



THE AFRICAN
AVIATION SAFETY &
OPERATIONS SUMMIT



FLIGHT
SAFETY
FOUNDATION

The 2nd African Aviation Safety & Operations Summit

“Strengthening Safety Culture for Resilient Aviation in Africa”

Better Skies for Africa



Opening ceremony

14 May 2025

Better Skies for Africa



Opening Ceremony



**Welcome and Opening remarks
Mr. Abdérahmane Berthé, Secretary
General - AFRAA**

Better Skies for Africa



Opening Ceremony



**Speech by Hassan Shahidi
President & Chief Executive Officer
Flight Safety Foundation**

Better Skies for Africa



Opening Ceremony



Dr. Jimmy Gasore
Minister of Infrastructure
Republic of Rwanda

Better Skies for Africa



“Highlight: Progress since the inaugural edition of the Summit and challenges ahead.”



**Mr. Abdérahmane Berthé,
Secretary General - AFRAA**



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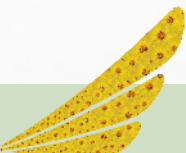


I. THE INAUGURAL SUMMIT - 2024

II. 2024 RECOMMENDATIONS

- ACHIEVEMENTS
- ON-GOING
- CHALLENGES

III. CONCLUSION



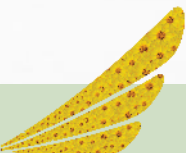
THE INAUGURAL SUMMIT - 2024



I. THE THEME: "*Championing Africa Aviation Safety Together,*"

I. THE OBJECTIVES:

- To promote and improve safety standards within the African aviation sector.
- To offer a forum to stakeholders to discuss and exchange best practices.



2024 RECOMMENDATIONS



1. COMMITMENT TO SAFETY

- Creating a positive safety culture within the organisation.
- Commitment at all levels of the organisation, from top-level management to individual employees.

Action Report

*Theme of this 2nd Safety Summit: “**Strengthening Safety Culture for Resilient Aviation in Africa**”*

1



2024 RECOMMENDATIONS



2. OPERATIONALISATION OF THE EXISTING INITIATIVES – RUNWAY EXCURSION (RE)

- To operationalise existing safety initiatives, like the Runway Safety Group.
- Need to assess the current situation.
- Set measurable goals and KPIs to track progress on RE reduction.

Action Report

First step: Sharing and drawing lessons from an RE accident investigation Report during the close session

Next steps: Plan for relevant activities to pursue operationalization.

1



2024 RECOMMENDATIONS



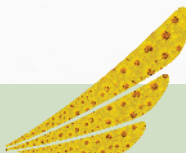
3. ESTABLISHMENT OF COLLABORATIVE SAFETY ENHANCEMENT GROUPS

- These groups bring together diverse stakeholders to collectively identify, prioritize, and monitor safety risks.
- Regular meetings with different safety enhancement groups, quarterly.

Action Report

AFRAA established a Safety Group as part of its Technical, Operations, and Training Committee. The Safety Group meets quarterly.

The Safety Group will collaborate with stakeholders to collectively identify, prioritize, and monitor safety risks in line with its mandate.



2024 RECOMMENDATIONS



4. MORE SPECIFIC TRAINING

- Safety matters, awareness creation, and workshops.
- Cultivate a robust management and leadership foundation on cultural education's influence.
- Fatigue Management for Pilots, Maintenance Engineers, Traffic Controllers, Ground Handling Agents, and others.



4. MORE SPECIFIC TRAINING

➤ Action Report

- I. AFRAA - Boeing Workshop - Safety SMS & Aircraft Maintenance 16th October 2024
- II. Aircraft Accident and Incident Investigation – 8th – 12th Jan 2024 (15 Trainees)
- III. Emergency Response Planning(ERP) – 15th – 19th Jan 2024 (24 Trainees)
- IV. Safety Assessment of Foreign Aircraft (SAFA) – 13th – 15th Feb 2024 (24 Trainees)
- V. Human Factors in Aviation – 25th -28th May 2024
- VI. Root Cause Analysis – 12th – 16th August 2024 (4 Trainees)



CONCLUSION



CONTINUED FOCUS ON:

- **Stakeholders' collaboration through safety groups**
- **Capacity building through training and workshops**
- **Awareness of human factors**
- **Promoting Safety Culture**



“FSF dashboard trends – highlights for Africa from FSF annual report”

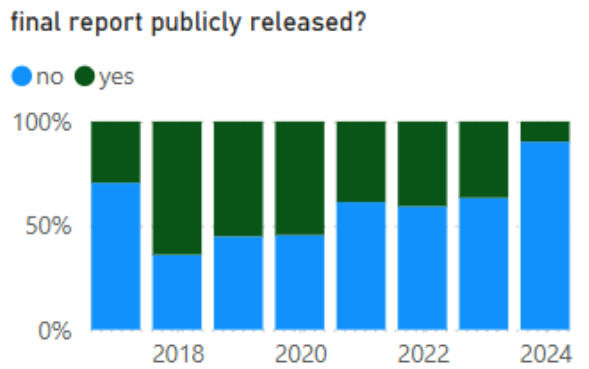
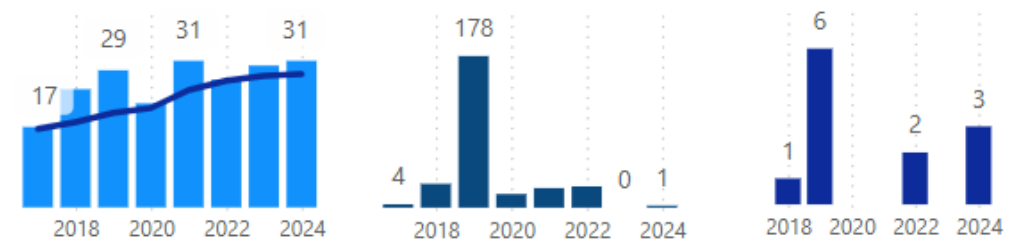


Mr. Mark Millam
Director - Flight
Safety Foundation



Africa Accident Dashboard+ 2017-2024

Last update



AC
 SI

Jet
 Turboprop

fatal
 non-fatal

< 5700 kg
 > 5700 kg

land
 water

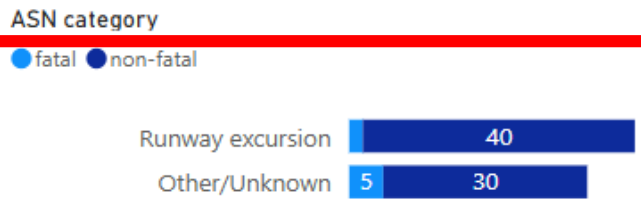
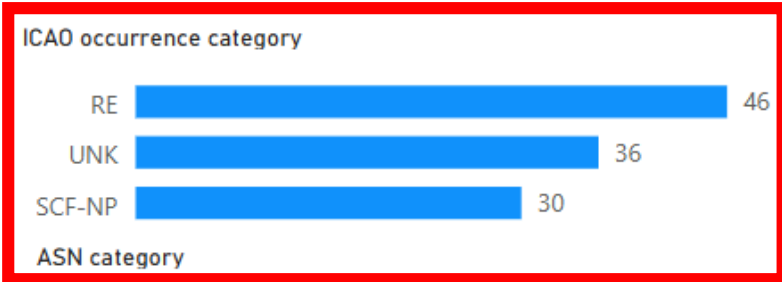
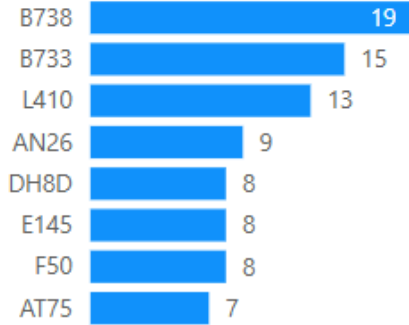
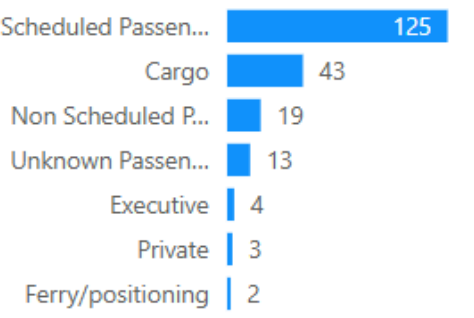
airliners
 corp.jets

