 2020)

Runway / Taxiway Excursion Yearly Rate

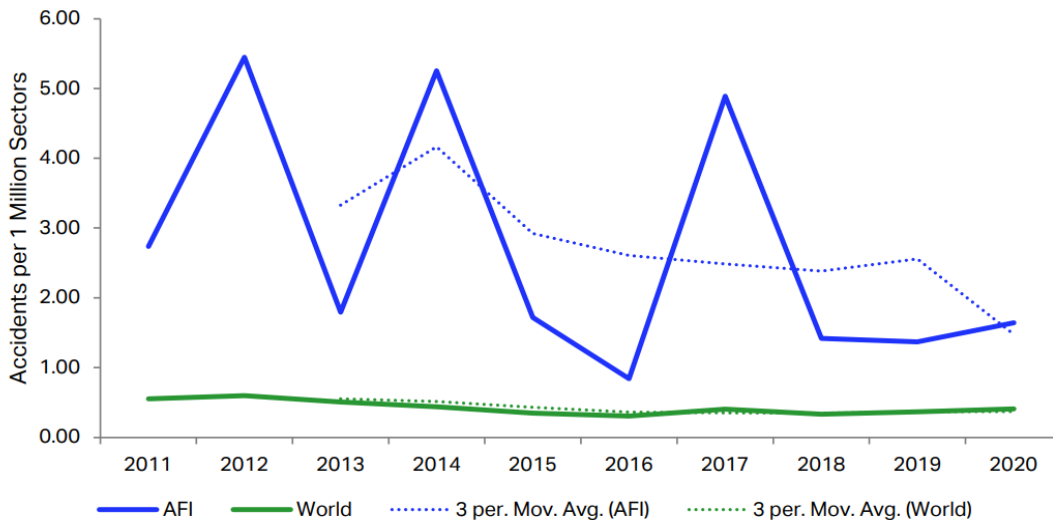
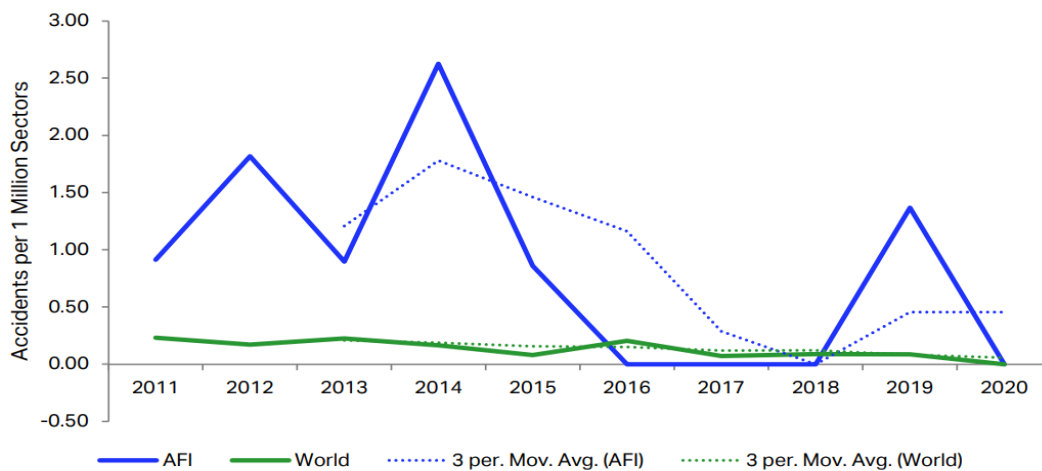
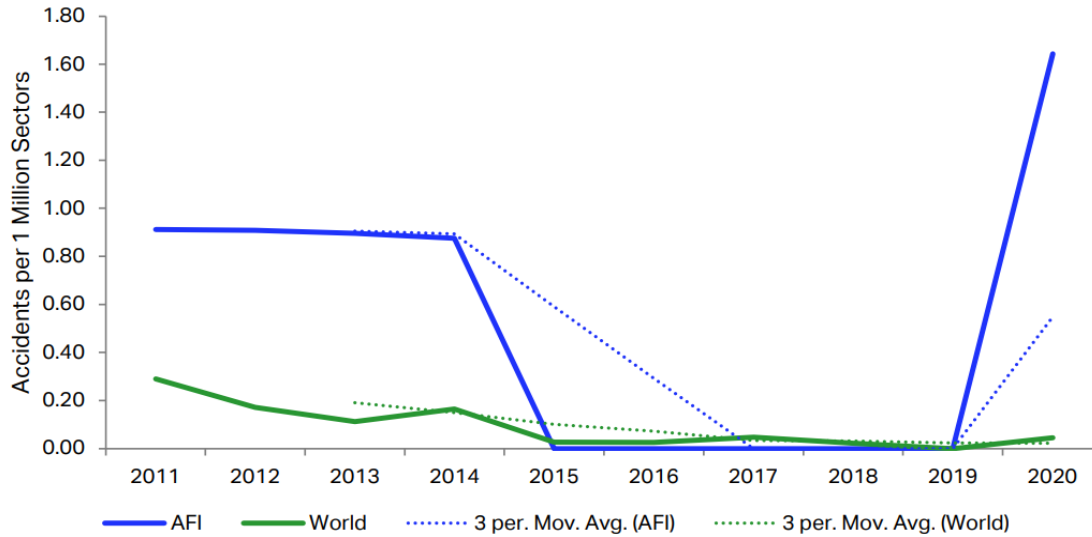


Figure 7b: LOC-I Accidents (Jet & Turboprop, 2011 – 2020)

Loss of Control In-flight Yearly Rate



Source: IATA GADM

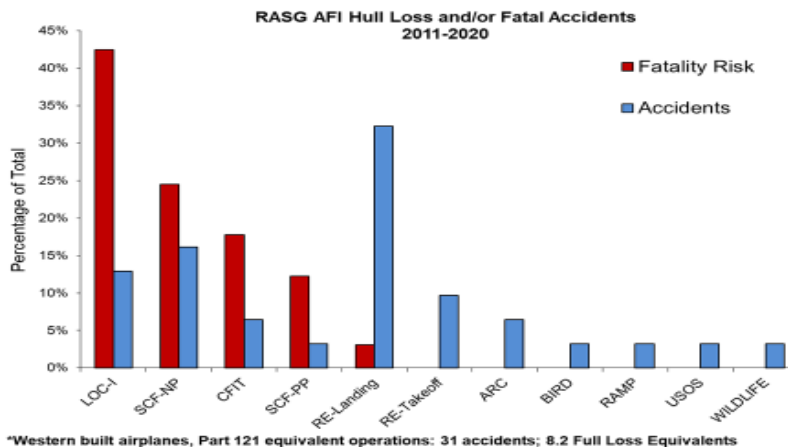
**Figure 7c: CFIT Accidents (Jet & Turboprop, 2011 – 2020)**
**Controlled Flight Into Terrain (CFIT) Yearly Rate**


Source: IATA GADM

**Figure 8: AFI Hull Loss and/or Fatality Risk for the period 2011 - 2020**

The graph below depicts the distribution of fatality risk and hull loss type accidents by CICTT accident category for the last 10 years, pertaining to AFI operator domiciled countries.

Loss of Control In-flight (LOC-I), System Component Failure – Non-Powerplant (SCF-NP) and Controlled Flight Into Terrain (CFIT) are the leading accident types in fatality risk, while Runway Excursions on Landing (RE-Landing) are the leading cause for hull losses.



Source: Boeing

### 2.1.5 Progress on implementation of the Abuja Safety Targets (AST), incorporating AFI Air Navigation Services Performance Indicators (ANS PIs) – 2020.

Following the adoption of the Abuja Safety Targets by the African Ministers responsible for civil aviation at a Ministerial Conference on Aviation Safety in Africa, from 16 to 20 July, 2012 at Abuja, Nigeria, through a Declaration; and the subsequent incorporation of Air Navigation Services Performance Indicators in December 2017, the African Civil Aviation Commission (AFCAC) was tasked to monitor implementation of the Abuja Safety Targets.

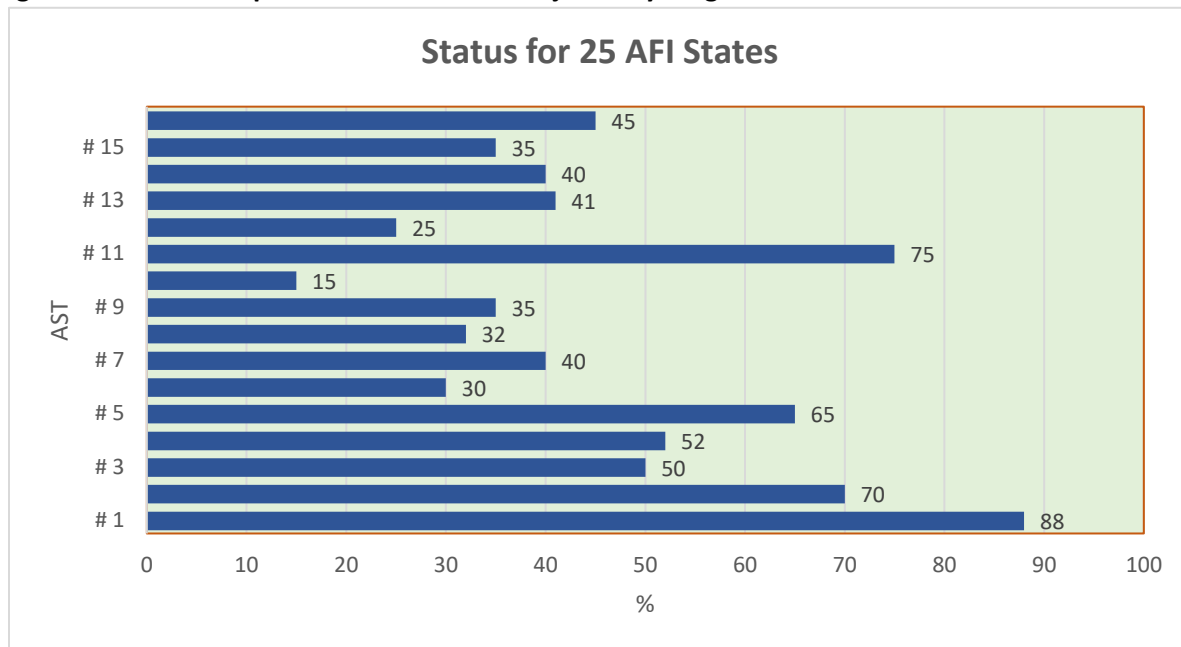
Consistent with the decisions of the AFI Plan Steering Committee meeting held at the AFI Aviation Week of 16-20 July 2018 (Niamey, Niger), AFCAC collected and analyzed data from available sources such as IATA and ICAO Safety and ANS databases in order to come up with the Abuja Safety Targets status report for year 2020.

The analysis was based on the baseline of submissions by twenty-five (25) AFCAC member States that had responded and it is summarized in **Table 3 below**.

#### 2.1.5.1 Highlights on Status of Implementation

The report on the status of implementation of the Abuja Safety Targets for 2020 was compiled using baseline information provided by twenty-five (25) member States in 2019 and supplementary data from IATA and ICAO iSTARS resulting in the observations (see **Figure 9 below**).