continent

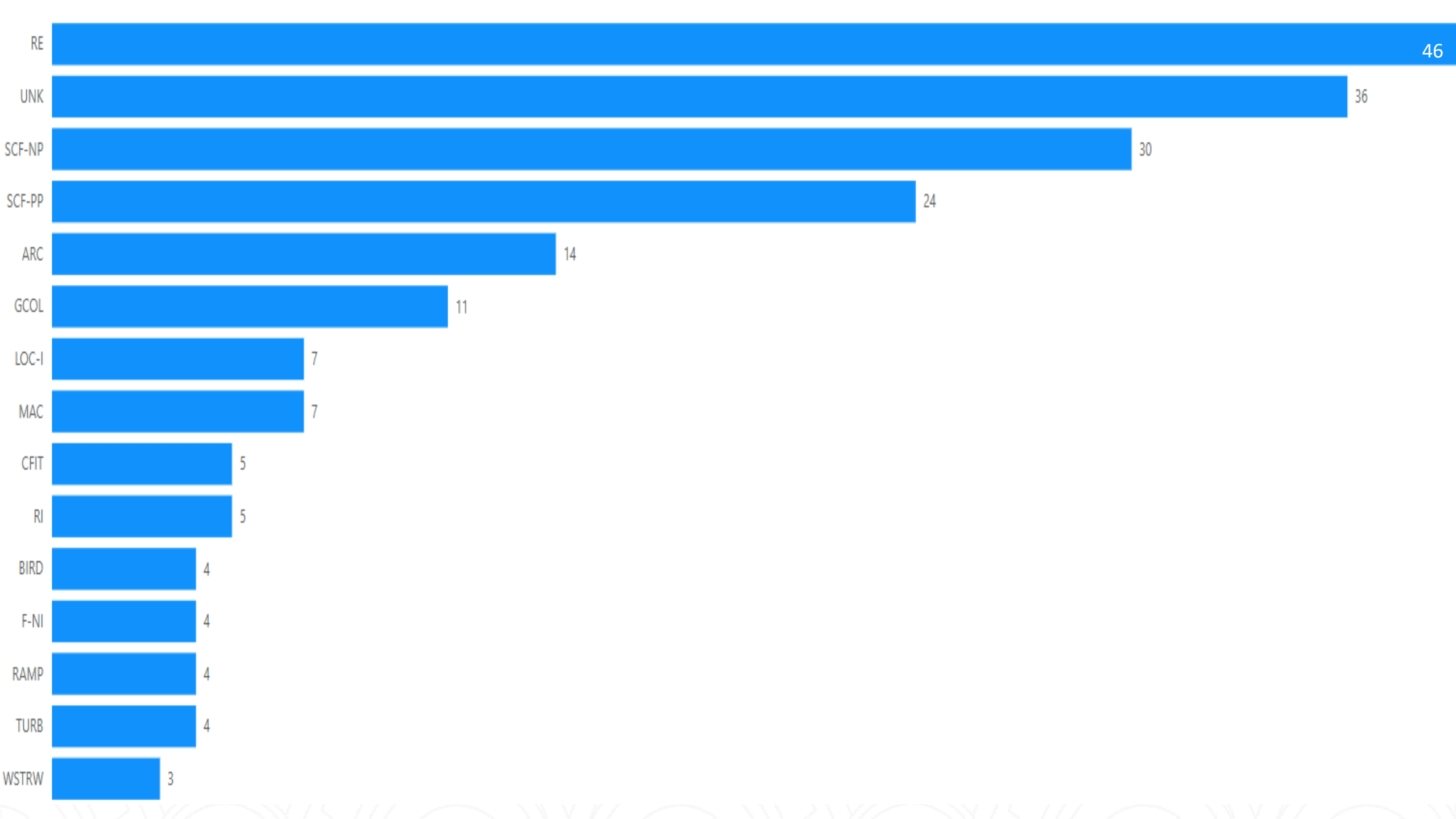
 Africa

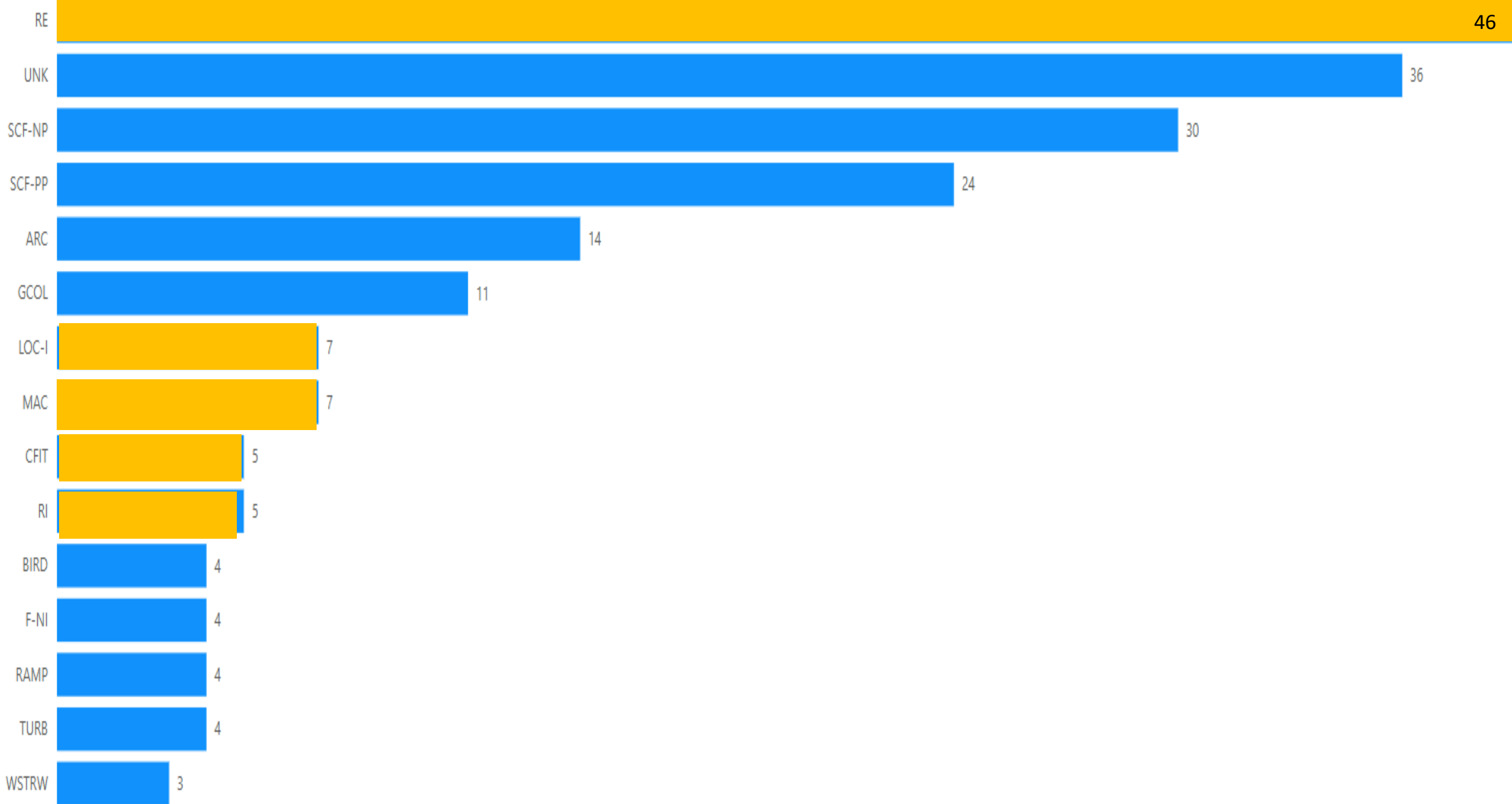
country of occurrence

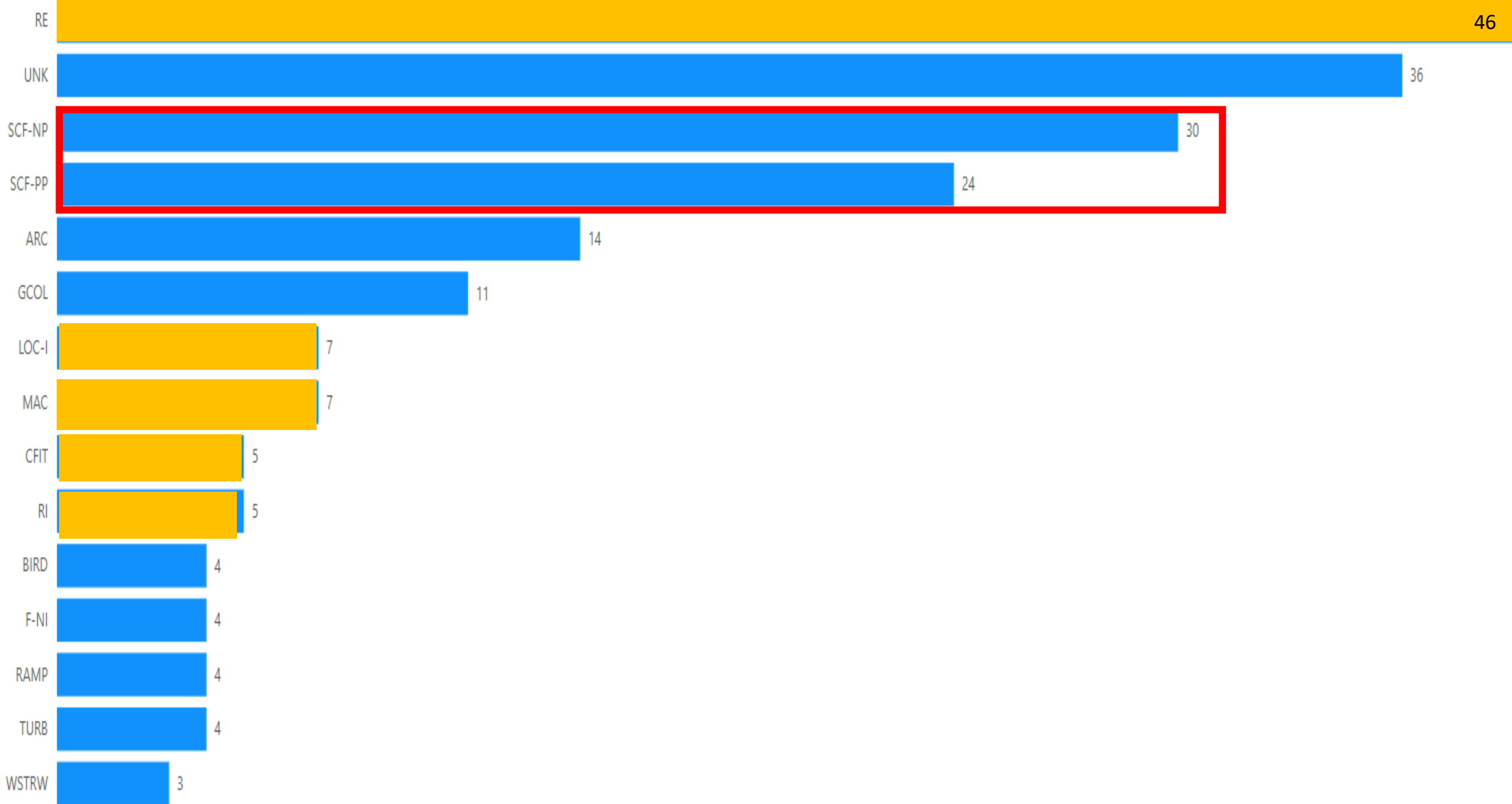
- Nigeria 42
- South Africa 31
- D.R. Congo 22
- Somalia 17

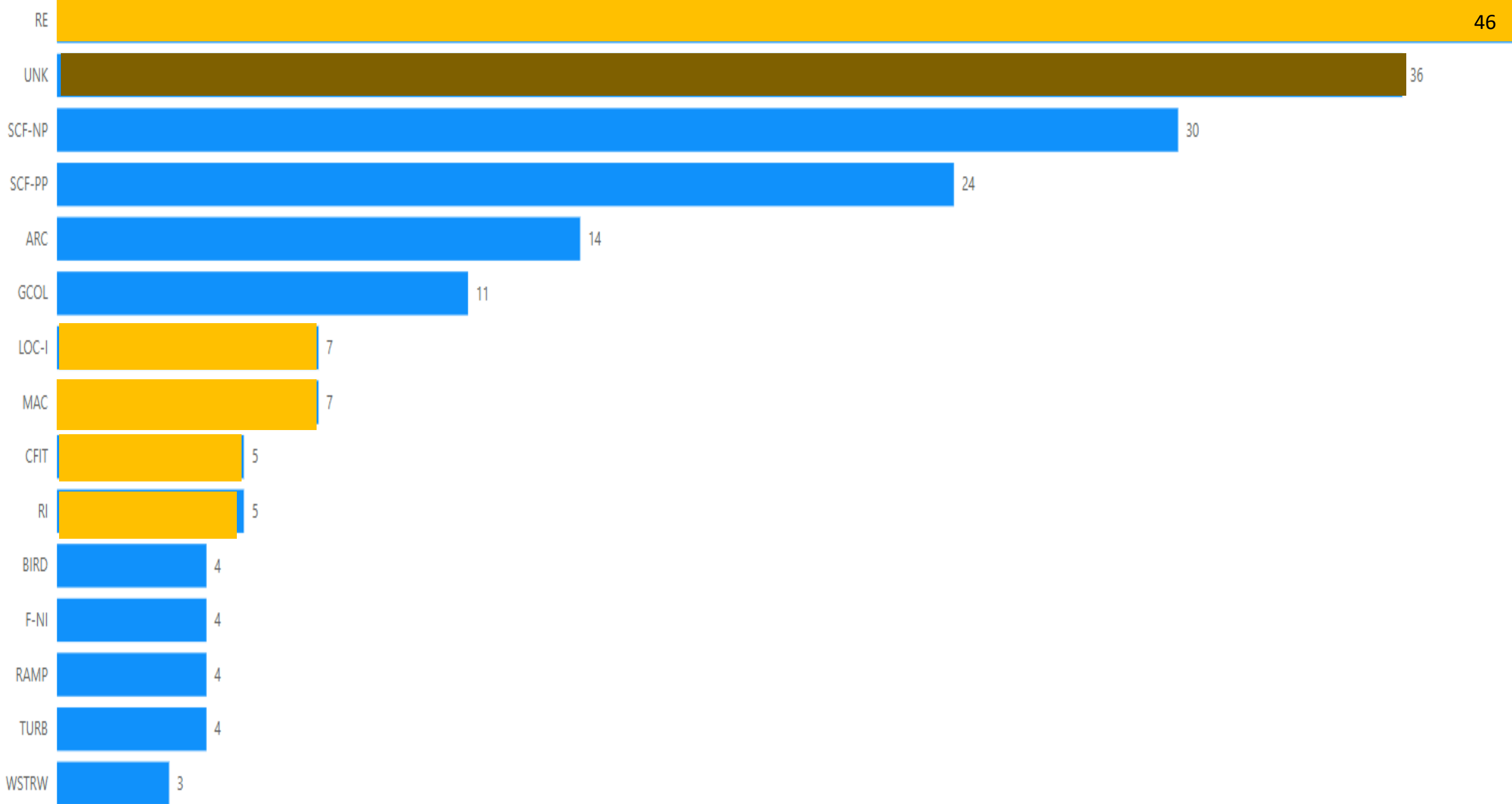


url	date	type	country	fatalities	grd fatal	cat	ICAO_category
🔗	Monday, January 02, 2017	Let L-410	D.R. Congo	0	0	AC	RE
🔗	Friday, January 20, 2017	Airbus A320	Seychelles	0	0	SI	MAC
🔗	Sunday, February 05, 2017	ATR 72-500	Algeria	0	0	SI	UNK
🔗	Monday, March 13, 2017	Boeing 737-800	South Africa	0	0	SI	MAC
🔗	Saturday, March 18, 2017	de Havilland Canada DHC-8-400	Nigeria	0	0	SI	F-NI
🔗	Monday, March 20, 2017	Antonov An-26	South Sudan	0	0	AC	UNK
🔗	Saturday, April 01, 2017	Let L-410	South Sudan	0	0	AC	RE
🔗	Sunday, April 02, 2017	Boeing 737-700	Algeria	0	0	AC	SCF-NP
Total				275	12		









Africa Accident Dashboard+ 2017-2024

Last update



final report publicly released?

● no ● yes

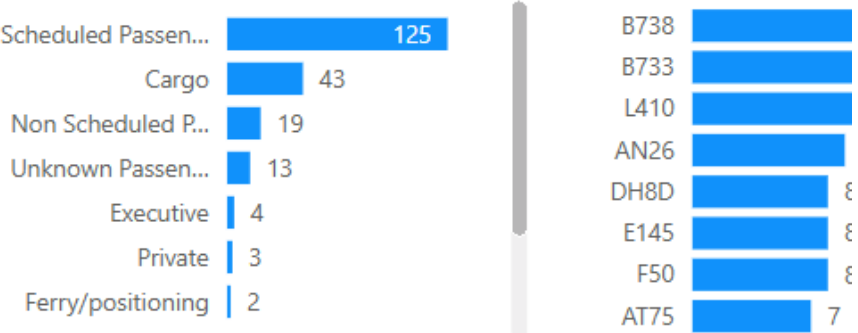
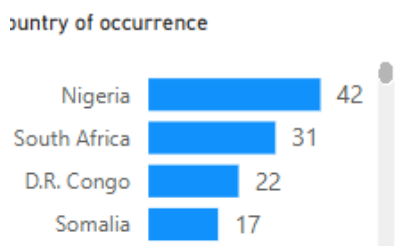
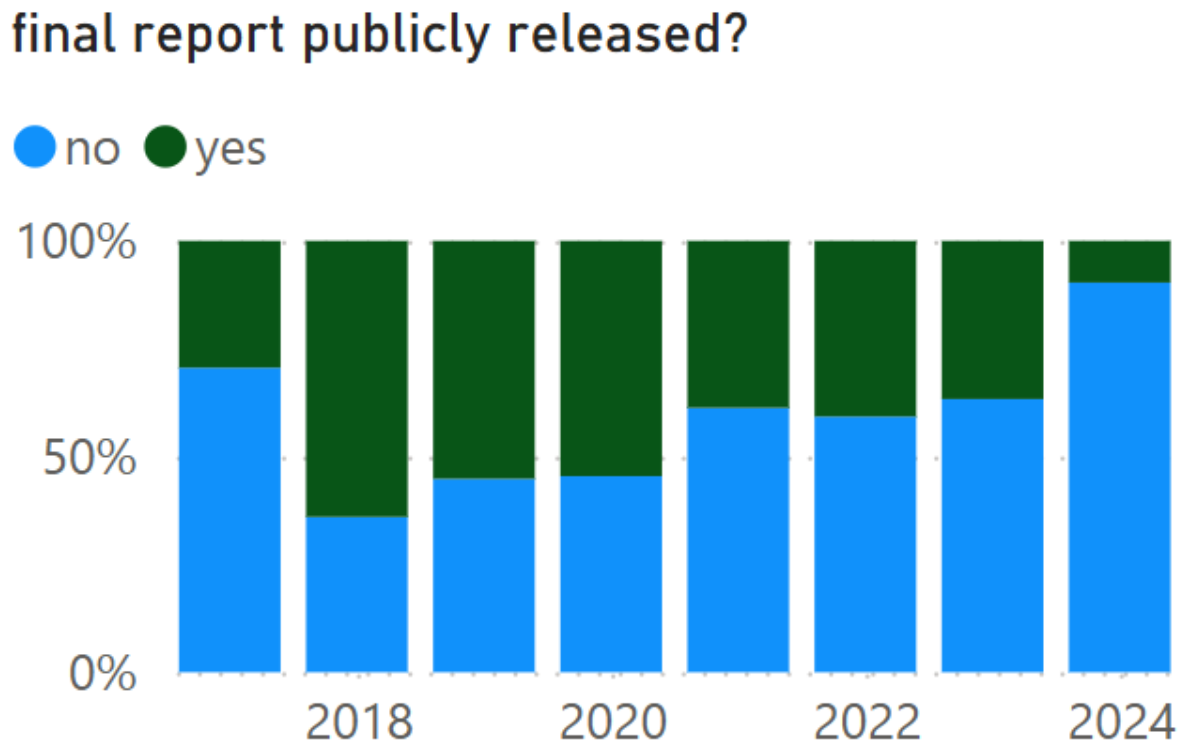
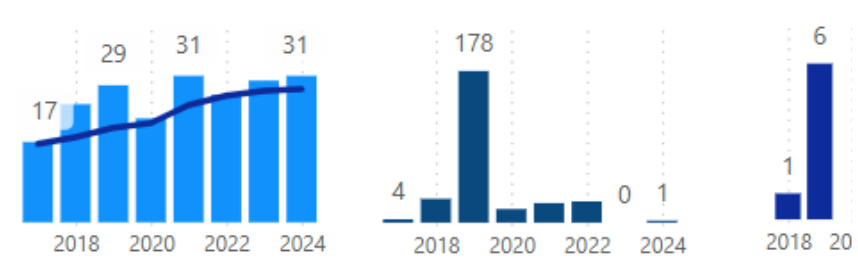
AC
 SI

Jet
 Turboprop

fatal
 non-fatal

land
 water

airliners
 corp.jets



	grd	fatal	cat	ICAO_category
Monday, January 02, 2017	Let L-410	D.R. Congo	0	0 AC RE
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Sunday, April 02, 2017	Boeing 737-700	Algeria	0	0 AC GCF-NR
Total			275	12

Access to the ASN Dashboard is located at:

<https://flightsafety.org/toolkits-resources/aviation-safety-network/>



THANK YOU

Highlights for Africa from
FSF Annual Report 2024

“The Revised Abuja Safety Targets: Sharing an Item Implementation Action Plan”



Mr. James Danga,
Safety Expert -
AFCAC





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1. Why the Abuja Safety Targets Matter
2. Structure of the Implementation Plan
3. High-Risk Categories Addressed
4. Example Target Implementation Breakdown
5. Timeline and Responsibilities
6. Monitoring and Reporting Tools
7. Key Implementation Tools and Resources
8. Vision Forward: Safety Improvements Through Coordination
9. Conclusion

AFCAC Vision, Mission and Core Values



Vision

“To foster a safe, secure, efficient, cost effective, sustainable, and environmentally friendly civil aviation industry in African States.”

“We facilitate cooperation and coordination among African States towards the development of integrated and sustainable Air transport systems; and foster the implementation of ICAO SARPs.”



Mission



Values

- Good governance and best practices
- Transparency and accountability
- Professionalism and Integrity
- Impartiality

AFCAC - Specialized Agency of the African Union (AU) on all Civil Aviation Matters in Africa - HQ in Dakar, Senegal

EXECUTING AGENCY OF YAMASSOUKRO DECISION

Why the Abuja Safety Targets Matter

- ❑ Endorsed by the AU Ministerial Committee on Transport and Energy
- ❑ Aimed at the reduction of accidents and serious incidents
- ❑ Includes resolution of Significant Safety Concerns (SSCs)
- ❑ Aligned with ICAO GASP, and GANP as well as Regional Safety and Air Navigation plans for MID, EUR and AFI.

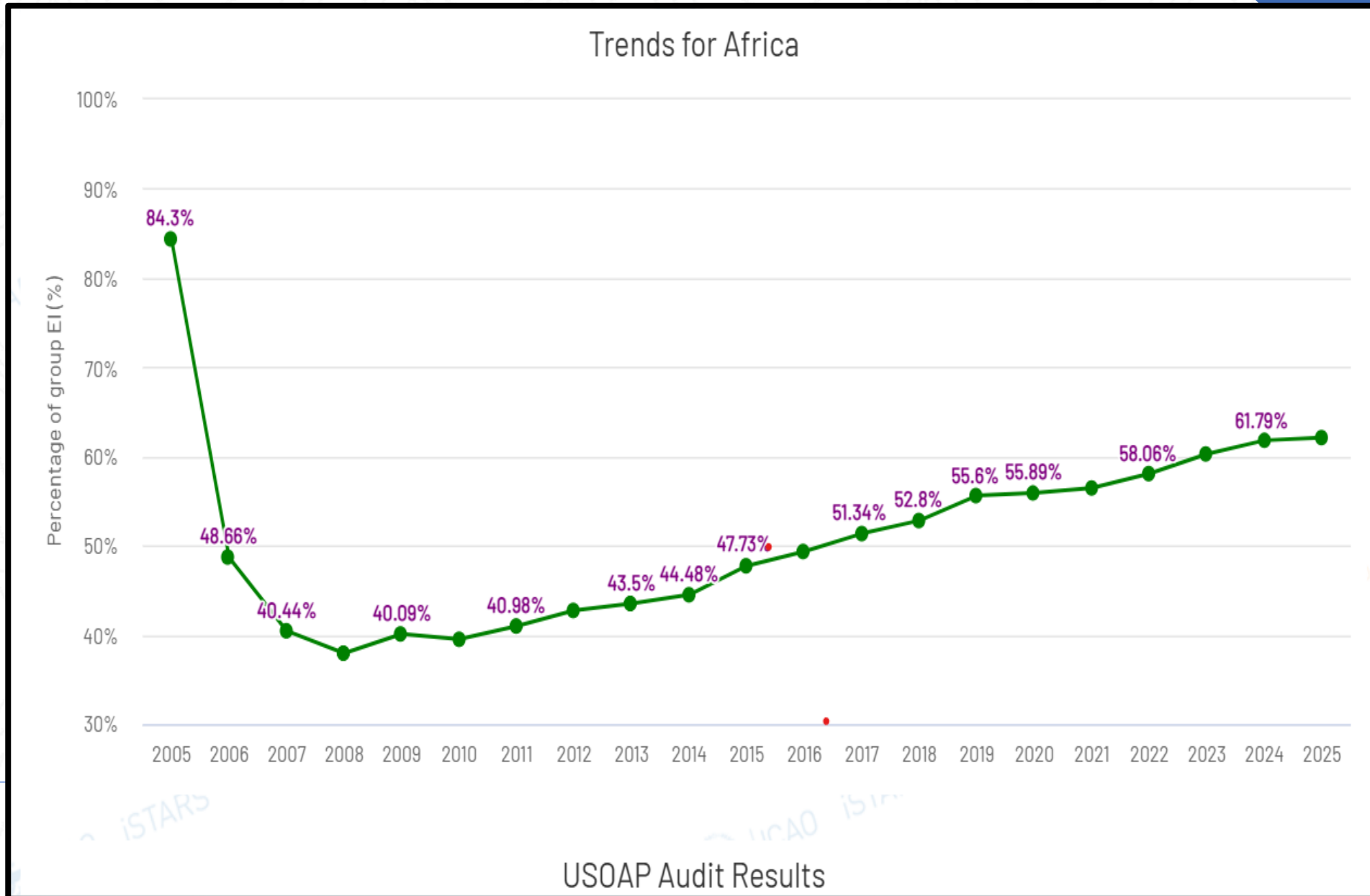
Key Safety Challenges in Africa

- Low EI scores and persistent SSCs
- Underdeveloped accident investigation capabilities
- Weak SSP and SMS implementation
- Inconsistent certification of service providers
- Lack of standardized regional coordination and performance tracking

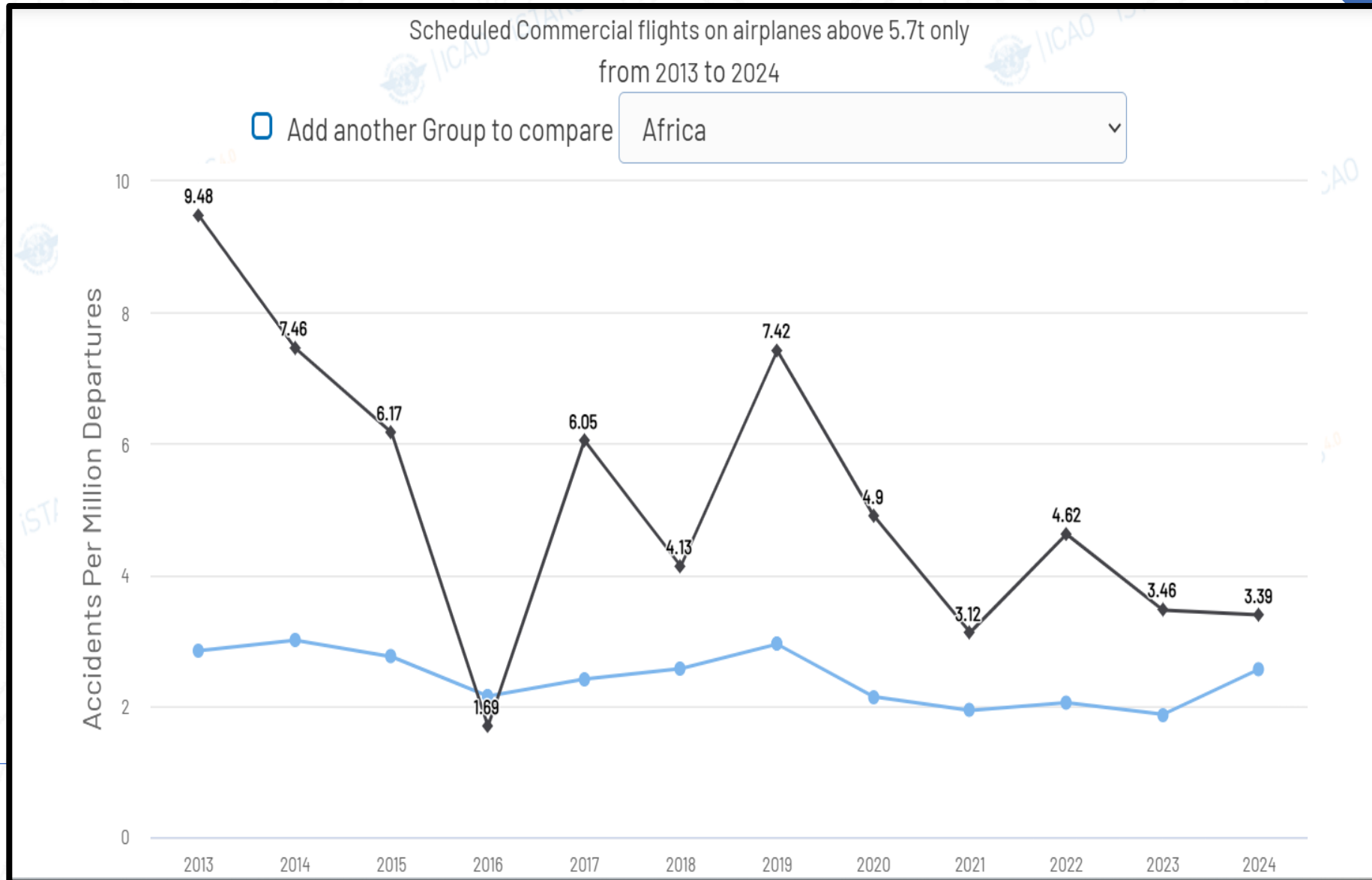
Better Skies for Africa



Why the Abuja Safety Targets Matter



Why the Abuja Safety Targets Matter



Structure of the Implementation Plan

WHAT:

- 15 ASTs covering all 6 GASP Goals

WHEN:

- Short-Term: 2025–2026
- Medium-Term: 2027–2028
- Long-Term: 2029–2030

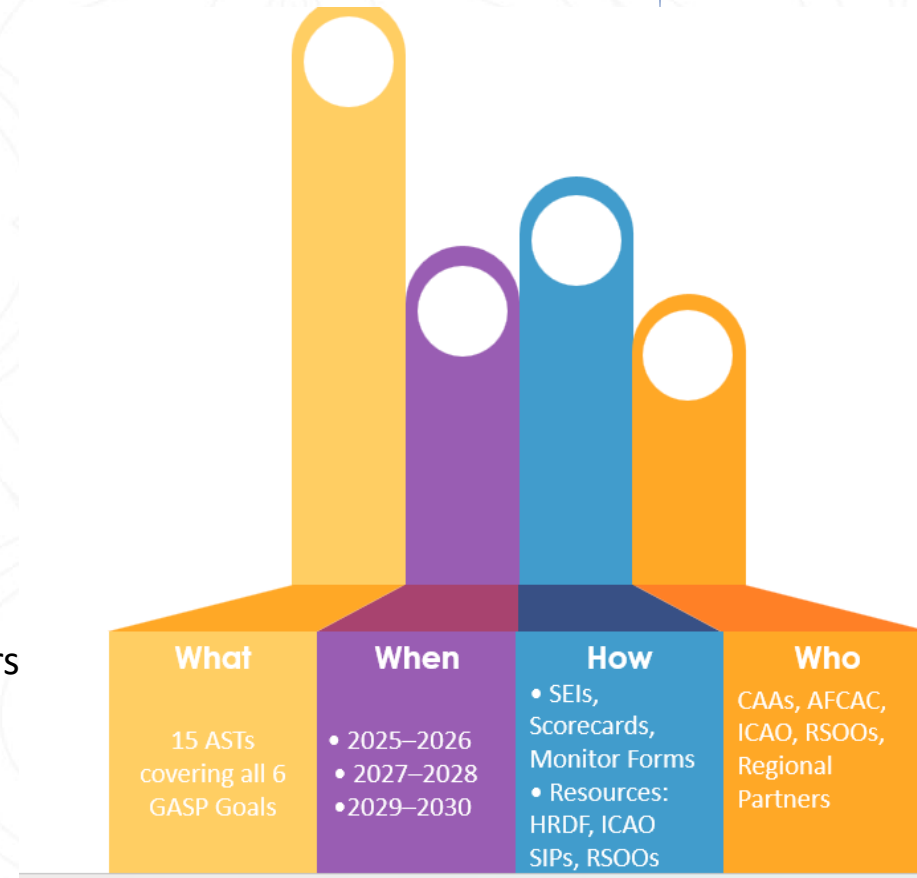
HOW:

- SEIs, Scorecards, Monitoring Forms
- Resources: HRDF, ICAO SIPs, RSOOs

WHO:

- CAAs, AFCAC, ICAO, RSOOs, Regional Partners

HRC: RE, RI, LOC-I, CFIT, MAC etc



Implementation Action Plan (What-When-How-Who)

High-Risk Categories Addressed



CRITERIA FOR SELECTION OF HIGH-RISK CATEGORIES

- Trends from ICAO RASG-AFI Annual Safety Reports
- FSF Safety Dashboard data for African operations
- Historical accident and incident analysis in the AFI Region

- Controlled Flight Into Terrain (CFIT)
- Loss of Control In-flight (LOC-I)
- Runway Excursions & Incursions (RE/RI)
- Mid-Air Collision (MAC), Large Height Deviation (LHD)
- System Failures (SCF-NP), Bird Strikes, Dust Haze

Example: Abuja Safety Target 1 – Reduction in Operational Risk



WHAT: Reduce accident and serious incident trends

WHEN: Monitored continuously 2025–2030

HOW: Use SSP, SPI monitoring, RSTs

WHO: States, CAAs, ANSPs, Airport Authorities

HRC: RE, RI, LOC-I, MAC

SEIs: SSP tools, ICAO Runway Safety Plan,
data-driven oversight



Example: Abuja Safety Target 2 – Strengthen Oversight Capability



WHAT: Strengthen autonomous CAAs and AIG systems, improve EI scores, and support functions

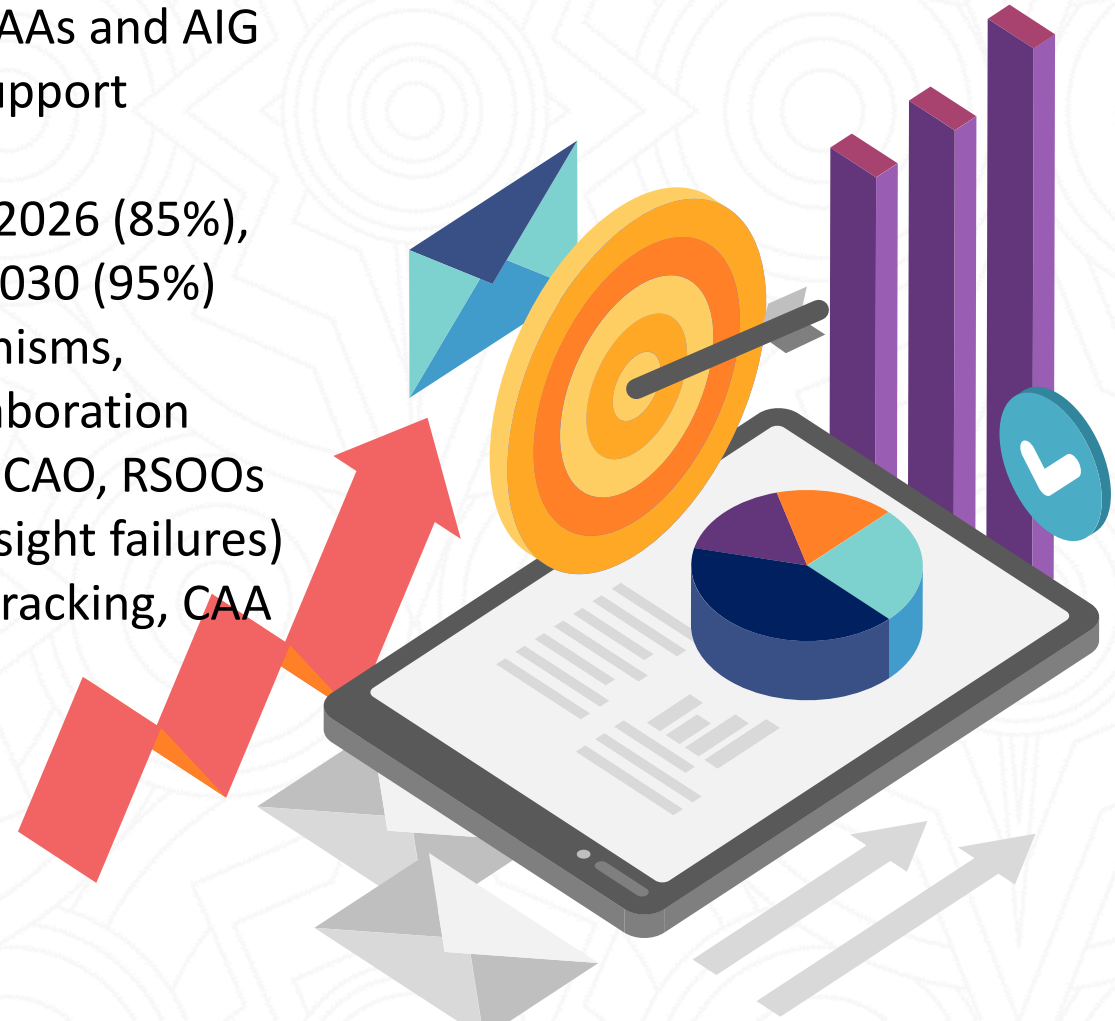
WHEN: Milestones – 2024 (75%), 2026 (85%), 2027–2028 (Institutional setup), 2030 (95%)

HOW: Legislation, funding mechanisms, technical assistance, regional collaboration

WHO: States, CAAs, AIBs, AFCAC, ICAO, RSOOs

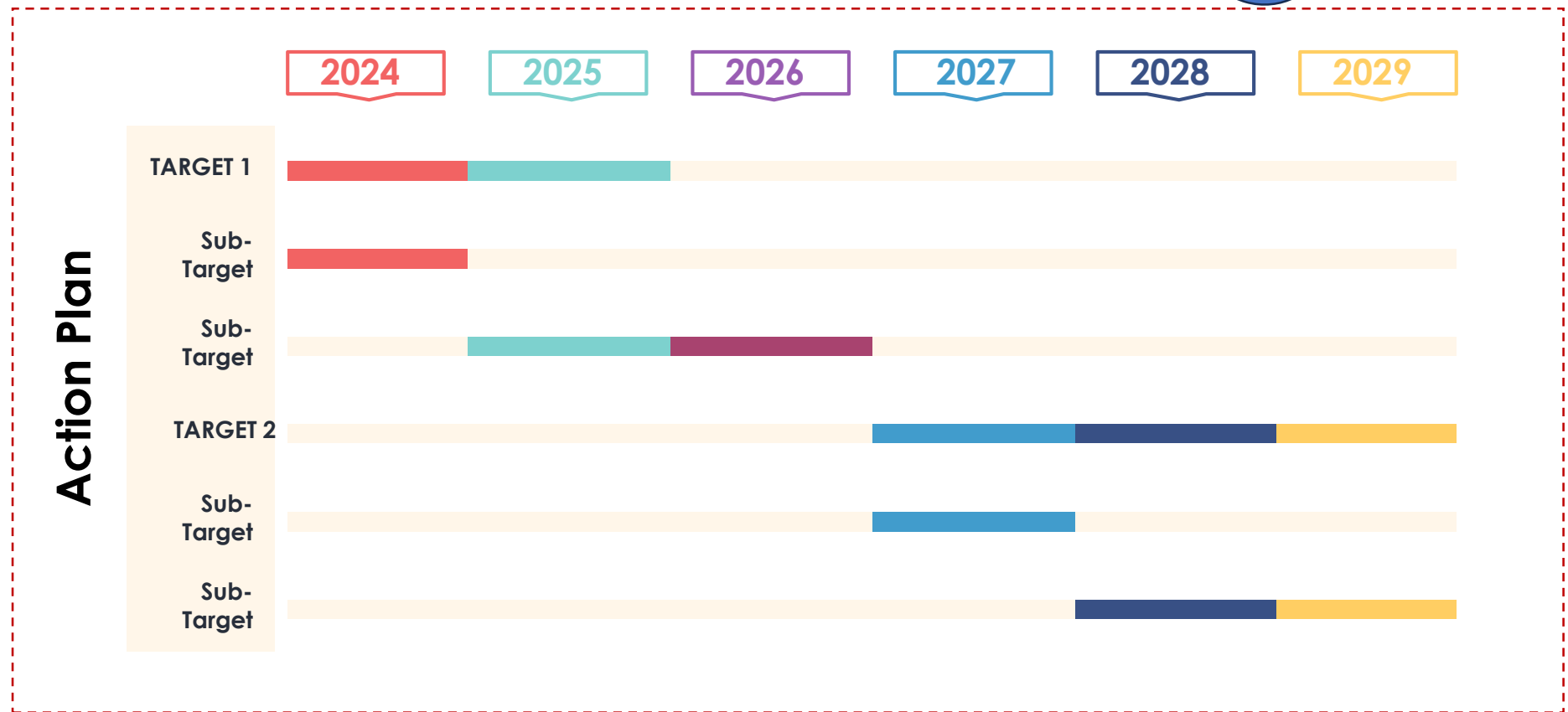
HRC: All categories (systemic oversight failures)