**Figure 9: Status of implementation of the Abuja Safety Targets for 2020.**



The average for twenty-five (25) States that responded was **47%** implementation of the **Abuja Safety Targets**, and this was below the 2020 target of 60%;

- The least score was AST # 10 “States to implement the transition from AIS to AIM” with 15% average level of implementation;
- African States average EI as of December 2020 was **57.18%** while 2019 EI status was **55.76%**. This positive movement was a marginal increase of 1.42%.

Further analysis of the 2020 performance resulted in the following observations:

- There were significant information gaps due to lack of automated safety information gathering tools. A significant number of States did not provide the information requested;
- There was limited progress in the implementation of air navigation related ASTs. For example:
  - AST # 14 – on implementation of ASBU B0 Modules – average 40%;
  - AST # 13 - establishment of seamless Air Navigation Services in the AFI Region – average 41%;
  - AST # 10 - Implement the transition from AIS to AIM – average 15%;
  - AST # 11 – States to implement PBN procedures for all instrument runways – average 75%.

**Table 3: Revised Abuja Safety Targets incorporating AFI Air Navigation Services Performance Indicators (ANS PIs); and their status of their implementation for all 48 RASG-AFI States.**

Revised Abuja Safety Target	Assessments	Status of Implementation
1. Progressively reduce the African accident rate from 8.6 to 2.5 per million departures by the end of 2022, with focus on: <ul style="list-style-type: none"> <li>▪ runway related accidents and serious incidents (Runway Excursion, RE).</li> <li>▪ controlled flight into terrain (CFIT) related accidents and serious incidents.</li> <li>▪ Loss of Control In-flight (LOC-I) related accidents and serious incidents.</li> <li>▪ Achieve and maintain zero fatalities in aircraft accidents.</li> </ul>	The accident rate decreased from 10.34 in 2019 to 3.64 in 2020. <i>(Source:- ICAO iSTARs)</i> <ul style="list-style-type: none"> <li>▪ runway related accidents and serious incidents (Runway Excursion, RE) continue to record a higher rate than the other HRCs.</li> <li>▪ CFIT related Accidents and serious Incidents rate remained at Zero from 2015 to 2020.</li> <li>▪ LOC-I related accidents and serious incidents had Zero rate in 2020. However, this may be due to the adverse reduction in traffic volume as impact of COVID-19.</li> </ul> <i>(Source: IATA)</i> <ul style="list-style-type: none"> <li>▪ Number of fatalities decreased from <b>183</b> in 2019 to <b>Zero</b> in 2020  <i>(Source: ICAO iSTARs)</i></li> </ul>	Although there was an overall decrease in accident rate and fatalities in 2020 compared to the same period in 2019, this may be attributed to the drastic reduction in the volume of traffic due to the impact of COVID-19 pandemic. Notwithstanding, more efforts need to be put in place to continue to maintain a downward trend if the target for 2022 is to be achieved.

Revised Abuja Safety Target	Assessments	Status of Implementation
<p>2. All States establish and strengthen autonomous Civil Aviation Authorities with independent regulatory oversight, sustainable sources of funding and resources to carry out effective safety oversight and regulation of the aviation industry by 2022.</p> <ul style="list-style-type: none"> <li>▪ States that need support in areas with safety margins below zero, to use a regional safety oversight organization's or another State's ICAO-recognized functions by 2020.</li> <li>▪ States effectively exercise the safety oversight functions with a positive safety margin in all areas by 2022.</li> </ul> <p>States to delegate certain safety oversight functions to RSOOs or other States, by the end of 2022 in areas with safety margins below zero, and as appropriate.</p>	<p>At least the 28 States that have attained the 60 per cent EI Target, amongst the 46 audited RASG-AFI States, are effectively autonomous.</p>	<p>Comprehensive data on status of CAAs not available.</p>
<p>3. States resolve:</p> <ul style="list-style-type: none"> <li>▪ Existing SSCs by June 2018;</li> <li>▪ Newly identified SSCs within 6 months from the date of its official publication by ICAO.</li> </ul>	<p>Statistics from 2012 to 2020:</p> <ul style="list-style-type: none"> <li>▪ 22 SSCs found in 15 States;</li> <li>▪ 21 resolved in 14 States.</li> <li>▪ 1 SSC still exist in one State.</li> <li>▪ SSC exceeded 12-month deadline</li> </ul>	<p><b>Target not met</b></p>
<p>4. States abide by the timelines and provide resources for implementation of ICAO/State Plans of Action</p> <ul style="list-style-type: none"> <li>▪ All States to have accepted ICAO Plans of Action by 2019 and</li> <li>▪ abide by the timelines and provide resources for their implementation.</li> </ul>	<p>37 States have accepted ICAO Plans of Action and are at different stages of implementation (Source: AFI Plan)</p>	<p>Data collected was insufficient to determine level of implementation of the ICAO/ State Plans of Action.</p>
<p>5. States progressively increase the Effective Implementation (EI) percentage under the ICAO USOAP such that States with:</p> <ul style="list-style-type: none"> <li>▪ EI &lt; 60% attain 60% by 2020;</li> <li>▪ 60% ≤ EI ≤ 70% attain 80% by 2022;</li> <li>▪ 70% &lt; EI attain 95% by 2028.</li> </ul>	<p>By December 2020, only 59.62% of the AFI member States had reached the target of 60% EI and the group of States has an average EI of 57.18%. <b>This is 1.49% increase compared to 2019.</b></p>	<p><b>Target not met</b> (EI &lt; 60% attain 60 per cent by 2020).</p> <p>Number of AFI States with EI of 60 per cent and greater has increased significantly from 15 in 2014 to 32 by December 2020.</p>



Revised Abuja Safety Target	Assessments	Status of Implementation
		The efforts of ICAO and AFCAC should be intensified to accelerate the implementation of the CAPs.
<p>6. For the purposes of SSP/SMS Implementation, all States:</p> <ul style="list-style-type: none"> <li>▪ to have a Foundation SSP established, addressing all pre-requisites;</li> <li>▪ to have an Effective SSP with appropriate maturity level established;</li> <li>▪ to contribute information on safety risks, including SSP SPIs, to the RASG-AFI;</li> <li>▪ with a positive safety margin, and an Effective SSP, to actively engage in RASG-AFI safety risk management activities (analysis of safety risks, design and implementation of risk mitigation actions).</li> </ul> <p>All Service Providers to use globally harmonized SPIs as part of their SMS.</p>	<ul style="list-style-type: none"> <li>▪ By December 2020, at least 24 RASG-AFI States initiated SSP implementation with One State (Rwanda) attaining Level 4. None of the States contributed information on safety risks to RASG-AFI.</li> </ul> <p><i>(Source: ICAO iSTARS)</i></p>	<p><b>Target not met</b></p> <p>Goal 3.1 of the 2020 – 2022 Edition of the GASP requires all States to implement the foundation of an SSP by 2022. Therefore, the ICAO Regional Offices (ESAF/WACAF) had incorporated SSP Implementation Assistance to States in their work programme, which includes review of the SSP Foundation Protocol Questions (PQs). The AFI Plan Project on SSP Implementation by States should be broadened to include all RASG-AFI States and not just States with 60% EI and greater.</p>
<p>7. All International Aerodromes to be certified by 2022,</p> <ul style="list-style-type: none"> <li>• At least one international aerodrome in every State to be certified by end of 2020;</li> <li>• All airport operators to participate in the ICAO-recognized industry assessment programme for airports (APEX) by end of 2022;</li> <li>• At least one international aerodrome in every State to establish a Runway Safety Team (RST) by end of 2020.</li> </ul>	<p>As at 31 December 2020, 41 International Aerodromes were certified out of 129 within RASG-AFI States (31.78 per cent).</p> <p><i>(Source: ICAO)</i></p> <ul style="list-style-type: none"> <li>• 24 out of 48 RASG-AFI States certified at least one international aerodrome.</li> <li>• 47 airports out of 175 received an APEX review</li> <li>• 42 aerodrome out of 175 established RSTs.</li> </ul>	<p><b>Target not met</b> (At least one international aerodrome in every State to be certified by end of 2020).</p> <p>From the responses to the questionnaire, aerodrome certification is still a serious challenge for AFI States. However, almost all AFI States indicated that the process of certification of international aerodromes is in progress.</p>

Revised Abuja Safety Target	Assessments	Status of Implementation
<p>8. Require all African airlines to obtain an IATA Operational Safety Audit (IOSA) certification:</p> <ul style="list-style-type: none"> <li>All States to establish an appropriate framework for recognition of IATA operational safety audit (IOSA) and IATA Standard Safety Assessment (ISSA) as effective safety mechanisms; All African airlines to obtain IOSA or ISSA certification, as appropriate, by the end of 2022.</li> </ul>	<p>From a total of 20 airlines on the IOSA Registry in 2012 there were 34 airlines on the Registry by end of December 2020.</p> <p>One new airline in ESAF (first ever in the Region) was also added to the ISSA Registry by December 2020. By end of 2020 only five (5) RASG-AFI States: Mozambique, Nigeria, Rwanda, Togo and Zimbabwe had established some form of legal instrument that recognizes IOSA. One (1) additional State in ESAF close to finalizing.</p> <p><i>(Source: IATA)</i></p>	<p>Interventions through AfDB Project Implementation Agreement (PIA) for SAATM member States will assist some airlines to meet the target. There is a need for distinction between the establishment of an appropriate framework by States for recognition of IATA operational safety audit (IOSA) and IATA Standard Safety Assessment (ISSA) as effective safety mechanisms, and IOSA registration.</p>
Air Navigation (ANS) Target	Status of Implementation	Recommendations
<p>9. All States to establish an effective and operational SAR organization:</p> <ul style="list-style-type: none"> <li>Development of a National SAR Plan by end of 2018;</li> <li>Conclusion of SAR Agreements/ MoUs with all neighboring States by end of 2018;</li> <li>Organisation of multi-agency, multi-State and combined Regional SAR exercises to test SAR systems in place involving as many SAR units as practicable by end of 2019.</li> </ul>	<ul style="list-style-type: none"> <li>Based on data collected as part of AFI Plan project, 25 SAR agreements have been signed between States and 35 new Draft agreements have been developed to either supersede old agreements or formalised cooperation where this has been lacking.</li> <li>Eight (8) States have developed National SAR Plans and two (2) States have draft National SAR Plans in place.</li> </ul> <p><i>(Source: ICAO)</i></p>	<p><b>Target not met.</b></p> <p>States are progressively developing SAR Plans, though at a slow pace.</p>
<p>10. All States to implement the transition from AIS to AIM:</p> <ul style="list-style-type: none"> <li>Development of a National Action Plan By end of 2018;</li> <li>Implementation of the National Action Plan in accordance with the</li> </ul>	<ul style="list-style-type: none"> <li>36 per cent of States have fully completed Phase 1 Consolidation;</li> <li>44 per cent have partially accomplished Phase 2 Going Digital.</li> </ul>	<p><b>No comprehensive data available.</b></p> <ul style="list-style-type: none"> <li>There is need to establish and promote sufficient data collection tools;</li> <li>Effective coordination among key stakeholders and appropriate</li> </ul>