SEIs: AFI-CIS missions, iSTARS PQ tracking, CAA organizational reviews



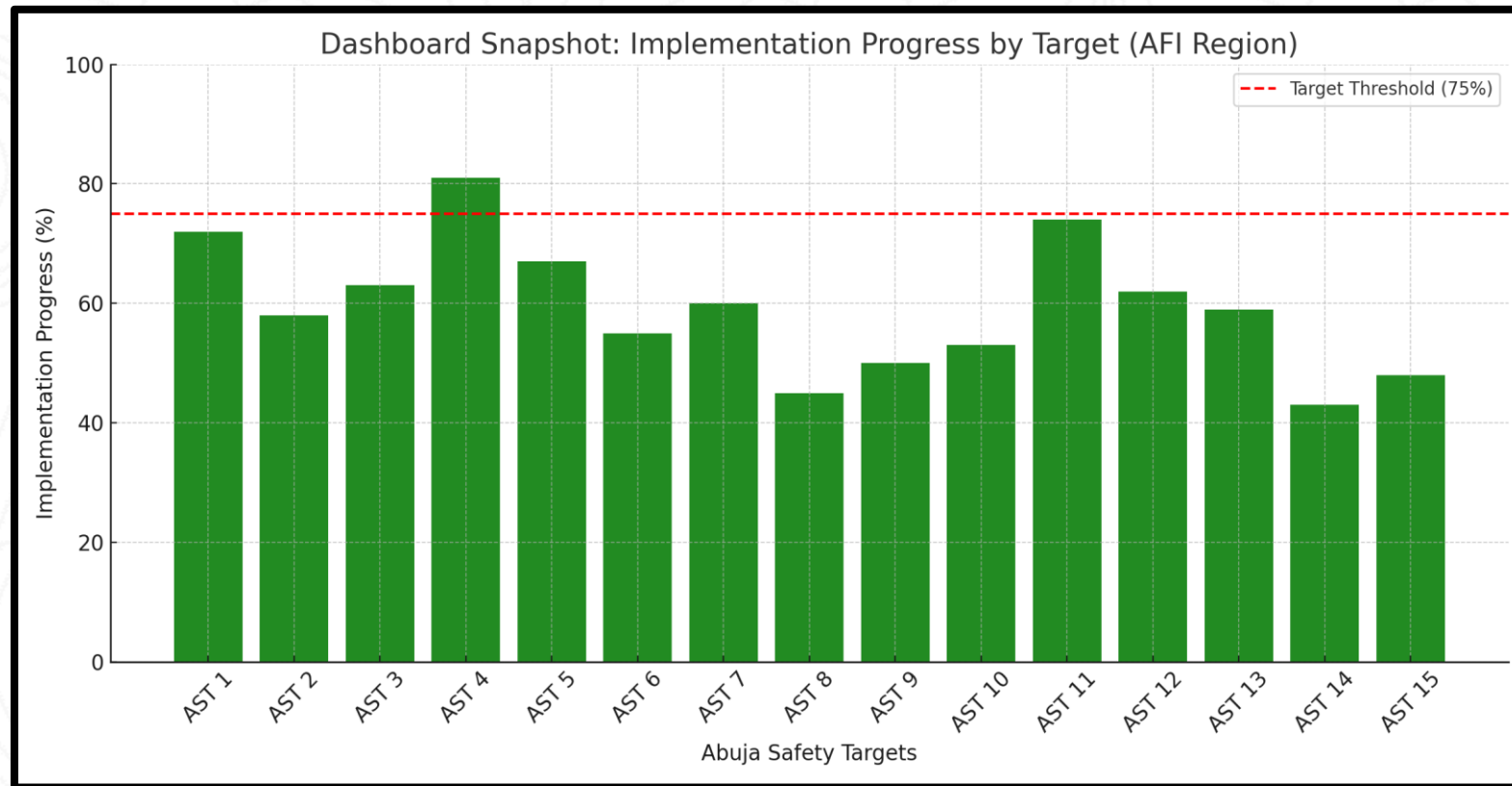
Timeline & Stakeholder Roles

Each State to develop its National AST Action Plan



Stakeholders: States, AFCAC, ICAO, RSOOs, RECs, Industry

Monitoring and Reporting Tools



AST Progress Dashboard Snapshot – AFCAC/Member States

Auto-generated regional implementation reports

Update Implementation Status of Abuja Safety Targets - Guinea

State

Guinea

Contact Person

Email Address

Tacct

Target

Target 1

Target 1

Target 2

Target 3

Target 5

Status

Partially Implemented

Comments

Key Implementation Tools and Resources

AFCAC

- ❑ AFI-CIS and Peer Review Programmes
- ❑ Aerodromes Certification Projects
- ❑ Runway Safety Teams

**AFCAC
Interventions**

**ICAO
Interventions**

ICAO

- ❑ SSP Gap Analysis & ICAO SSP iPack
- ❑ NASP and GASP alignment templates
- ❑ ICAO GANP and ASBU Planning Tools

International Partners' funding and Support

Vision Forward: Safety Improvements Through Coordination



- Unified planning at national, regional and continental levels
- Targeted resource allocation to address High-Risk Categories
- Stronger State commitment through peer accountability
- AFCAC's role in strategic coordination and progress tracking
- A safer, more connected African airspace by 2030

Better Skies for Africa





CONCLUSION

- ❑ The Revised Abuja Safety Targets are Africa's roadmap to operational safety and efficiency of air navigation.
- ❑ Every stakeholder has a role to play—States, ANSPs, Operators, Regional Bodies.
- ❑ Success lies in coordination, commitment, and use of the right tools.
- ❑ Together, we can elevate aviation safety across the continent.
- ❑ Let's implement, monitor, and lead the way to a safer African airspace.

————— Better Skies for Africa





THANK YOU

Place your title text here

Better Skies for Africa

“The Revised Abuja Safety Targets: Sharing an Item Implementation Action Plan”



Mr. Arthemon Ndikumana,
Deputy Regional Director - ICAO
Eastern and Southern Africa
Office





ICAO

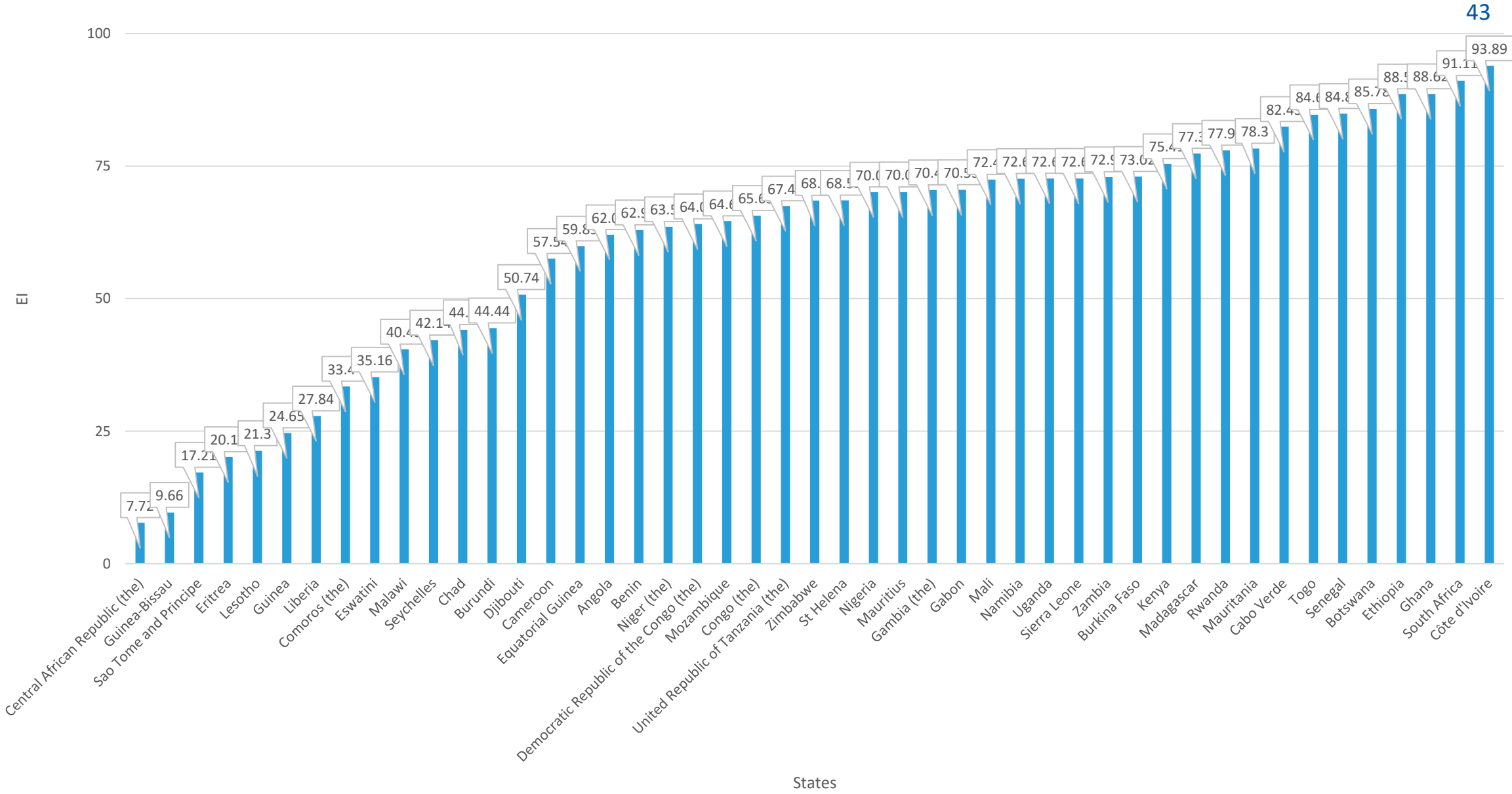
INTERNATIONAL CIVIL AVIATION ORGANIZATION

A UN SPECIALIZED AGENCY

Second African Aviation Safety Operations Summit
Kigali, Rwanda, 13 May 2025

Arthemon Ndikumana
ICAO/ESAF Deputy Regional Director

RASG –AFI USOAP CMA Result %

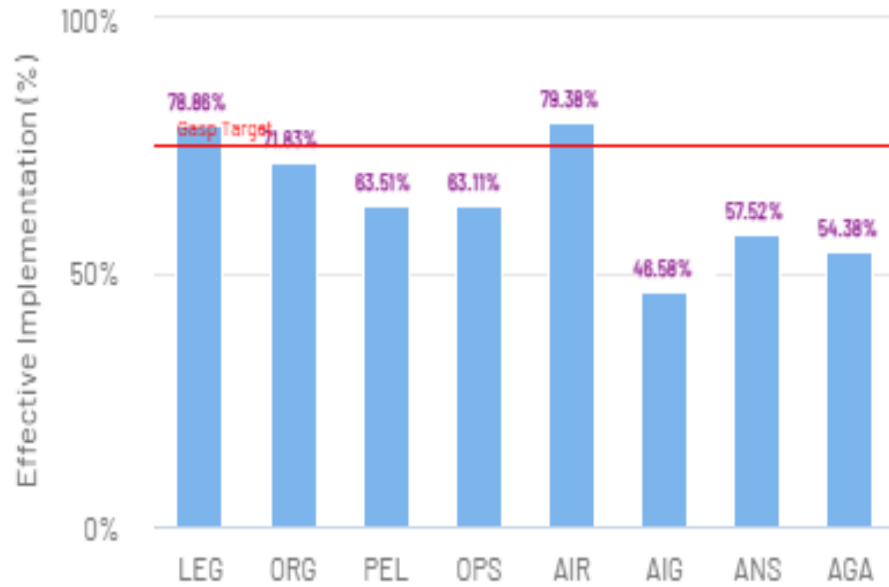


ICAO

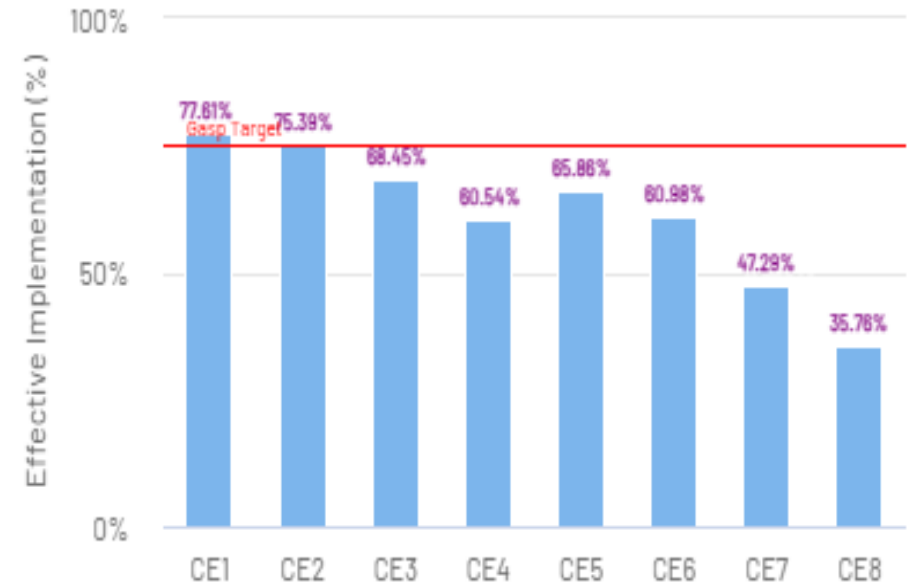
States

RASG –AFI EI By Audit Area and Critical Elements

EI by Area

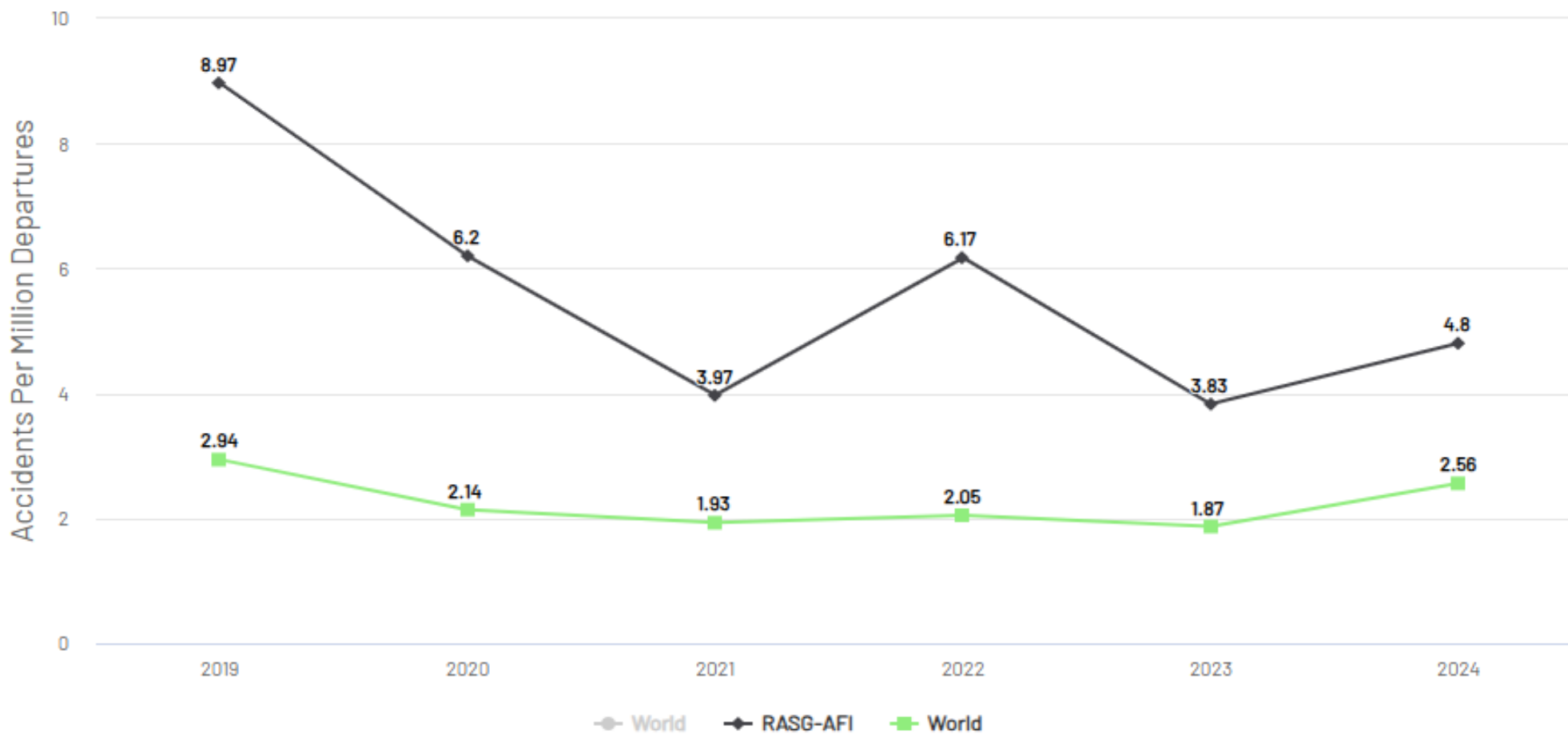


EI by Critical Element

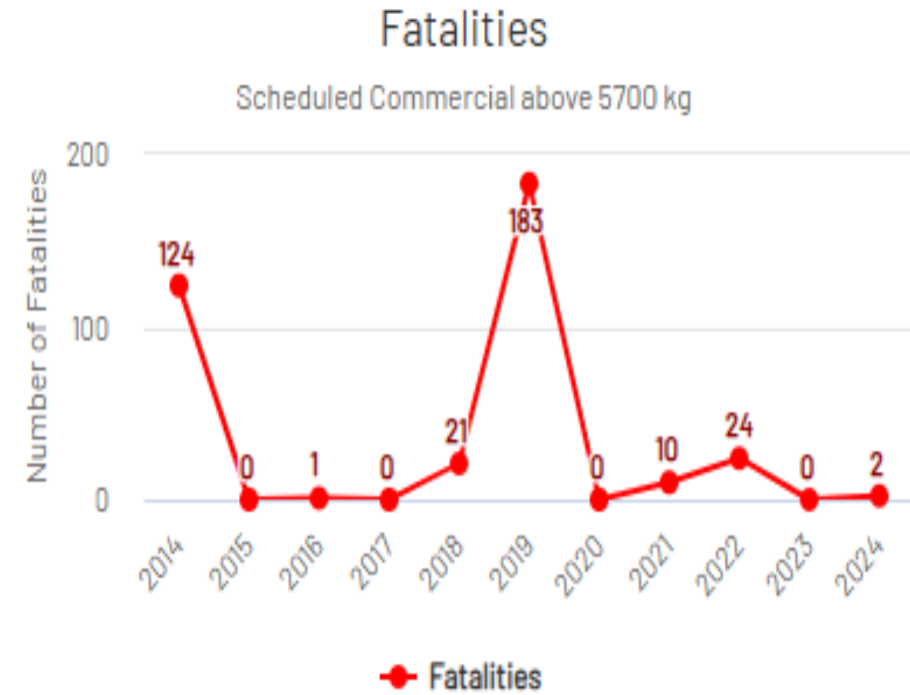
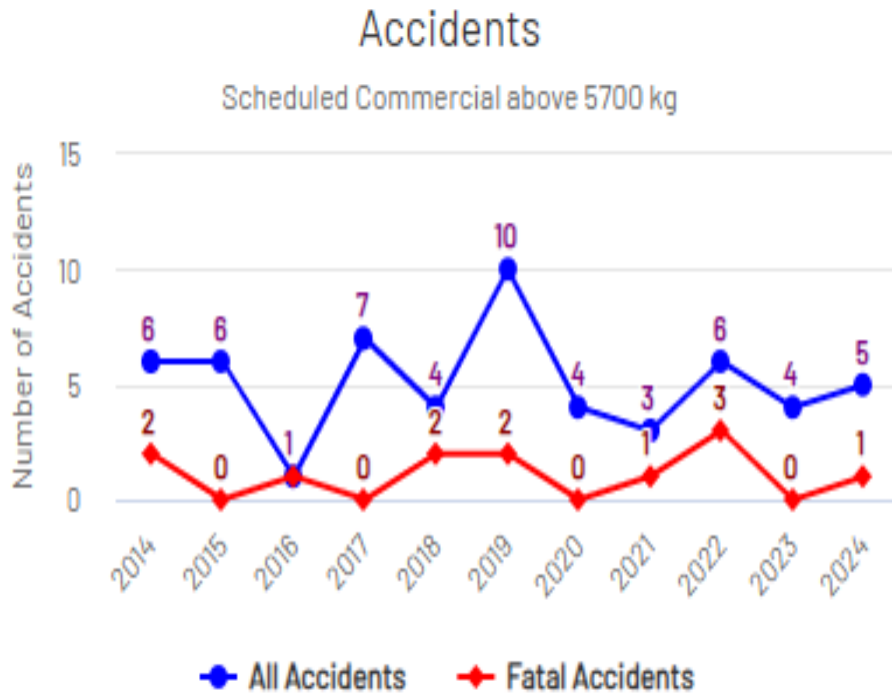


Accident Rate by year for RASG-AFI

Scheduled Commercial flights on airplanes above 5.7t only

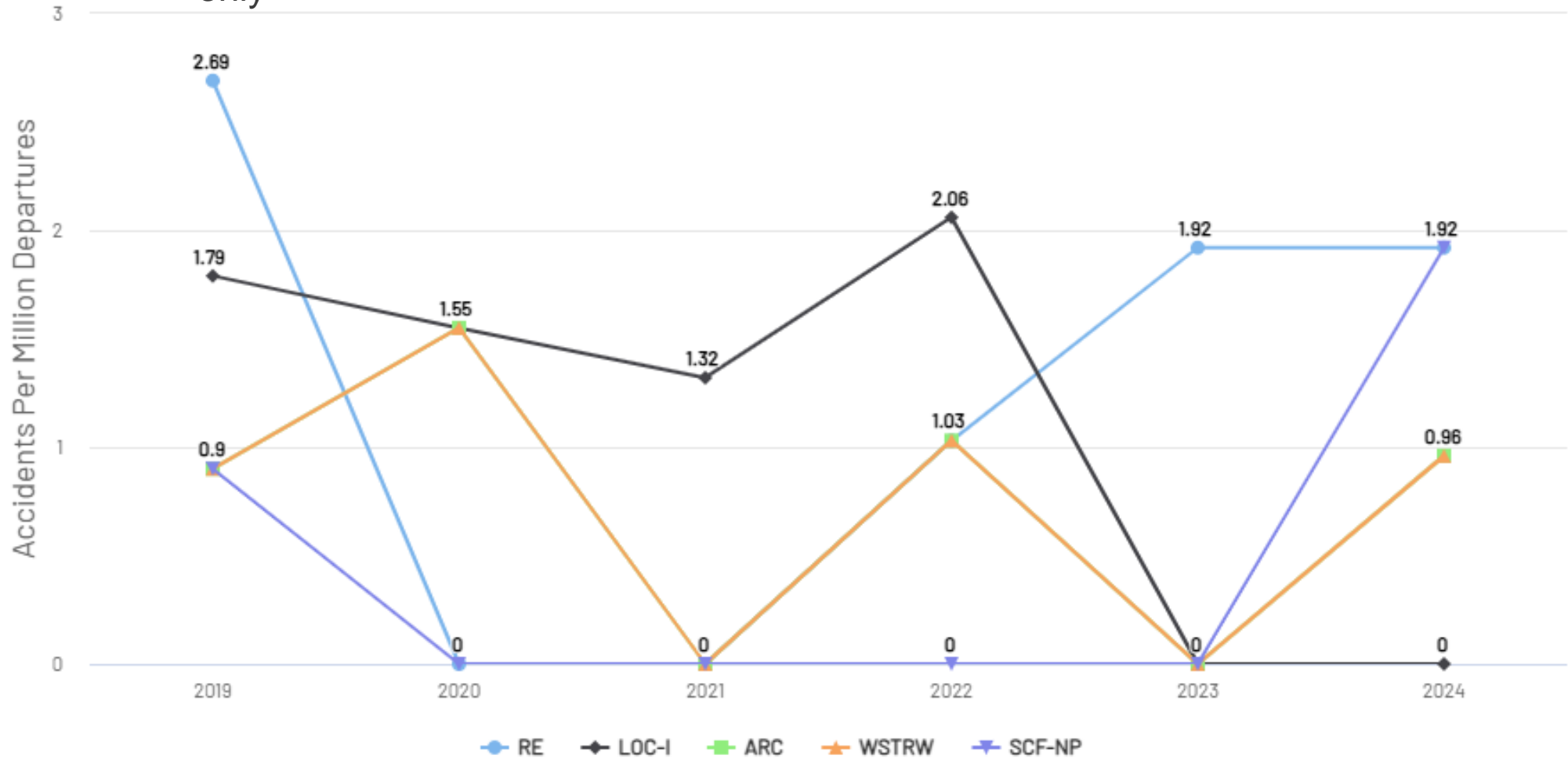


RASG –AFI Accident Rate and Fatalities



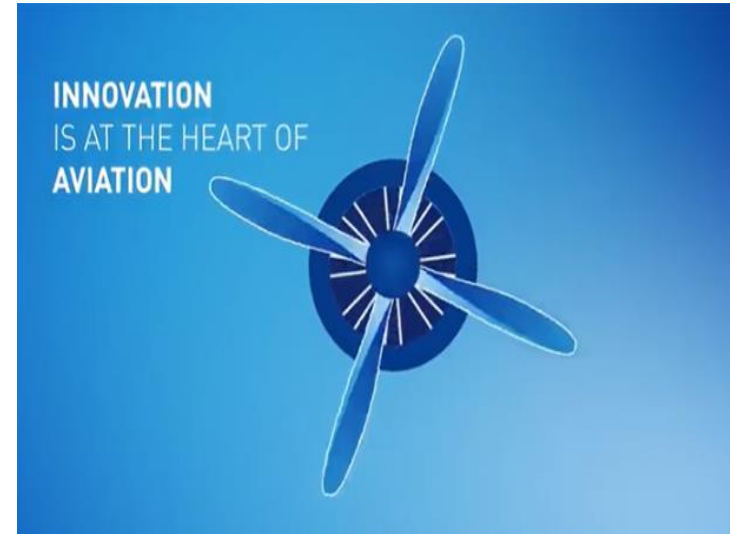
Accidents rate by occurrence category by year for RASG-AFI

Scheduled Commercial flights on airplanes above 5.7t only



ICAO Innovation

- Member States adopted Resolution A40-27, Innovation in Aviation which recognizes that innovations carry significant potential in improving aviation safety, efficiency, security, facilitation, environmental sustainability, and economic development of air transport. Innovations can also lead to more efficient and streamlined aviation regulatory processes.
- Consistently with ICAO's core values, all ICAO activities are underpinned by due consideration for gender equality and inclusion.
- These core values permeate the enhancement of ICAO's innovation culture and the realization of ICAO goals on innovation.
- ICAO realizes its objectives with purposeful balance and fairness.