Revised Abuja Safety Target	Assessments	Status of Implementation
ASBU Block 0 D-ATM by end of 2020.	<i>(Source: ICAO)</i>	regional master plans/ interventions are required to ensure effective implementation of this target.
Air Navigation (ANS) Target	Status of Implementation	Recommendations
11. All States to implement PBN procedures for all instrument runways. <ul style="list-style-type: none"> <li>• 75% of Instrument Runways to have PBN procedures by end of 2020;</li> <li>• 100% of Instrument Runways to have PBN Procedures by end of 2025.</li> </ul>	Available information indicated that 33 out of 48 RASG-AFI States attained target of 100 per cent PBN implementation, representing 68.75 per cent.  <i>(Source – ICAO ISTARs)</i>	Although group average is high, a number of States have not initiated PBN procedures for their instrument runways. There is need for effective coordination among key stakeholders and appropriate regional interventions are required to ensure effective implementation of this target.
12. All States to progressively reduce the rate of aircraft proximity (AIRPROX) occurrences in their managed airspaces by at least 50% annually from Dec. 2017 baseline, in order to attain and maintain a level of zero (0) Airprox by correspondingly reducing errors in the following contributive factors: <ul style="list-style-type: none"> <li>• Co-ordination between ATS Units (50%);</li> <li>• Airspace Organization and ATC Procedures (50%);</li> <li>• Mobile Communications (50%)</li> <li>• Poor Crew Discipline on board aircraft (50%)</li> </ul>	No comprehensive data to establish level of implementation.	<b>Target: 2023</b>  So far, no comprehensive data available.  There is need to establish and promote sufficient data collection tools.
Air Navigation (ANS) Target	Status of Implementation	Recommendations
13. Establishment of seamless Air Navigation Services in the AFI Region: <p>a) All States to ensure provision of harmonized Air Navigation Services in terms of flight separation, interoperability of CNS/ATM systems to reduce airspace complexity and achieve</p>	Activities towards integration of the AFI Region towards seamless ANSPs is anticipated through RECs. AFCAC established the ANSPs Platform which will discuss among other things establishment of a seamless air navigation services in the AFI Region.	<b>Target: 2024</b>  There is need for appropriate regional master plans/ interventions to ensure effective implementation of this target.

Revised Abuja Safety Target	Assessments	Status of Implementation
seamless operations along major air traffic flows. b) Various initiatives formulated by the Regional Economic Communities (RECs) and ANSPs within the AFI Region to be harmonized.		
14. All States to implement ASBU B0 Modules: <ul style="list-style-type: none"> <li>All States to develop National ASBU Plan by end of 2018.</li> </ul>	IATA ASBU Tracker indicate that: <ul style="list-style-type: none"> <li>Total percentage of RNAV GNSS APRCH was 63 per cent for ESAF and 79 per cent for WACAF;</li> <li>Total percentage of RNAV SID was 40 per cent for ESAF and 20 per cent for WACAF;</li> <li>Total percentage of RNAV STAR was 40 per cent ESAF and WACAF 46 per cent.</li> </ul> <p style="text-align: center;"><i>(Source - ICAO/ IATA)</i></p>	<b>Target not met</b> Comprehensive information on current Status of ASBU implementation in AFI Region was not available. <ul style="list-style-type: none"> <li>There is need to establish and promote sufficient data collection tools;</li> <li>There is need for appropriate regional master plans/ interventions to ensure effective implementation of this target.</li> </ul>
15. All States to develop and implement a National Plan for the reduction of CO <sub>2</sub> emissions due to international civil aviation: <ul style="list-style-type: none"> <li>develop a National Plan for CO<sub>2</sub> reduction by end of 2020;</li> <li>full implementation of the National Plan by 2022.</li> </ul>	25 States in AFI Region have developed and submitted to ICAO, National Plans for the reduction of CO <sub>2</sub> emissions.  10 States are receiving assistance under Phase II of the ICAO assistance project, funded by the European Union (EU), on Capacity Building for the Mitigation of CO <sub>2</sub> Emissions from International Aviation.  <p style="text-align: center;"><i>(Source – ICAO)</i></p>	States need to be encouraged to develop or update their Action Plans using the guidance in the ICAO Doc 9988.
16. All States ensure that their ANSPs effectively participate in the African ANSP Peer Review Programme by: <ul style="list-style-type: none"> <li>Joining the programme and having in place, an annual Peer Review plan of activities.</li> <li>Develop and implement appropriate corrective action plans to satisfactorily address Peer Review recommendations.</li> </ul>	Membership has continued to grow with current participation including: CANSO members (all 17 ASECNA member States, South Africa, 3 Robert FIR States, Uganda, Mozambique, Zambia, Algeria etc).  <p style="text-align: center;"><i>(Source – ICAO)</i></p>	More States need to be encouraged to join the ANSP Peer Review Programme in order to meet the 2022 target.

## 2.2 Proactive Safety Information

### 2.2.1 ICAO Universal Safety Oversight Audit Programme (USOAP) in RASG-AFI region

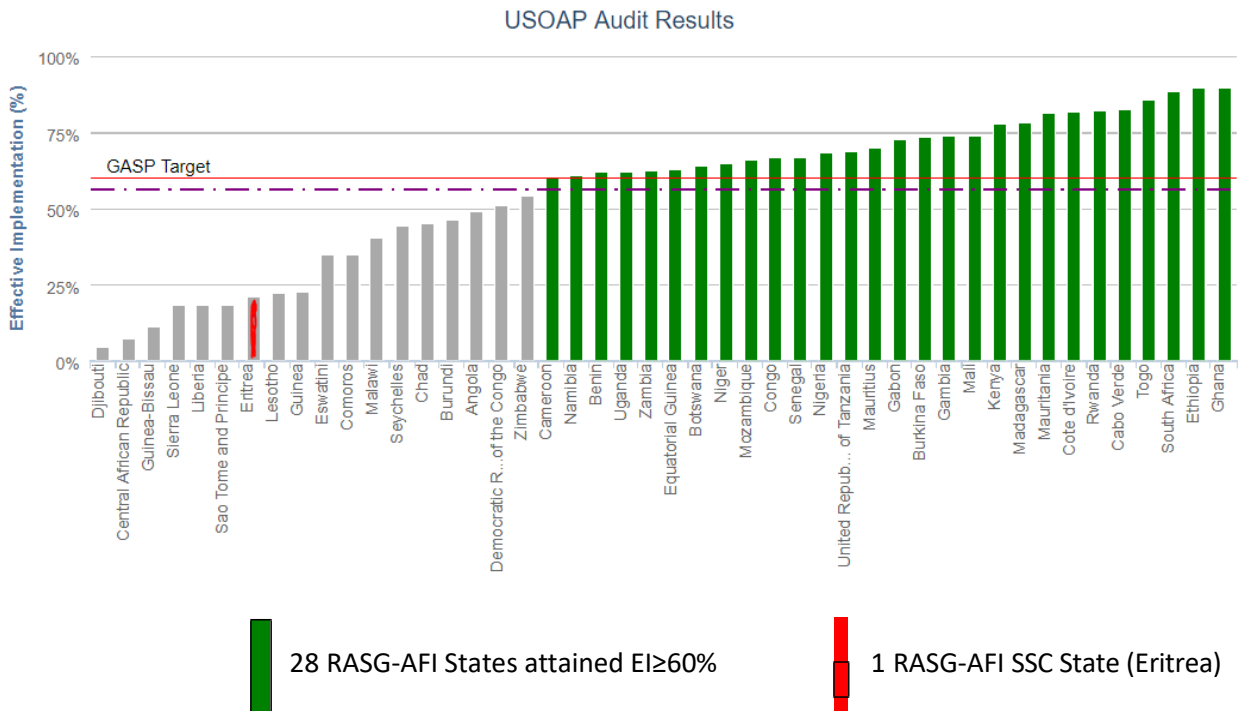
The ICAO Universal Safety Oversight Audit Programme (USOAP) Continuous Monitoring Approach (CMA) provides metrics to assess and monitor States' achievement of the objectives set out in the Global Aviation Safety Plan (GASP). The USOAP-CMA assesses the level of States' safety oversight (SSO) in eight audit areas comprising primary aviation legislation and civil aviation regulations (LEG), civil aviation organization (ORG), personnel licensing (PEL), aircraft operations (OPS), airworthiness of aircraft (AIR), aircraft accident and incident investigation (AIG), air navigation services (ANS) and aerodromes (AGA). The audit areas are categorized under eight critical elements (CEs) of an SSO system (CE-1: Primary aviation legislation ; CE-2: Specific operating regulations ; CE-3: State civil aviation system and safety oversight functions; CE-4: Technical personnel qualification and training ; CE-5: Technical guidance, tools and provision of safety-critical information ; CE-6: Licensing, certification, authorization and approval obligations ; CE-7: Surveillance obligations ; CE-8: Resolution of Safety Issues). These eight categories address the entire spectrum of a State's civil aviation oversight activities; and the level of effective implementation from the USOAP CMA audits and subsequent validation activities serve as an indication of a State's capability for safety oversight. Under the Universal Safety Oversight Audit Programme (USOAP) Continuous Monitoring Approach (CMA), ICAO utilizes sets of Protocol Questions (PQs) as the main tool during the conduct of activities for the assessment of the State's safety oversight capability. These PQs are reviewed regularly for their relevance; which includes comments from auditors, States and other stakeholders. Such a review was conducted in December 2020, resulting in a reduction of the total number of PQs from 943 in 2017 to 790 (LEG: 23; ORG: 13; PEL: 93; OPS: 126; AIR: 186; AIG: 84; ANS: 122; AGA: 143).

#### 2.2.1.1 ICAO USOAP CMA overall results

The RASG-AFI Member States (to which the ICAO ESAF and WACAF Regional Offices are accredited) have achieved an overall Effective Implementation level of 56.93 per cent in 2020 (results of 46 out of 48 audited States), corresponding to an increase of 1.21 percentage points on the level of Effective Implementation compared to 2019 (55.72 per cent), which is still below the world average of 68.68%. Two States (Somalia and South Sudan) were yet to receive a USOAP CMA Activity.

#### Figure 10: USOAP CMA Results of RASG-AFI States – EI at the end of 2020.

The number of the RASG-AFI States that have achieved the Abuja Safety Target of 60 per cent EI remained 28 at the end of 2020, as was for 2019. Due to COVID-19 pandemic, most of the USOAP CMA Activities scheduled for RASG-AFI States in 2020 had to be either cancelled or postponed. Only one Significant Safety Concern (SSC) in the area of aircraft operations (OPS) in one State (Eritrea) remained unresolved and efforts are being made to address it as soon as possible.

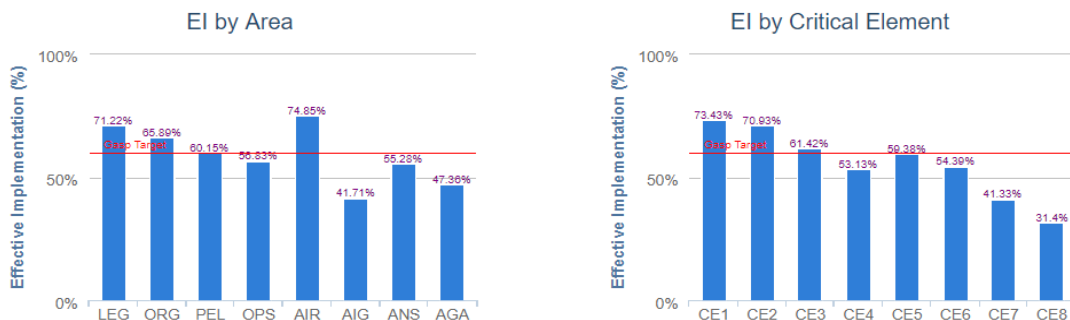


**Figure 10a: ICAO USOAP CMA results by Audit Area and Critical Elements**

The USOAP-CMA results for RASG-AFI States in 2020 indicated not much change from those of 2019, as a result of cancellation or postponement of USOAP CMA Activities scheduled for the year due COVID-19 pandemic. That is, an EI score above 60 per cent in 4 audit areas: LEG, ORG, PEL, AIR; and an EI score above 60 per cent in 3 Critical Elements: CE-1, CE-2, CE-3. OPS, AIG, ANS, and AGA audit areas; and CE-4, CE-5, CE-6, CE-7, CE-8 were the lowest in terms of EI score for the region, as shown in **Figure: 10a** below.

## USOAP Results by Area and Critical Element

4 areas and 3 critical elements are above the target of 60% EI.



Source: ICAO iSTARS

## 2.2.2 Safety Partner Programs

The Federal Aviation Administration (FAA) rates States through their International Aviation Safety Audit (IASA) programme. The FAA does not allow air carriers from category 2 States to operate to the United States of America. In RASG-AFI, 1 State is rated Category 2: Ghana.

The European Commission can decide to ban certain airlines from operating in European airspace, if they are found to be unsafe and/or they are not sufficiently overseen by their authorities. In RASG-AFI, 13 States have operational restrictions with regard to European airspace: Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Liberia, Nigeria, Angola, Congo, Gabon, Sao Tome and Principe, Sierra Leone, Zimbabwe, Comoros.

## 2.2.3 Regional Safety Initiatives

From the results of the ICAO USOAP CMA Activities, low EI scores have been registered in the areas of Aircraft Operations (OPS), Aircraft Accidents and Incidents Investigation (AIG), Air Navigation Services (ANS), and Aerodromes and Ground Aids (AGA). The Safety Support Teams of the RASG-AFI have identified these deficiencies and have developed project documents intended to improve capacities in these areas. Funding for these projects come mainly from the comprehensive implementation plan for aviation safety in Africa (AFI Plan), ICAO Safety Fund (SAFE) and partners. Various projects have been identified under the AFI Plan, project documents developed and at different levels of implementation, geared towards enhancing the oversight capacities of States and improving their overall EI scores. The ICAO Regional Office Safety Teams (ROST) conduct missions to States in a bid to assist them with implementation processes. Amongst these projects are: Fundamentals of Safety Oversight (FSO) targeting States with EI<30 per cent; Aerodrome Certification (at least one international aerodrome certified in each 20 identified States); State Safety Programme (SSP), targeting States with EI of 60 per cent and greater; Search and Rescue (development of national SAR plans); Aircraft Accidents and Incidents Investigation (establishment of AIG framework in States); and States scheduled for USOAP CMA Activities.

The COVID 19 pandemic has hampered the progress on implementation of these projects. However in order to ensure some progress in the implementation of the projects, the ICAO Regional Offices and nominated experts from States have been supporting the beneficiary States through virtual means.

### 2.2.3.1 Aerodrome Certification Project

The aerodrome certification project designed initially to support 16 African States to certify at least one of their International aerodromes was launched in August 2016, in both ESAF and WACAF Regions. At the request of some States, 4 other airports were added to the Project during this first phase.

In accordance with the project schedule, meetings/teleconferences with Directors General of CAAs and CEOs of Airports of the beneficiary States as well as supporting States were conducted to sensitize them on the importance of the project and secure the required support. Following the high level meetings, aerodrome certification workshops were conducted in Accra, Lomé and Nairobi for the benefit of regulatory and airport personnel of both supporting and beneficiary States.

As outcomes of the workshops, beneficiary States prepared and submitted their action plans to the two ICAO Regional Offices in Dakar and Nairobi. Most States were progressing in the implementation of their plans, although some were behind schedule. Implementation assistance and progress monitoring missions were conducted by the project Team. So far, assistance provided led to the certification of 14 international Airports (Abidjan, Abuja, Bamako, Cotonou, Dakar, Kigali, Lagos, Libreville, Lusaka, Manzini, Maputo, Niamey, Ouagadougou and Windhoek) in thirteen beneficiary States.

The current percentage of certified aerodromes in the RASG-AFI region is 31.78 per cent (See **Appendix 5**). The fact that some aerodromes published in the eANP are neither used for international operations, nor compliant with SARPs, is negatively impacting the overall percentage of certified aerodromes. By December 2020, 50 per cent of RASG-AFI States developed aerodrome certification capacities.

The COVID-19 pandemic has hampered the progress on the project. However in order to ensure some progress, the ICAO Regional Offices and nominated experts have been supporting the beneficiary States through virtual means. Many States in the WACAF Region received virtual and onsite assistance activities to support the Certification exercise.

#### **2.2.3.1.1 Airports Excellence (APEX) in Safety Programme in Africa**

The conduct of APEX reviews in safety is part of the AFI Plan project for aerodrome certification process. As part of this wide project, ICAO, States and safety partners such as EASA found ways to fund APEX reviews and certification activities of some airports.

ACI, in pursuing its mission of promoting safer airport operations while contributing to international cooperation with the International Civil Aviation Organization (ICAO), aviation stakeholders and airports worldwide, developed the APEX in Safety Programme in 2012.

The APEX Programme consists of a cost recovery peer-to-peer review process only available to members of ACI. The programme is based on the Standards of Annex 14 to the Chicago Convention, as well as ACI best practices. APEX in Safety combines the mandate for regulatory compliance with the actual day-to-day operational needs of airports to maximize operational efficiency while enhancing the safety standards.

A safety review results in an assessment of the airport safety level, gap analysis and recommended solutions which provide the information needed to contribute to an action plan following the on-site visit of the airport.

The PASTA-CO Project signed between ECOWAS and ICAO and funded by AfDB is currently supporting the conduct of APEX reviews for 16 aerodromes in the Western and Central African Region. 4 aerodromes have already received reviews. Restrictions on travel during the Pandemic severely impacted the implementation of planned activities. However, ACI and ICAO agreed on conduct some virtual activities pending travel resumption for the completion of onsite activities. Details of the airports that have already received APEX reviews are provided in **Appendix 4**.

The scope of the PASTA-CO project covers the remaining ECOWAS and ECCAS member States airports that have not yet completed the APEX reviews, and/or the certification process. Some airports will be reassessed under APEX given the recent expansion of their infrastructure.

Since its inception, APEX in safety has provided assessments at over 100 airports, of which 47 were conducted in Africa (the highest percentage in the World).



Through a separate agreement signed in 2012, the APEX reports are shared with ICAO, linking both organizations in the quest to enhance airport safety levels.

With the PASTACO Project, the RASG-AFI region will take a step towards the achievement of the new GASP Target 5.2, which relates to the increase in the number of service providers participating in the corresponding ICAO-recognized industry assessment programmes, such as the Airports Council International (ACI) Airport Excellence (APEX) in Safety programme.

### **2.2.3.1.2 Runway Safety programme implementation**

Conclusions of the APIRG/19 and RASG-AFI/2 held in Dakar, Senegal, from 28 October to 2 November 2013 urged States to establish Runway Safety Teams (RSTs) at all international aerodromes. In addition, States were encouraged to participate in Seminars / Workshops and other training activities being conducted in the field of Runway Safety.

ICAO is supporting the effective implementation of RSTs in the RASG-AFI region through the Regional Offices. A project was developed under the RASG-AFI framework, with two Runway Safety Go-Teams for WACAF and ESAF, coordinated by the ICAO Regional Offices, including Experts from IATA, IFALPA, Airlines, ACI, ASECNA, and Airports Operators. The objective of the RS Go-Team is to assist States/airports in establishing an effective RSTs, support the implementation stage and provide technical assistance (training, assessments and gap analysis, expert advice and guidance).

Since the first Go-Team assistance in Dakar, Senegal (20 – 24 October 2014), several States made use of the Go-Teams to assist in establishing the RSTs at their aerodromes. Some States, whose aerodromes already established RSTs, requested the Go-Teams assistance to enhance their efficiency and performance through onsite training and assistance.

By December 2020, 327 RSTs were registered on the ICAO Website. In the RASG-AFI region, 38 aerodromes had established operational RSTs, out of 132 contained in the AFI eANP. RASG-AFI Go-Team continues to monitor the work of the established RSTs through a regular reporting mechanism.

In order to ensure institutionalization of Runway Safety Activities, ICAO has included in the USOAP CMA a protocol question on Runway Safety. This is expected to support the States push for Runway safety initiatives.

### **2.2.3.1.3 Implementation of the new Global Reporting Format for Runway Surface Condition**

As the outcome of the Symposium conducted in March 2019 in Montreal, Canada, on the New Format for reporting runway surface conditions, seminars were planned for regions, aiming to assist States on the implementation. This methodology, commonly known as the Global Reporting Format (GRF), ensures a harmonized assessment and reporting of runway surface conditions and a correspondingly improved flight crew assessment of take-off and landing performance.

In 2020, various virtual workshops had been conducted by the ESAF and WACAF Regional Offices to sensitize States on the new format for reporting of Runway Safety. The seminars recommended to States to set up national and local plans with dedicated Teams, for the implementation of GRF and make use of existing

national and regional mechanisms to support the implementation of the GRF (RSTs, Go-Teams, RSOO, ...). ICAO, ACI and FAA committed to enhance their support to States. It is expected that States will be carrying out dry Runs for GRF in September and October 2021 in readiness for the implementation date which was postponed to 4<sup>th</sup> November 2021 due to the effect of COVID-19 pandemic.

### **2.2.3.2 State Safety Programme (SSP) Project**

The AFI Plan State Safety Programme (SSP) Project, approved by the AFI Plan Steering Committee at its 17th meeting in May 2016, is aimed to provide support to AFI States to establish and implement their SSP in accordance with the relevant provisions of the GASP and Annex 19 to the Chicago Convention; and in line with the established regional target. The State Safety Programme (SSP) implementation project was developed to support AFI States based on the establishment of a sound safety oversight system as evidenced by the attainment of the 60 per cent EI threshold. Under the project, the ICAO Regional Offices assist States establish and implement SSP through the review of SSP Foundation PQs, conduct of SSP Gap Analyses, development of SSP Implementation

Plans and the conduct of State self-assessments using the SSP-related Protocol Questions (PQs). The outbreak of COVID-19 pandemic in 2020 had a negative impact on the progress of this project, as the primary focus of States and the aviation community was directed to controlling the spread of the disease and facilitation of aviation operations. Notwithstanding, assistance to States, monitoring and engagement had been maintained through virtual means, including the use of ICAO USOAP CMA Online Framework (OLF) and innovative electronic platforms (Zoom, MS Teams, etc.).