ICAO Innovation

- On innovation, ICAO aims to:
 - Raise awareness of innovation among States, industry partners and the aviation community at large and promote its potential benefits.
 - Encourage and support the timely deployment of sustainable innovative technologies, processes and capacity-building activities based on operational needs;
 - Provide a framework that allows the industry to engage with ICAO at the appropriate level, and where appropriate within the existing frameworks, enabling ICAO to develop well-informed policies and carry out innovative implementation support initiatives; and
 - Provide a framework that enables ICAO to engage academia in the development of innovative studies, training and projects, through the support of the States and the industry.



Initiatives supporting Africa's new safety improvement vision

- Capacity Development and Implementation Bureau (CDI): Strengthen the coordination and management of ICAO's implementation support activities to better meet the needs of Member States and non-State entities through projects, technical assistance and training.
- The restructuration of APIRG and RASG-AFI into the Africa–Indian Ocean Aviation System Planning and Implementation Group (AASPG) to better coordinate and optimize aviation activities and to address issues through the implementation of dedicated projects under the three Subgroups.
- Concerted efforts for consolidating RSOOs in the AFI Region through meetings, a feasibility study and a validation workshop aimed at increasing the operational effectiveness and impact of RSOOs on the States' safety oversight systems.
- AFI-RASP: Raises awareness on safety risks and incites commitment of AFI States to improve their safety oversight and management capabilities, in order to continuously reduce regional operational risks through Safety Enhancement Initiatives(SEIs).

Initiatives supporting Africa's new safety improvement vision

➔ Regional Safety Initiatives under AFI Plan:

- Aerodrome certification project
 - Peer support initiatives to support Certification of Aerodromes
 - Aerodrome Certification workshops targeting States that have not Certified one International Airport
- Runway Safety Teams (RSTs)
 - Virtual and onsite workshops for Runway Safety done by peer support experts from the region.
 - Onsite Hazard identification and Risk Assessments conducted at Aerodromes with incidents and accidents
- Implementation of the new Global Reporting Format (GRF) for Runway Surface Condition



Initiatives supporting Africa's new safety improvement vision

- ➔ Regional Safety Initiatives under AFI Plan:
 - Fundamentals of Safety Oversight (FSO) project
 - State Safety Programme (SSP) implementation project.
 - African Air Navigation Service Providers (ANSPs) Peer Review Programme
 - Aeronautical Information Management (AIM) Result Based Implementation Support (RBIS) for AFI States
 - Capacity building for aviation professionals in the AFI region.

New Strategic Plan (2026-2050)

ICAO Today and Tomorrow- Safe Skies, Sustainable Future

Context of Civil Aviation Present and Future (2050)

- the threshold of 1.0 billion passengers annually was reached in 1985
 - roughly 40 years after ICAO was created;
 - then 2 billion passengers in 2004 — just 19-years later.
 - By 2019 (pre-COVID) traffic increased to 4.6 billion passengers.
- As we enter a new era marked by unprecedented challenges and opportunities, ICAO has developed a comprehensive **Long Term Strategic Plan for 2026-2050**
 - that aims at the strong growth of international aviation;
 - guiding our efforts in leading the sector toward a more safe, secure, economically viable, efficient, and environmentally sustainable aviation sector.
- ICAO is committed to working with all stakeholders, keeping its independence, to successfully face and overcome these challenges through 2050, ensuring that **“no country is left behind.”**



ICAO Vision

A safe, secure and sustainable international civil aviation system that connects the world for the benefit of all nations and people.

THREE ESSENTIAL ASPIRATIONS CRYSTALLIZE THIS VISION



The goal of Zero fatalities in international aviation from accidents and acts of unlawful interference.



The long term global aspirational goal of Net-zero carbon emissions by 2050 for international civil aviation operations.



The goal of aviation to serve as an integral part of a thriving, connected, accessible, inclusive, and affordable transport system for people and goods, contributing to socio-economic development, while ensuring no country is left behind.

Six (6) Strategic Goals



Every Flight is safe and secure

Aviation is environmentally sustainable

Aviation delivers seamless, accessible and reliable mobility for all

No Country Left Behind

The International Civil Aviation Convention and other Treaties, Laws and Regulations address all challenges

The economic development of air transport assures the delivery of economic prosperity and societal well-being for all.



Thank You!

QUESTIONS?

Networking Coffee Break

10.30-11.10hrs

Better Skies for Africa



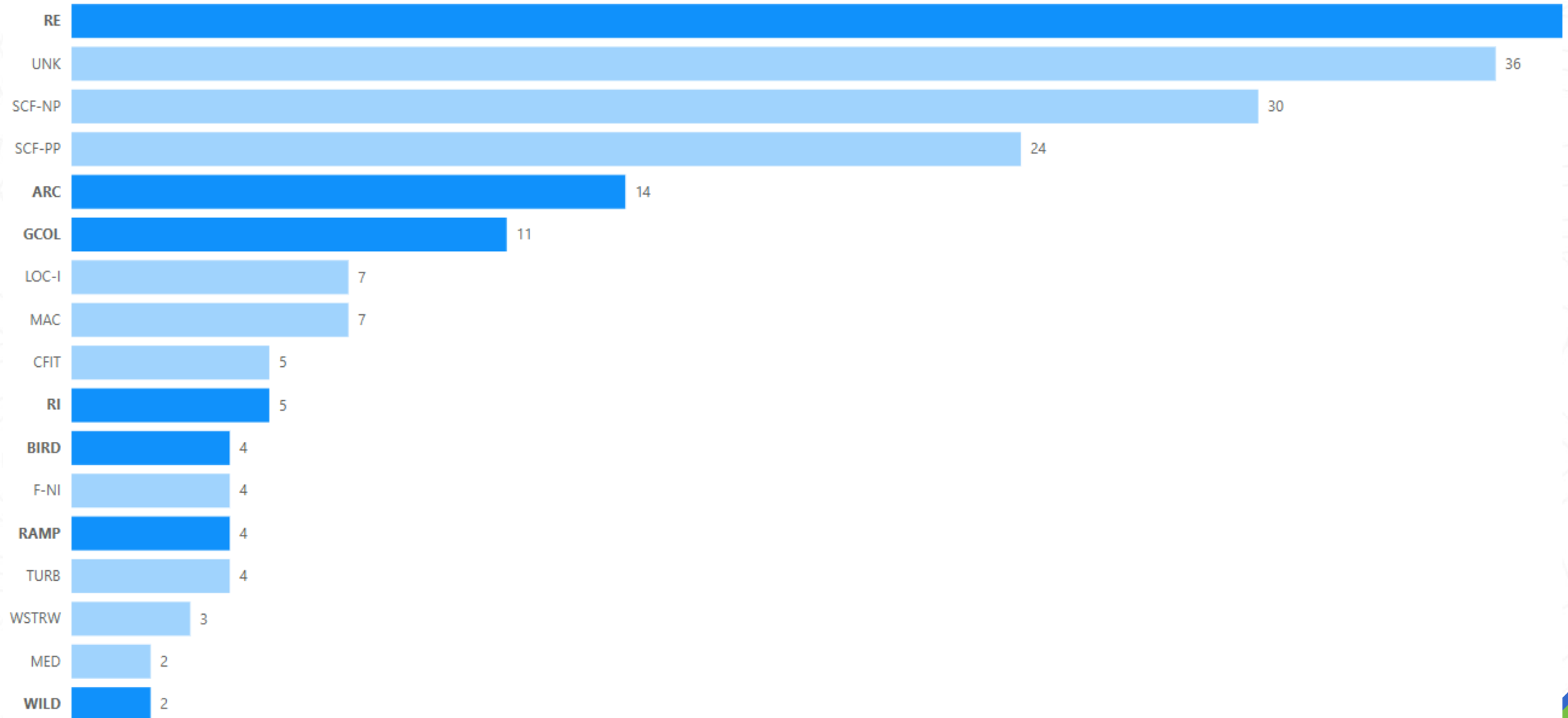
“Tackling High-Risk Safety Categories: Practical Solutions and Roadmap for Africa” Runway Safety



Mr. Mark Millam
Director - Flight
Safety Foundation

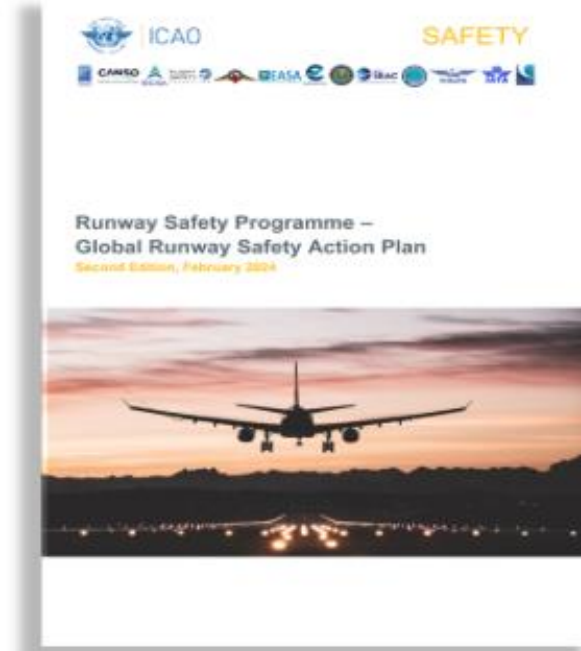


Top risk occurrence categories



Runway Safety Programme

- Efforts to enhance Runway Safety can mitigate seven of the top risk occurrence categories.
- Global safety partners have collaborated with ICAO as a global effort to develop, The Global Runway Safety Action Plan
- provides recommended actions for all runway safety stakeholders, with the aim of reducing the global rate of runway excursions and runway incursions.



AFI-RASP, Safety Enhancement Initiative (SEI)

- Mitigate contributing factors to risk of **RE** by:
 - organizing Runway Safety Workshops, Seminars and Webinars
 - Promote the establishment and implementation of State Runway Safety Programme.
 - Organize and implement follow up activities on implementation of Global Reporting Format (GRF) at regional and state level.

- **Mitigate contributing factors to risk of RI by:**
 - organizing Runway Safety Workshops, Seminars and Webinars
 - Encourage State to request for Runway Safety GO Team missions

***Global Action Plan for the Prevention Of
Runway Excursions*** *published xxxx*

***Global Action Plan for the Prevention Of
Runway Incursions*** *published xxxx*

The Need for Action on Runway Incursion

The risk will increase if we do not constantly improve

Runway collision risk depends on quantity of traffic interactions on and around runways;

Runway traffic interactions more than double when traffic doubles.

Traffic will double in 20 years...