### **2.2.3.3 Aircraft Accidents and Incidents Investigation (AIG) Project**

The AFI Plan AIG Project is aimed to provide assistance to AFI States in the development of harmonized AIG legislation, regulations and associated procedures required for the establishment of a State aircraft accidents and incidents investigation system, in conformance with relevant ICAO documents, and encourage their adoption as an impetus to promoting regional harmonization and cooperation. The Project is also intended to provide States with the regulatory provisions and tools (MoUs) to enter on one hand, into bilateral agreement with other States, and on the other hand to offer harmonized framework and guidance for the establishment and/or adherence to regional aircraft investigation organizations (RAIOs).

With the slow pace of improvement of AIG systems within the RASG-AFI region, there was a need for the project document to be revised in order to broaden its scope and for securing funding for its implementation.

Airbus and the French Accident Investigation Bureau (AEB) conducted several webinar sessions on aircraft accident investigation in November 2020 and March 2021 for the French speaking and English speaking RASG-AFI States, respectively. These webinars attracted participants from Civil Aviation Authorities, Aircraft Accident Investigation Bureaus, RSOOs and ICAO Regional Offices. The purpose of the webinars was to share experiences with accident investigation experts and other accident/incident investigations stakeholders of the RASG-AFI region.

#### 2.2.3.4 Upset Prevention and recovery Training (UPRT)

A Virtual Workshop on Loss of Control In-flight (LOC-I) and Upset Prevention and Recovery Training (UPRT) was held on 17 and 18 November 2020, under the auspices of the two ICAO Regional Offices (WACAF and ESAF) and Kenya as the RASG-AFI Champion for LOC-I.

The Workshop objectives were to:

- Define the bridge for implementing the five-year RASG-AFI Plan for UPRT in the RASG- AFI region, especially in the COVID-19 context, with many pilots being grounded for extended periods and the risk of skills and knowledge degradation;
- Further sensitize and inform the civil aviation stakeholders on UPRT implementation;
- Build on the ICAO Global Aviation Safety Plan (GASP) to strengthen related guidance material and plans;
- Review:
  - Key elements of academic training;
  - Using flight simulators for UPRT;
  - Instructor competencies; and
- Consolidate the network for sharing information and experience within the RASG-AFI region.

The Workshop attracted 154 participants from Civil Aviation Administrations, air operators and other stakeholders.

Safety Enhancement Initiatives (SEIs) as directed by the 2020-2022 Edition of the GASP led to the identification/review of the following:

- Organizational Challenges (ORG Roadmap);
- Operational Safety Risks (OPS Roadmap);
- Action Plans;
  
- LOC-I RASG-AFI Safety Enhancement Initiatives (SEIs):
  - ORG SEIs;
  - OPS SEIs;
  
- Performance.

As a way forward, emphasis was put on the necessity to:

- Consolidate the ORG and OPS safety initiatives;
- Collect and analyse data;
- Identify additional threats and develop corresponding safety enhancement initiatives;
- Develop further mitigation measures;
- Assess the performance of safety indicators;
- Harmonize the safety indicators;
- Update RASG-AFI Guidance;
- Update Timelines;

- Update of the LOC-I and UPRT 5-year Plan;
- Include references of LOC-I initiatives in the State Safety Plans and the Regional Safety Plan.
- Consolidate two working Groups: LOC-I-ORG and LOC-I-OPS

The next virtual LOC-I and UPRT Workshop was scheduled to take place in November 2020.

### 2.2.3.5 Performance Based Navigation (PBN) Operations Approval

Under the African Flight Procedures Programme (AFPP), African States are being assisted in implementing PBN flight procedures at their international and domestic airports and the Civil Aviation Authorities are empowered with PBN concept and products, PBN oversight, quality assurance, PANS-OPS approval (regulatory approval and operational approval). This safety initiative is intended to mitigate CFIT related accidents and serious incidents, improve flight efficiency, increase airport accessibility, and reduce CO<sub>2</sub> emissions due to aviation to achieve associated environmental benefits.

The AFPP which was launched by ICAO in 2013 for an initial duration of three (3) years; is hosted by ASECNA in Dakar, Senegal. Its operations started in June 2014 in Dakar, Senegal, with the initial support of ASECNA, French DGAC and AIRBUS. The Programme has been renewed for another three (3) years from 8 February 2019. The AFPP has currently 39 members including:

- Thirty-five (35) Active members (States/Organizations);
- One (1) Observer;
- Eight (8) Donors (Some States are active members and donors).

Activities conducted under the AFPP registered the following results on the continent:

- RNP Approach procedures implementation: **59%**:
  - ESAF : 70%
  - EUR/NAT : 15%
  - MID : 68%
  - WACAF : 81%
- National PBN Implementation Plan (NPIP) in Africa: **74.0% per cent**:
  - ESAF : 70.8%
  - WACAF : 91.7%
  - MID : 33.3%
  - EUR/NAT : 100%

*Note: some of these NPIP are not robust and still need to be reviewed.*

- Flight procedure design: **165 flight procedures designed or being designed**:
- Other assistance to States/Organizations in :
  - The resolution of a Significant Safety Concern: one State and one Organization
  - Preparation of their National PBN Implementation Plan (NPIP): Two States
- Trainings:
  - National PBN implementation plan development or updating workshop: 107 participants from 25 States and Organizations.

- Flight Procedure design On-the Job-Training: 3 participants from one State. OJT is organized on State request.
- Flight Validation Pilot Training: 01 participant from an Organizations. Organized on request basis.

#### **2.2.3.6 Workshop on the development of a National Aviation Safety Plan (NASP).**

Two ICAO Workshops on the Implementation of a National Aviation safety Plan (NASP) were conducted for the AFI region in 2020. One Workshop was held in the ESAF Region while the other was held in the WACAF Region, in order to maximize attendance.

The Workshop for the ESAF Region was conducted from 27 to 28 January 2020 at the ICAO Regional Office, Nairobi, Kenya. The workshop was attended by participants from States, International Organizations, Regional Organizations, and ICAO Regional Office

The Workshop for the WACAF Region was conducted from 30 to 31 January 2020 at the ICAO Regional Office, Dakar, Senegal. The workshop was attended by 47 participants from 13 States, ICAO Regional Office (ICAO staff that have a role in supporting States develop and implement their NASPs), AFCAC, Airbus, BAGASOO, BAGAIA, and URSAC-UEMOA.

The workshops were intended to competencies for persons involved in the planning and implementation of NASPs, in alignment with the Global Aviation Safety Plan (GASP) and the Regional Aviation Safety Plan (RASP). This includes identifying national operational safety risks and other safety issues, such challenges related to the State Safety Programme implementation, and planning initiatives to address them. The workshop also looked at the State's strategic approach to managing safety in civil aviation, including national safety goals, targets and indicators.

In light of the above objectives, the workshop introduced participants to the 2020-2022 Edition of the GASP (including Goals, Targets and Indicators), Roles and responsibilities under the GASP, Challenges and Priorities in Safety Planning, Global Aviation Safety Roadmap, and Safety Performance Measurement. The workshop then focused on the Introduction to a National Aviation Safety Plan and how to develop one. Practical Exercises on developing a NASP were carried out by various working groups, which later presented a debrief on the exercises undertaken.

With the requisite understanding of States and other stakeholders; and the sample template provided by the workshop, States were urged to pursue the development and implementation of their NASPs and work closely with the ICAO Regional Offices for any support they may require.

#### **2.2.3.7 E-meeting with the National Continuous Monitoring Coordinators of the RASG-AFI States on the COVID-19 Contingency Related Differences (CCRDs).**

The ICAO Regional Office for Western and Central Africa (WACAF) and Eastern and Southern African States (ESAF) held E-Meetings of USOAP CMA National Continuous Monitoring Coordinators (NCMCs) of their accredited States on the COVID-19 Contingency Related Differences (CCRD) in April and May, 2020 respectively, following the publication of the ICAO State Letter Ref.: AN 11/55-20/50 dated 3 April 2020 on the Operational measures to

ensure safe operations during the COVID-19 pandemic. The meetings were held as an outcome of the First ICAO/AFCAC WACAF DGCA Virtual Meeting on COVID-19 held on 9 April 2020.

The objective of the NCMC meetings was to provide guidance to States on the provision of information on COVID-19 Contingency Related Differences (CCRD) with respect to the Nine (9) Standards contained in: Annex 1 – Personnel Licensing (2 Standards); and Annex 6 - Operation of Aircraft (Part I -3 Standards, Part II - 2 Standards, Part III - 2 Standards). In view of the specialties concerned, the target audience included USOAP CMA NCMCs and Subject Matter Experts (SMEs) in the areas of Personnel Licensing (PEL) and Aircraft Operations (OPS).

As a result of the COVID-19 pandemic, ICAO urged States to take various actions to enable service providers and personnel to maintain the validity of their certificates, licenses, and other approvals during the period of the crisis; and to put in place various contingency measures to facilitate safe air transport operations.

Indication of the success of the said meetings included, a 100% response rate of the WACAF States to the CCRDs, which made it the first ICAO Region to record such a response, and an increase of response rate of the ESAF States.

#### **2.2.3.8 AFI-Cooperative Inspectorate Scheme (AFI-CIS)**

The AFI-Cooperative Inspectorate Scheme (AFI-CIS) is one of AFCAC's key outreach programmes established to assist African States improve their safety oversight capabilities. The scheme was launched in the year 2012 and it consists of a pool of qualified inspectors, selected from AFCAC member States, to carry out specific technical assistance missions.

The main objectives of the AFI CIS programme are:

- to assist AFI States to resolve safety oversight deficiencies and in particular significant safety concerns (SSCs);
- to improve effective implementation (EI) of the critical elements of AFI States' safety oversight system;

AFCAC, through the AFI-CIS Programme, supported AFI States to enhance their effective implementation of ICAO Standards and Recommended Practises (SARPs). The Scheme provides African States with an opportunity to share the limited human resources as they collaboratively promote aviation safety.

Since its inception in 2012, 28 assistance missions were conducted, which contributed to the resolution of SSCs and increase of EI of SARPs for member States that benefitted from the AFI-CIS programme.

##### **2.2.3.8.1 AFI-CIS Performance in 2020**

- a. Due to the effects of COVID-19 which brought aviation industry to almost a stand-still in 2020, AFCAC did not conduct any AFI CIS technical assistance missions during the year under review and as a result, most of the planned missions were deferred to 2021.
- b. The AFI CIS activities for year 2020 were limited to selection of new AFI CIS candidates and preparations for the 3<sup>rd</sup> AFI CIS induction and refresher workshop whose objective was to train at least 50 additional experts in the areas of AIR, OPS, PEL, AGA and ANS. With assistance from ICAO, a selection criteria for new AFI CIS inspectors were established and after initiation of the recruitment process, 53 candidates

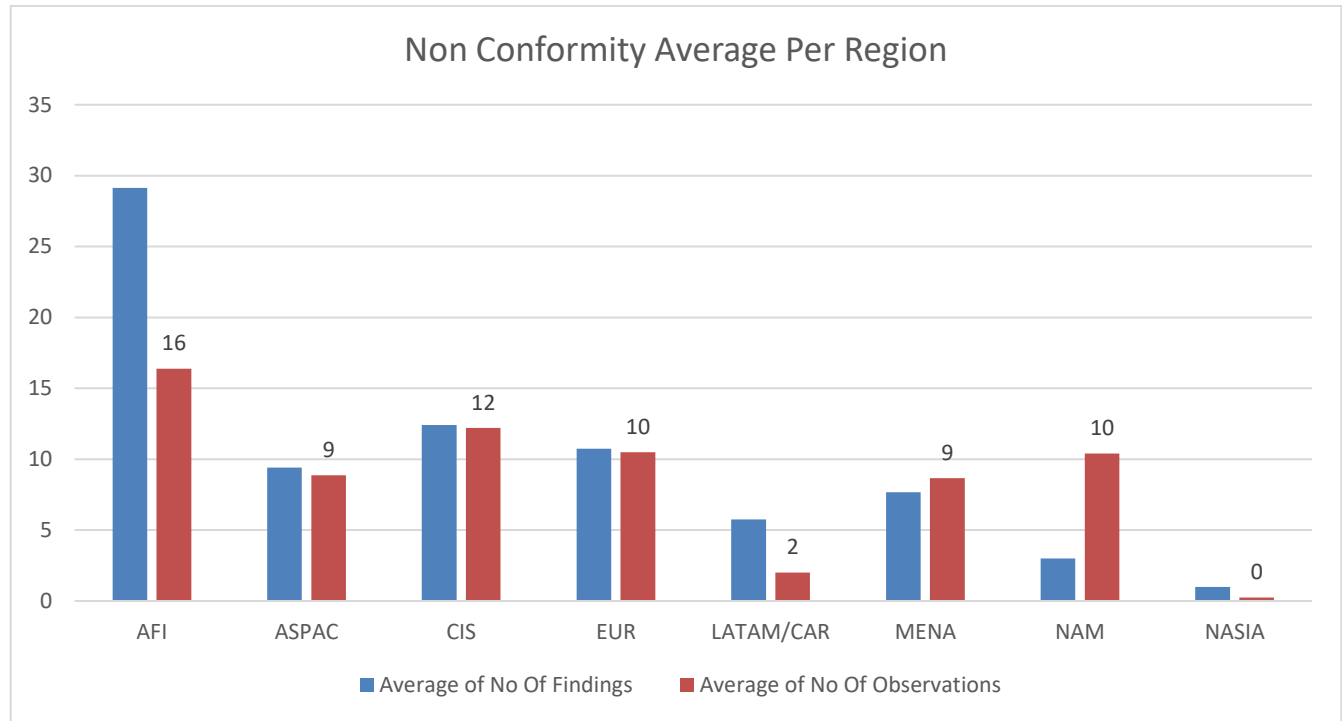
were shortlisted out of the 107 applicants from member States of Africa.

- c. In order to improve quality, operational efficiency and effectiveness of the AFI CIS programme, AFCAC developed specifications for the AFI CIS Toolkit. The Toolkit is an automated information gathering, dissemination and workflow processing platform to be hosted on AFCAC's public and secure portals respectively. As the Platform is hosted on the public and secure portal, it is intended to assist all authorized stakeholders to view status of the AFI CIS assistance program, status of compliance of member States to ICAO SARPS, CIS database and to provide automated on-site and off-site mission job aids for CIS inspectors.

#### **2.2.4 IATA Operational Safety Audits (IOSA)**

The IATA Operational Safety Audit (IOSA) is the benchmark for global safety management in airlines and is an internationally recognized and accepted evaluation system designed to assess the operational management and control systems of an airline.

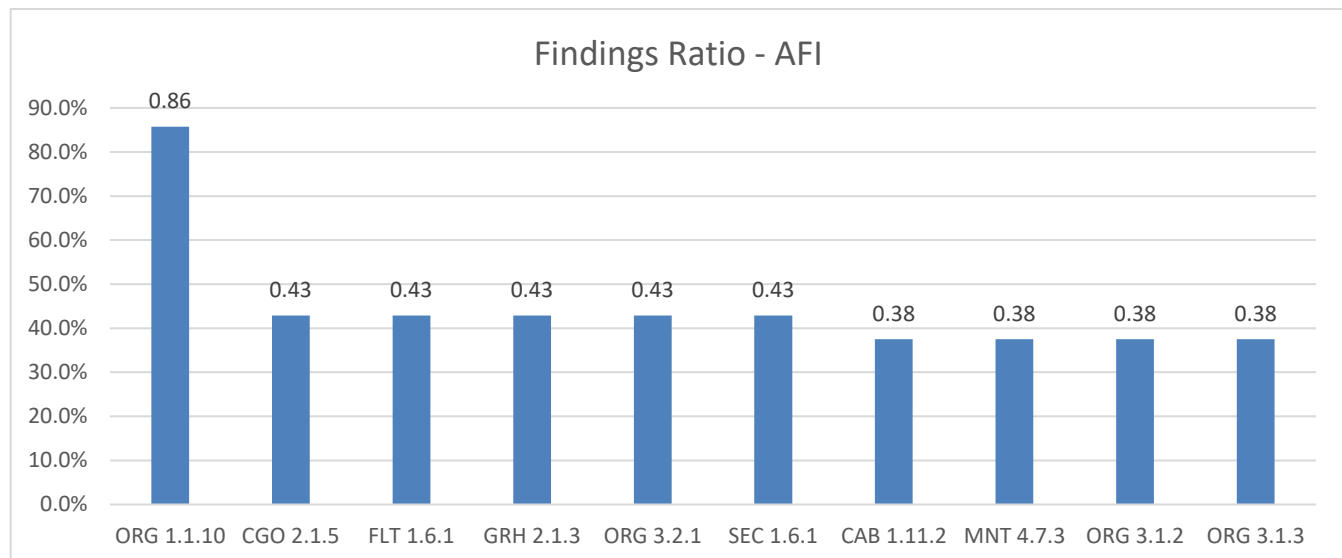
IOSA scope covers eight (8) areas which include: Organization and Management (ORG), Maintenance (MNT), Cargo (CGO), Security (SEC), Flight Operations (FLT), Dispatch (DSP), Cabin Safety (CAB) and Ground Handling Operations (GRH). The analysis of IOSA audit results in the graph below shows the trend in audit findings as well as observations for AFI versus other regions and the world average.

**Figure 11: Trend in IOSA Findings and Observations per Region**


The above pattern in findings and observations relates to IOSA audits conducted during the year 2020.

**Figure 12: RASG-AFI Region Trend in IOSA Top Findings per Audit Area**

The following graph shows the AFI trend in 2020 IOSA top findings per audit area where issues in Organisation and Management featured the most. The pattern remains unique for each region.





**Key:**

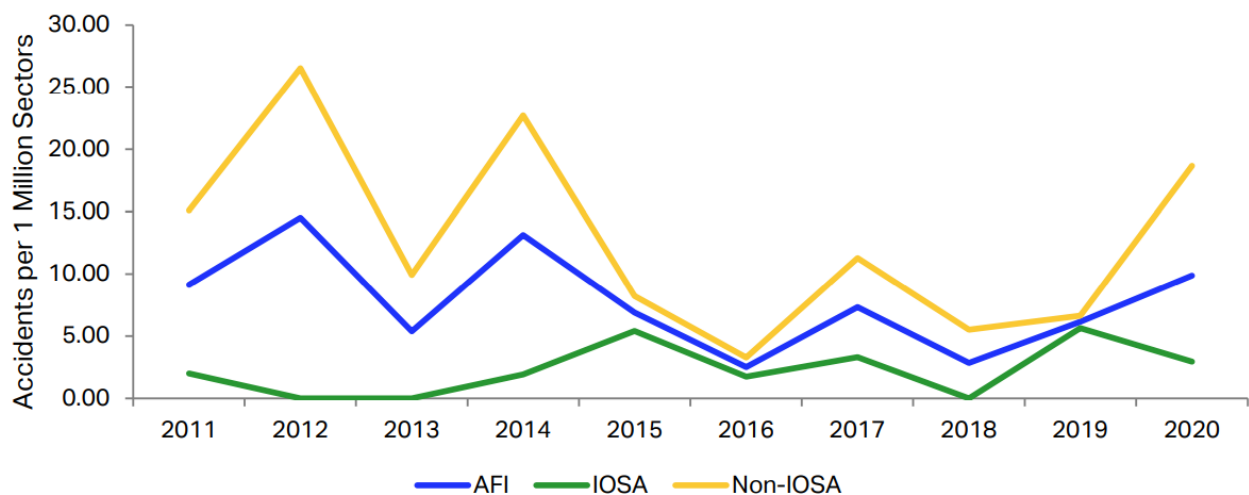
**ORG 1.1.10.** =SMS Implementation; **CGO 2.1.5**=Training of Cargo Handling Personnel; **FLT 1.6.1**= Flight Operations Documentation System; **GRH2.1.3**=Training of Ground Handling personnel; **ORG 3.2.1** =Operational Safety Performance/Safety Assurance; **SEC 1.6.1**=Security Documentation System; **CAB 1.11.2**=Safety Performance Monitoring & Management; **MNT 4.7.3**=Maintenance & Handling of ESDs; **ORG 3.1.2**=Safety Risk & Mitigation Program; **ORG 3.1.3**=Operational Safety Reporting System

Following the revision of the Abuja Safety Targets in December 2017, all AFI States are required to establish an appropriate framework for recognition of the IATA Operational Safety Audit (IOSA) and IATA Standard Safety Assessment (ISSA) as effective safety mechanisms; all African Airlines to obtain IOSA/ISSA certification, as appropriate, by the end of 2022.

By end of 2020 only five (5) RASG-AFI States: Mozambique, Nigeria, Rwanda, Togo and Zimbabwe had established some form of legal instrument that recognizes IOSA while a couple others were in the process of finalizing.

**Figure 13: Accident Rate for IOSA versus Non-IOSA Operators in RASG-AFI Region**

The graph below represents the rate of occurrence of all accidents over the period 2011-2020, per million flight sectors for RASG-AFI registered operators (blue) versus RASG-AFI IOSA- registered operators (green) and RASG-AFI non-IOSA-registered operators (yellow). From the trend, the IOSA certified operators have outperformed non-IOSA certified carriers in the Region.

**Jet & Turboprop**


*Source: IATA GADM*

**Note:** The above graph represents statistics for both Jet and Turboprop operations.

### 2.2.5 IATA Safety Audit for Ground Operations (ISAGO)

About half of the planned audits in 2020 were performed. Half of those performed were remote audits that were established as part of the ISAGO COVID-19 Support Program. The support program was implemented in March 2020 to provide relief and alternative auditing measures during the pandemic because travel restrictions prevented onsite audits and lack of operations affected business. A special edition of the ISAGO Standards Manual (interim GOSM) with a reduced set of safety-critical standards was developed for the remote audits. The remote audits eliminated auditor travel and accommodation and the reduced checklist also reduced the time needed and hence cost. The remote audit option might continue in 2021 however, a return to normal onsite audits were planned, if the expected easing of travel restrictions in the latter half of 2021 takes place. Details of the ISAGO COVID-19 Support program are available on the ISAGO website.

Despite the impact of the pandemic, over 150 new audit reports were approved and uploaded to the ISAGO Registry. These reports proved valuable to airlines that were equally hit by resource limitations and travel restrictions.

## 2.3 Predictive Safety Information

This section contains predictive safety information which includes, Flight Operations Quality Analysis/Flight Data Analysis (FOQA/FDA), States' Safety Programme (SSP); and Safety Management Systems (SMS) implemented by the industry, aviation products and services providers.

The FOQA/FDA information, the Flight Data eXchange (FDX) and the IATA Incident Data Exchange (IDX) programs established by IATA and other aviation partners need to be fully utilized by the airlines and other stakeholders in the RASG-AFI, by way of concluding Memoranda of Understanding (MOU) and providing relevant information/data on a regular basis. With the establishment of such systems, precursors could be identified, particularly for the safety high risk categories of occurrences (RS, LOC-I, CFIT, Mid-Air Collision (MAC)/ Aircraft Proximity (AIRPROX), etc.) and trends appropriately monitored and analyzed. The need for a mature data sharing culture is key to any successful predictive safety information analysis in RASG-AFI.

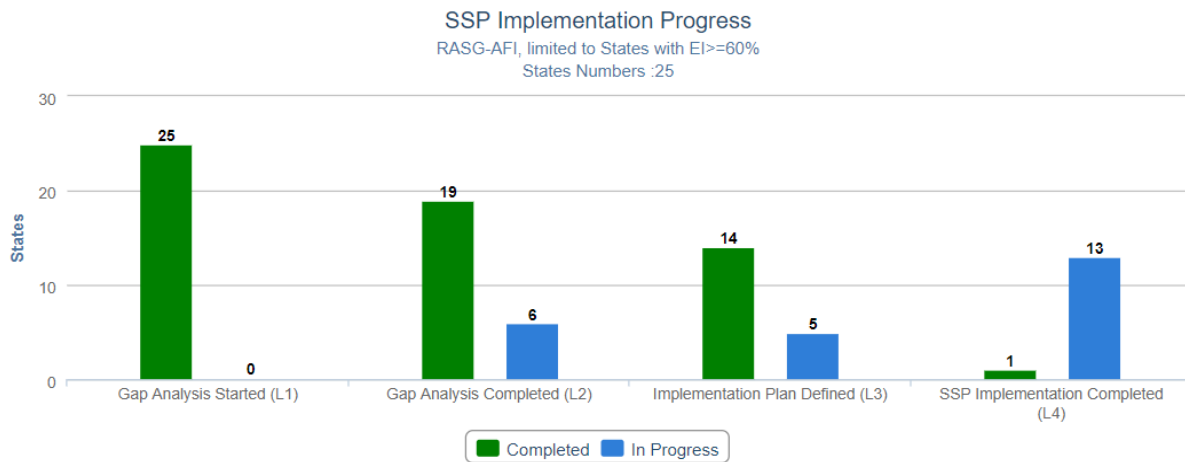
One of the revised Abuja Safety Targets requires all States to have a Foundation SSP established, addressing all pre-requisites by end of 2022:

- to have an Effective SSP with appropriate maturity level established;
- to contribute information on safety risks, including SSP SPIs, to the RASG-AFI;
- with an Effective SSP, to actively engage in RASG-AFI safety risk management activities (analysis of safety risks, design and implementation of risk mitigation actions); and
- ensure that all Service Providers implement a Safety Management System (SMS) by end of 2022, and that they use globally harmonized SPIs as part of their SMS.

Although some degree of progress has been registered in this respect, availability of a reliable predictive safety information within the RASG-AFI region continues to pose challenges.

SSP is a framework that allows the State safety oversight authority and service providers to interact more effectively in the resolution of safety concerns. The SSP statistics release high level information about each Gap Analysis project. SSP implementation project has been measured for each State using a simple milestone as per the entered data.

**Figure 14: RASG-AFI States' Safety Programme Implementation (SSP) Progress.**



## State Safety Programme (SSP) Implementation

ICAO measures SSP implementation in levels as follows:

- Level 0: States not having started a GAP analysis
- Level 1: States having started a GAP analysis
- Level 2: States having reviewed all the GAP analysis questions
- Level 3: States having defined an action plan for all non implemented questions
- Level 4: States having closed all actions and fully implemented their SSPs

Source: ICAO iSTARS

**Table 4: RASG-AFI States that have initiated the implementation of SSP.**

By 31 December 2020, only One of the 48 RASG-AFI States (Rwanda) attained Level 4 of SSP implementation. However, there have been improvement in the SSP implementation over 2019: 13 States completed Level 3 and at different stages of attaining Level 4 (compared to 11 States in 2019), 5 States completed Level 2 and at different stages of attaining Level 3, and 5 States completed Level 1 and at different stages of attaining Level 2, as depicted in Table 6 below.

	Code	State Name	Progress	Level (Up)
1.	BWA	Botswana	Gap Analysis Completed	<b>L2 / 95.2% L3</b>
2.	BFA	Burkina Faso	Gap Analysis Completed	<b>L2 / 81% L3</b>
3.	CPV	Cabo Verde	Gap Analysis Completed	<b>L2 / 97.6% L3</b>
4.	COG	Congo	Gap Analysis Started	<b>L1 / 28.6% L2</b>
5.	CIV	Cote d'Ivoire	Gap Analysis Completed	<b>L3 / 11.9% L4</b>
6.	ETH	Ethiopia	Gap Analysis Completed	<b>L2 / 92.9% L3</b>
7.	GAB	Gabon	Implementation Plan Defined	<b>L3 / 16.7% L4</b>
8.	GMB	Gambia	Implementation Plan Defined	<b>L3 / 19% L4</b>
9.	GHA	Ghana	Gap Analysis Completed	<b>L2 / 97.6% L3</b>
10.	KEN	Kenya	Gap Analysis Started	<b>L1 / 07.1% L2</b>
11.	MDG	Madagascar	Implementation Plan Defined	<b>L3 / 52.4% L4</b>
12.	MLI	Mali	Implementation Plan Defined	<b>L3 / 21.4% L4</b>
13.	MRT	Mauritania	Implementation Plan Defined	<b>L3 / 23.8% L4</b>
14.	MUS	Mauritius	Implementation Plan Defined	<b>L3 / 47.6% L4</b>
15.	MOZ	Mozambique	Gap Analysis Started	<b>L1 / 04.8% L2</b>
16.	NAM	Namibia	Implementation Plan Defined	<b>L3 / 19% L4</b>
17.	NER	Niger	Gap Analysis Started	<b>L1 / 50% L2</b>
18.	NGA	Nigeria	Implementation Plan Defined	<b>L3 / 40.5% L4</b>
19.	RWA	Rwanda	SSP Implementation Completed	<b>L4 / 100% L4</b>
20.	SEN	Senegal	Gap Analysis Started	<b>L1 / 57.1% L2</b>
21.	ZAF	South Africa	Implementation Plan Defined	<b>L3 / 88.1% L4</b>
22.	TGO	Togo	Implementation Plan Defined	<b>L3 / 45.2% L4</b>
23.	UGA	Uganda	Gap Analysis Started	<b>L1 / 47.6% L2</b>
24.	TZA	United Republic of Tanzania	Implementation Plan Defined	<b>L3 / 35.7% L4</b>
25.	ZMB	Zambia	Implementation Plan Defined	<b>L3 / 54.8% L4</b>

Source: ICAO iSTARS

### 2.3.1 Progress on Predictive Information Approach

IOSA registered operators have implemented Flight Data Analysis/Monitoring system as a program requirement. Some Non-IOSA operators are yet to implement Flight Data Analysis (FDA)/Flight Data Monitoring (FDM)/Flight Operation Quality Analysis (FOQA). Even in some cases where it has been implemented, its effectiveness needs to be improved further.

Source: IATA

## 3.0 Conclusions and Recommendations

### 3.1 Conclusions

Based on the analyses of the available data for 2020, the following conclusions are drawn:

- Achievements registered:
  - “Zero SSC” status in the WACAF Region maintained;
  - The status of zero CFIT related accidents maintained.
  - Despite the impact of COVID-19 pandemic, ICAO Regional Offices continued to provide remote assistance and guidance to States by means of innovative platforms (Zoom, MS Teams, etc.). These included webinars on filing of COVID-19 Contingency-related Differences (CCRDs) in a bid to facilitate aviation operations, Air Traffic Controller Licensing in view of COVID-19, etc.
  - The average USOAP Overall EI for States in the RASG-AFI region has improved from 55.76 per cent at the end of 2019 to 56.24 per cent at the end of 2020, which is below the world average of 68.68 per cent.
  
- Challenges encountered:
  - Runway Excursion (RE) related accidents remained the most predominant High Risk Category of Occurrence and should continue to be a main priority for Safety Enhancement Initiatives (SEI) in the RASG-AFI Region;
  - Although zero CFIT and LOC-I related accidents was reported in 2020, there is need for concerted efforts to maintain the status quo. Resolution of the remaining SSC in Eritrea impeded by weak political commitment and non-collaboration;
  - Constraints in conducting USOAP CMA on-site Activities and assistance missions (ROST, RS Go-Team) to some deserving States due to COVID-19 restrictions and unsafe political situations (e.g. Somalia, South Sudan);
  - Establishment of an appropriate framework by States for recognition of IOSA and ISSA as effective safety mechanisms; and airlines to obtain registration as appropriate;

Although this report has captured predictive safety information to some extent, the low level of aviation activities (few contributors of safety data) and SSP/SMS implementation within the RASG-AFI region were yet to evolve to desired maturity.

- Duplication of efforts by entities providing assistance missions to States under different mechanisms (i.e. ROST, AFI-CIS, RSOO, etc.).

### 3.2 Recommendations

- On-going efforts to resolve the remaining Significant Safety Concern (SSC) in Eritrea should be rigorously pursued by all stakeholders as a matter of priority, using every practical means possible.
- RASC should ensure that the Terms of Reference (ToRs) of the SSTs are revised to reflect the Goals, Targets and Indicators of the GASP, the AFI-RASP is developed and aligned to the GASP by 31 December 2021; and that States' NASPs are aligned to the AFI-RASP and GASP.
- RASC should urge all States to establish effective RSTs, pursue certification of their international aerodromes and provide feedback on progress made to the RASC;
- To ensure quality and efficiency of the AFI CIS programme, AFCAC should accelerate the establishment of an AFI CIS toolkit or platform upon which a database of generic technical guidance materials, such as mission programs and checklists, are deposited and accessible even remotely;
- Better coordination and collaboration mechanisms should be established between concerned stakeholders, under the framework of providing assistance to States, in order to avoid duplication of efforts, optimize and efficiently utilize the available resources;
- RASC should establish an effective mechanism on monitoring the implementation of the ASRT recommendations and providing feedback on the status to the RASG-AFI on regular basis.

## Appendix – 1: List of Member States of the RASG-AFI

Angola	Namibia
Benin	Niger
Botswana	Nigeria
Burkina Faso	Rwanda
Burundi	Sao Tome and Principe
Cameroon	Senegal
Cape Verde	Seychelles
Central African Republic	Sierra Leone
Chad	Somalia
Comoros	South Africa
Congo	South Sudan
Côte d'Ivoire	Togo
Democratic Rep. of Congo	Uganda
Djibouti	United Republic of Tanzania
Equatorial Guinea	Zambia
Eritrea	Zimbabwe
Eswatini	
Ethiopia	
Gabon	
Gambia	
Ghana	
Guinea	
Guinea-Bissau	
Kenya	
Lesotho	
Liberia	
Madagascar	
Malawi	
Mali	
Mauritania	
Mauritius	
Mozambique	

## Appendix – 2: List of Permanent Partners of RASG-AFI

Airports Council International (ACI)

African Civil Aviation Commission (AFCAC) African

Airlines Association (AFRAA)

Airbus Aircraft Manufacturer (AIRBUS)

Agence pour la Sécurité de la Navigation Aérienne en Afrique et à Madagascar (ASECNA) Boeing

Commercial Airplane Company (BOEING)

Civil Air Navigation Services Organization (CANSO)

Cooperative Development of Operational Safety and Continuing Airworthiness Programmes(COSCAPs)

European Aviation Safety Agency (EASA)

Federal Aviation Administration – United States of America (FAA-USA) Flight

Safety Foundation (FSF)

International Air Transport Association (IATA)

International Federation of Airline Pilots Association (IFALPA) International

Federation of Air Traffic Controllers Association (IFATCA) Regional Safety

Oversight Organizations (RSOOs)

World Food Programme - United Nations (WFP-UN)



## Appendix – 3: List of States Having USOAP Safety Oversight Effective Implementation (EI) of 60% and greater as at December 2020

Benin	Mali
Botswana	Mauritania
Burkina Faso	Mauritius
Cameroon	Mozambique
Cape Verde	Namibia
Congo	Niger
Cote d'Ivoire	Nigeria
Eq. Guinea	Rwanda
Ethiopia	Senegal
Gabon	South Africa
Gambia	Togo
Ghana Kenya	Uganda
Madagascar	United Republic of Tanzania
	Zambia

## Appendix 4 – APEX in Africa 2011 - 2020

5-9 September 2011	Lomé–Tokoin International Airport	Lomé, Togo
12-16 March 2012	Aeroportos de Moçambique, E.P.	Maputo, Mozambique
2-6 April 2012	Kenneth Kaunda International Airport	Lusaka, Zambia
18-22 Mar 2013	Aéroport de Nouakchott	Nouakchott, Mauritania
20-24 Jan 2014	Sir Seewoosagur Ramgoolam International Airport	Mahébourg, Plaine Magnien, Mauritius
12-16 May 2014	Aéroport Félix Houphouët-Boigny	Abidjan, Ivory Coast
1-5 September 2014	Aéroport de Ouagadougou	Ouagadougou, Burkina Faso
22-24 October 2014	Aéroport de Port-Gentil	Port-Gentil, Gabon
24-28 November 2014	Aéroport international Cardinal Bernardin Gantin	Cotounou, Benin
1-5 December 2014	Aéroport international Diiori Hamani	Niamey, Niger
30 November-4 December 2014	Khartoum International Airport	Khartoum, Sudan
3-7 May 2015	Cairo International Airport	Cairo, Egypt
18-22 May 2015	Murtala Muhammed International Airport	Lagos, Nigeria
25-29 May 2015	Entebbe International Airport	Entebbe, Uganda
8-12 June 2015	Aéroport International Léopold Sédar Senghor	Dakar, Senegal
15-19 June 2015	Nnamdi Azikiwe International Airport	Abuja, Nigeria
22-26 June 2015	Aéroport International de Bamako-Sénou	Bamako, Mali
3-7 August 2015	Aéroport international Hassan Djamous de N'Djamena	N'Djamena, Chad
21-25 Sep 2015	Kotoka International Airport	Accra, Ghana
18-22 Jan 2016	Aéroport International de Tunis Carthage	Tunis, Tunisia
1-5 Aug 2016	Aéroport International de Brazzaville Maya-Maya	Brazzaville, Republic of the Congo
21-25 Nov 2016	Aéroport International de Yaoundé-Nsimalen	Yaounde, Cameroon
28 Nov-2 Dec 2016	Aéroport International de Douala	Douala, Cameroon
30 Jan-3 Feb 2017	Aéroport International Léon-Mba	Libreville, Gabon
20-24 Mar 2017	Aéroport de Pointe Noire	Ponte Noire, Congo
3-7 Jul 2017	Bangui M'Poko International Airport	Bangui, Central Africa
21-25 Aug 2017	Aéroport International Hassan Djamous	N'Djamena Chad
18 Sep-22 Sep 2017	Aéroport International Omar Bongo ONDIMBA	Franceville, Gabon
30 Oct-3 Nov 2017	Aéroport de Kinshasa/Ndjili	Kinshasa, Congo
6 Nov-10 Nov 2017	Aéroport de Luano	Lubumbashi, Congo

11-15 Dec 2017	Banjul International Airport	Banjul, Gambia
15-17 Jan 2018	Nouadhibou International Airport	Noouadhibou, Mauritanie
20-24 Jan 2018	Nouakchott International Airport	Nouakchott, Mauritanie
12-16 March 2018	Hosea Kutako International Airport	Windhoek, Namibia
12-16 March 2018	Port Harcourt International Airport	Port Harcourt, Nigeria
19-23 March 2018	Mallam Aminu Kano International Airport	Kano, Nigeria
25-29 June 2018	Akanu Ibiam International Airport	Enugu, Africa
2-6 July 2018	Kaduna Airport	Kaduna, Nigeria
6-10 August 2018	Kigali International Airport	Kigali, Rwanda
8-12 April 2019	Roland Garros Airport	La Réunion, France
24-28 June 2019	Maputo International Airport	Maputo, Mozambique
22-26 July 2019	Freetown International Airport	Freetown, Sierra Leone
23-27 September 2019	Kamuzu International Airport	Lilongwe, Malawi
25-29 November 2019	Conakry Gbessia International Airport	Conakry, Guinée
2-6 December 2019	Amilcar International Airport	Sal, Cape Verde
9-13 December 2019	Nelson Mandela International Airport	Praia, Cape Verde

## Appendix – 5: Status of Aerodrome Certification in the RASG-AFI Region, December 2020

### AERODROME CERTIFICATION IMPLEMENTATION IN AFRICA – December, 2020

STATE/TERRITORY	No of INT AERODROMES (Att A_AFI eANP-Table AOP I-1)	RESPONSIBLE BODY	AERODROMES STATUS		
			Certified	Not Certified	% of implementation
<b>WACAF</b>	<b>54</b>		<b>14</b>	<b>40</b>	<b>25,92</b>
Benin	1		1	0	100,00
Burkina Faso	2		1	1	50,00
Cameroon	5		0	5	0,00
Cape Verde	2		2	0	100,00
Central African Republic	2		0	2	0,00
Chad	1		0	1	0,00
Congo	2		0	2	0,00
Cote d'Ivoire	1		1	0	100,00
Democratic Republic of the Congo	5		0	5	0,00
Equatorial Guinea	1		0	1	0,00
Gabon	3		1	2	33,33
Gambia	1		0	1	0,00
Ghana	1		1	0	100,00
Guinea	1		0	1	0,00
Guinea-Bissau	1		0	1	0,00
Liberia	1		0	1	0,00
Mali	6		1	5	16,67
Mauritania	5		1	4	20,00
Niger	3		1	2	33,33
Nigeria	5		2	3	40,00
Sao Tome and Principe	1		0	1	0,00
Senegal	2		1	1	50,00
Sierra Leone	1		0	1	0,00
Togo	1		1	0	100,00

ESAF	75		27	48	36
Angola	2		0	2	0,00
Botswana	5		0	5	0,00
Burundi	1		0	1	0,00
Comoros	3		0	3	0,00
Djibouti	1		0	1	0,00
Eritrea	2		0	2	0,00
Eswatini	1		1	0	100,00
Ethiopia	4		3	1	75,00
Kenya	3		2	1	66,67
Lesotho	1		0	1	0,00
Madagascar	7		1	6	14,29
Malawi	2		0	2	0,00
Mauritius	1		1	0	100,00
Mozambique	10		1	9	10,00
Namibia	3		2	1	66,67
Rwanda	1		1	0	100,00
Seychelles	1		0	1	0,00
Somalia	5		0	5	0,00
South Africa	10		10	0	100,00
South Sudan	1		0	1	0,00
Uganda	1		0	1	0,00
Tanzania	3		2	1	66,67
Zambia	4		1	3	25,00
Zimbabwe	3		2	1	66,67
<b>TOTAL (WACAF/ESAF)</b>	<b>129</b>		<b>41</b>	<b>88</b>	<b>31,7829457</b>

## Appendix - 6: Acknowledgement

RASG-AFI acknowledges the invaluable contributions of:

- The RASG-AFI Annual Safety Report Team (ASRT) Members who contributed to the productions of the *RASG-AFI Annual Safety Reports*; and all those who by one way or the other, contributed inputs to the Report:



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## Abbreviations

ACC – Area Control Centre  
ACI – Airports Council International  
AFI – Africa and Indian Ocean  
AFPP – Africa Flight Procedures Programme  
AI – Accident Investigation  
AIAG – AFI ATS Incident Analysis Group  
ANC – Air Navigation Commission  
ANSP – Air Navigation Service Providers  
AOC – Air Operator Certificate  
APAC – Asia Pacific  
ARC – Abnormal Runway Contact  
ASR – Annual Safety Report  
ASRT – Annual Safety Report Team  
ATC – Air Traffic Control  
ATM – Air Traffic Management  
ATS – Air Traffic Services  
CAA – Civil Aviation Authority  
CCO/CDO – Continuous Climb Operations/ Continuous Descent Operations  
CIS – Commonwealth of Independent States  
CMA – Continuous Monitoring Approach  
COSCAP – Cooperative Development of Operational Safety and Continuing Airworthiness Programme  
ESAF – Eastern and Southern Africa  
ESI – Emerging Safety Issues  
EUR – Europe  
FIR – Flight Information Region  
FLT – Flight  
FSO – Fundamentals of Safety Oversight  
GCOL – Ground Collision  
GOA – Ground Operations Agent (ISAGO)  
IATA – International Air Transport Association ICAO – International Civil Aviation Organization  
ICVM – ICAO Coordinated Validation Mission  
IFALPA – International Federation of Airline Pilots' Association  
IFATCA – International Federation of Air Traffic Controllers' Association  
IFBP – In-Flight Broadcasting Procedures  
IOSA – IATA Operational Safety Audit  
ISAGO – IATA Safety Audit of Ground Operations

LATAM – Latin America  
MENA – Middle East and North Africa  
MID – Middle East  
MNT – Maintenance  
NAM – North America  
NAT – North Atlantic  
NASA – North Asia  
ORG – Organization and Management  
PA – Pan American  
RAIO – Regional Aircraft Accident Investigation Organization  
RASC – RASG AFI Steering Committee RASG –  
Regional Aviation Safety Group  
RE – Runway Excursion  
RI – Runway Incursion  
RSOO – Regional Safety Oversight Organization  
RWY – Runway  
SAM – South America  
SARPs – Standard and Recommended Practices  
SCF-PP – Systems Component Failure Powerplant  
SCF-NP – Systems Component Failure Non-Powerplant  
SMS – Safety Management Systems SSC – Significant Safety Concerns  
SSC – Significant Safety Concerns SSP –  
State Safety Programme  
SST – Safety Support Team  
TWY – Taxiway  
UCR-Unsatisfactory Condition Report  
UNK - Unknown  
USOAP – Universal Safety Oversight Audit Programme  
USOS – Undershoot/Overshoot  
WACAF – Western and Central Africa  
3 per. Mov. Avg. (AFI) – 3 Year Moving Average (takes average rate over 3 years)





SAFETY

## RASG-AFI Civil Aviation Safety Partners