200 Aviation Professionals



80 Organisations



127

Synchronised
Recommendations
for 6 groups



2 global, **2** regional data sets

1 year of collaborative work

GLOBAL COVERAGE OF ALL SEGMENTS



TIMELINE



Kick-off meeting,
30, 31 March 2023,
Brussels, Belgium

PLANNING

Work Program

Progress meeting,
10 May 2023,
Ljubljana, Slovenia

ORGANISING

Forming the sub-
groups and
industry review

Progress meeting,
13 June 2023,
Online

DATA ANALYSIS

Insights,
challenges and
opportunities

Progress meeting,
04 October 2023,
Malaga, Spain

RECOMENDATIONS

Recommendations
for each of the
stakeholders'
groups

Progress meeting,
22, 23 February 2024,
Istanbul, Türkiye

GUIDANCE

Explanatory and
guidance material

Volume II finilisation,
14, 15 May 2024,
Sofia, Bulgaria

VALIDATION

GAPPRI Volume II

- ❑ Coordinated by: **FSF and EUROCONTROL**
- ❑ Validated by: **CANSO, IATA, ACI**
- ❑ In cooperation and endorsed: **ICAO**
- ❑ A set of **synchronised, consensus-based** recommendations.
- ❑ Best practices and interventions **beyond simple regulatory compliance.**
- ❑ **Addressing both the risk and the resilience.**
- ❑ A robust roadmap **for different time horizons.**



SUB WORKING GROUPS AND THEIR LEADERSHIP



Complementary and supporting

**Recommended
Actions: Strategic,
Organisational and
Management**

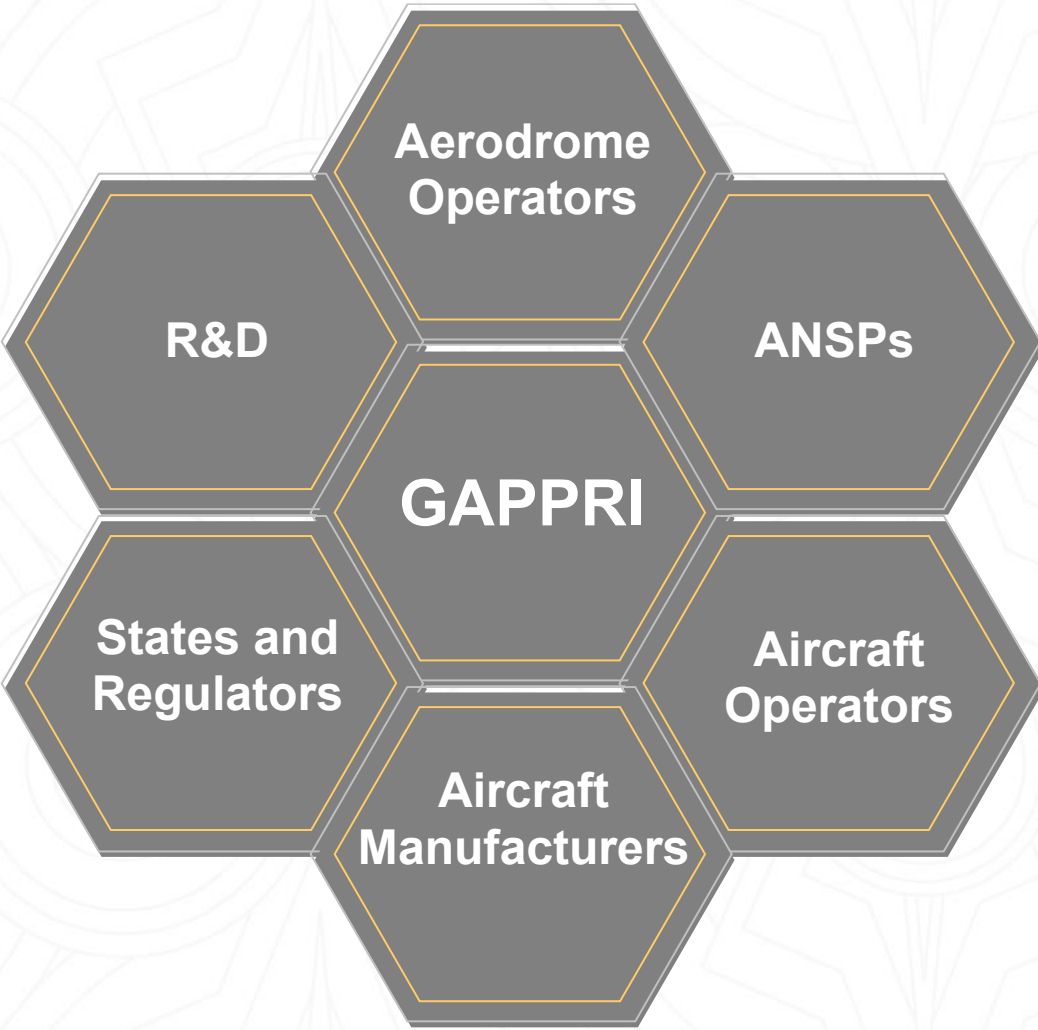
**ICAO
GLOBAL AVIATION SAFETY PLAN
GLOBAL RUNWAY SAFETY ACTION PLAN**

**Best Practices and
Guidance:
Operational Safety**

**GAPPRI – GLOBAL ACTION
PLAN FOR THE
PREVENTION OF RUNWAY
INCURSIONS**

**GAPPRE – GLOBAL ACTION
PLAN FOR THE
PREVENTION OF RUNWAY
EXCURSIONS**

SUB WORK GROUPS AND THEIR LEADERSHIP



FLIGHT SAFETY FOUNDATION
independent • impartial • international

EUROCONTROL

IATA

canso

Federal Aviation Administration

ACT AIRPORTS COUNCIL INTERNATIONAL

nlr

Civil Aviation Authority

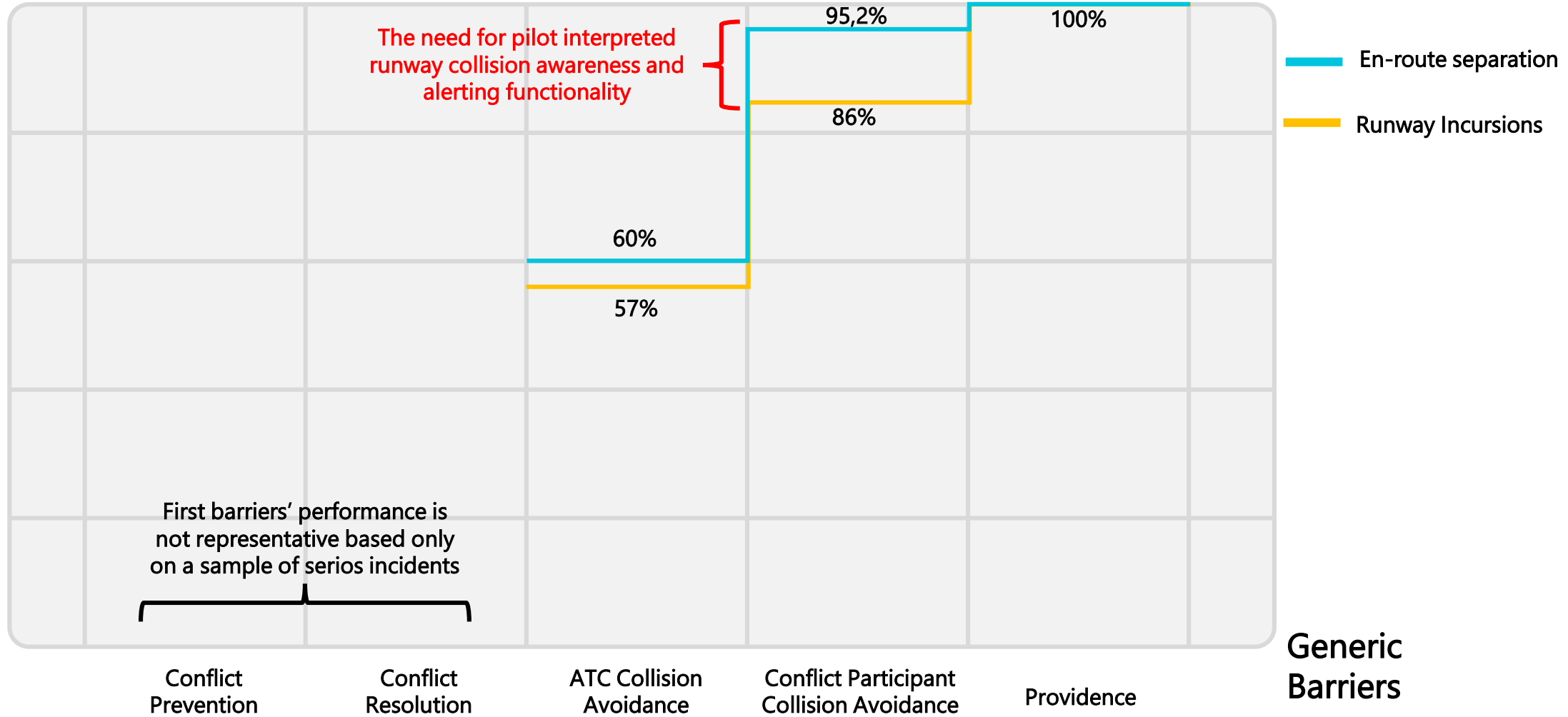
THE PROCESS: KNOWLEDGE-BASED AND DATA-DRIVEN



Data Methodology: Barriers' Success Rates

Focus on Conflict Participants Collision Avoidance Barrier

Barrier success rate* for a sample of severity A and B incidents that reach a barrier



*Barrier success rate – ratio of number of barrier successes / overall number of events that challenged the barrier

European 9-year sample, 2013-2021, including 362 runway incursions and 646 en-route separation minima infringements of severity A or B

Region B - Conclusion1

The barrier “Conflict participant collision avoidance barrier” for runway incursion incidents is around 10% less efficient compared to the same barrier for the en-route losses of separation incidents. There is a need to strengthen the barrier, including investigating development and implementation of real-time, pilot interpreted autonomous functionality for runway collision awareness and alerting using positional data.

- To respond to this finding, recommendations for Manufacturers:
 - Aircraft manufacturers should consider developing a real-time, on-board functionality to provide flight crew with awareness for relevant aircraft runway operations.
 - Aircraft manufacturers should consider developing a real-time, on-board functionality to provide flight crew alerting in case of risk of runway collision with another aircraft.

Region A – Conclusion 3	A general aviation aircraft was involved in 70% of the runway incursion incidents over a 5-year timespan. There is a need for specific, targeted regulatory and industry actions to address the general aviation risk of runway incursion.
----------------------------	--

- To respond to this finding, a recommendation for States and Regulators:
 - States shall ensure that, as part of their safety management and oversight responsibilities, the variable level of risk is assessed at those aerodromes that solely cater for large commercial air transport (CAT); mixed CAT with business and general aviation and those with only general aviation.

- ❑ **Variability in human performance: scenarios predominantly involving human performance.**
- ❑ **Lack of systemwide collision avoidance barriers: collision avoidance worse for runway incursions compared to enroute separation incidents.**
- ❑ **Degraded runway status awareness: more than 1/3 of high-risk incidents could have been averted by ATC detecting potential runway conflicts.**
- ❑ **Miscommunication and coordination: a prevalent theme across incidents.**
- ❑ **Challenges in surface navigation: multiple incidents of incorrect positioning of traffic due to inaccurate position awareness or navigation routing**

THE ALIGNMENT METHODOLOGY IN 3 STEPS

1. RUNWAY INCURSION SCENARIOS

E.g., A taxiing aircraft omits the lack of ATC RWY entry clearance and enters onto the RWY protected area without ATC clearance.

2. BARRIERS

E.g., Flight crew ATC taxi clearance: obtain, understand and remind.

AO13: Record and verbalise the clearance so that all crew members have a shared understanding of the routing, including when pilot-off-air.

AO9: When a take-off runway change is received whilst taxiing, the set-up, planning, performance calculations and re-briefings should be performed by flight crew without rushing and when the aircraft is stationary

3. RECOMMENDATIONS

ANSP19: When planning runway assignment change for departing or arriving traffic, consider the time the flight crew will need to prepare/rebrief. As far as practicable, change to the runway assignment to aircraft taxiing for departure should be avoided.

Recommendations

- Aerodrome Operators
- Air Navigation Service Providers
- Aircraft Operators
- Manufacturers
- States and Regulators
- R&D recommendations for States, international organizations and the industry

<https://flightsafety.org/toolkits-resources/gappri/>

RECOMMENDATIONS SUMMARY



- Empowering and equipping aviation personnel – safely managing production pressures, TRM, fatigue, evidence-based training.**
- Integration of advanced technologies: real-time awareness of positions, route assistance, detection of deviations, alerts.**
- Enhanced procedures for runway operations: protection of RWY.**
- Enhanced communication protocols: enhanced comm. procedures.**
- Enhanced visual aids: runway and taxiway signs, markings and lights.**
- Infrastructure design: minimises or eliminates the risk.**
- Enhanced safety management and support for runway safety teams: beyond regulatory compliance.**

NO ONE SIZE FITS ALL



- **Leave to the responsible organisations to decide specific details and implementation solutions, after taking local conditions and specific context into account:**
 - **Organise a review.**
 - **Consult the best practices and seek support, if needed.**
 - **Conduct impact assessment.**
 - **Implement the specific action.**
 - **Share the lessons learnt with the industry.**

Guidance and Explanatory Materials (GEMs) – Volume II

Common Format



1

WHAT:
Describe, explain more about the context, if needed.

2

WHY:
Why this recommendation is needed? Why it should be implemented?

3

HOW:
What can be done to implement this recommendation?

4

REFERENCE:
What reference material provides more information?

Note: Some Sub Work Groups (e.g., R&D, Manufacturers) may provide GEMs only by using some of these elements



THANK YOU

Mark Millam

Human Factors and Fatigue Management: Fatigue through the EU SRM lens



**Ms. Svetlana Ceca
Bunjevac**

**Aviation Safety Risk
Manager (ASRM) EASA**



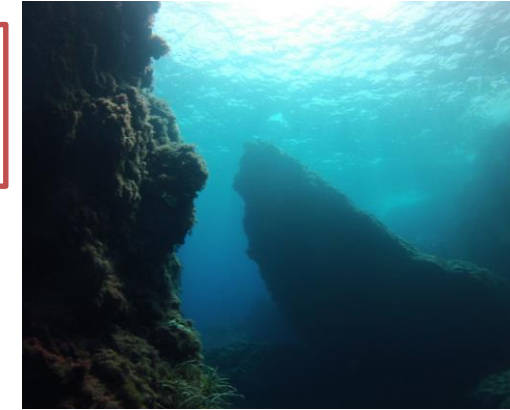
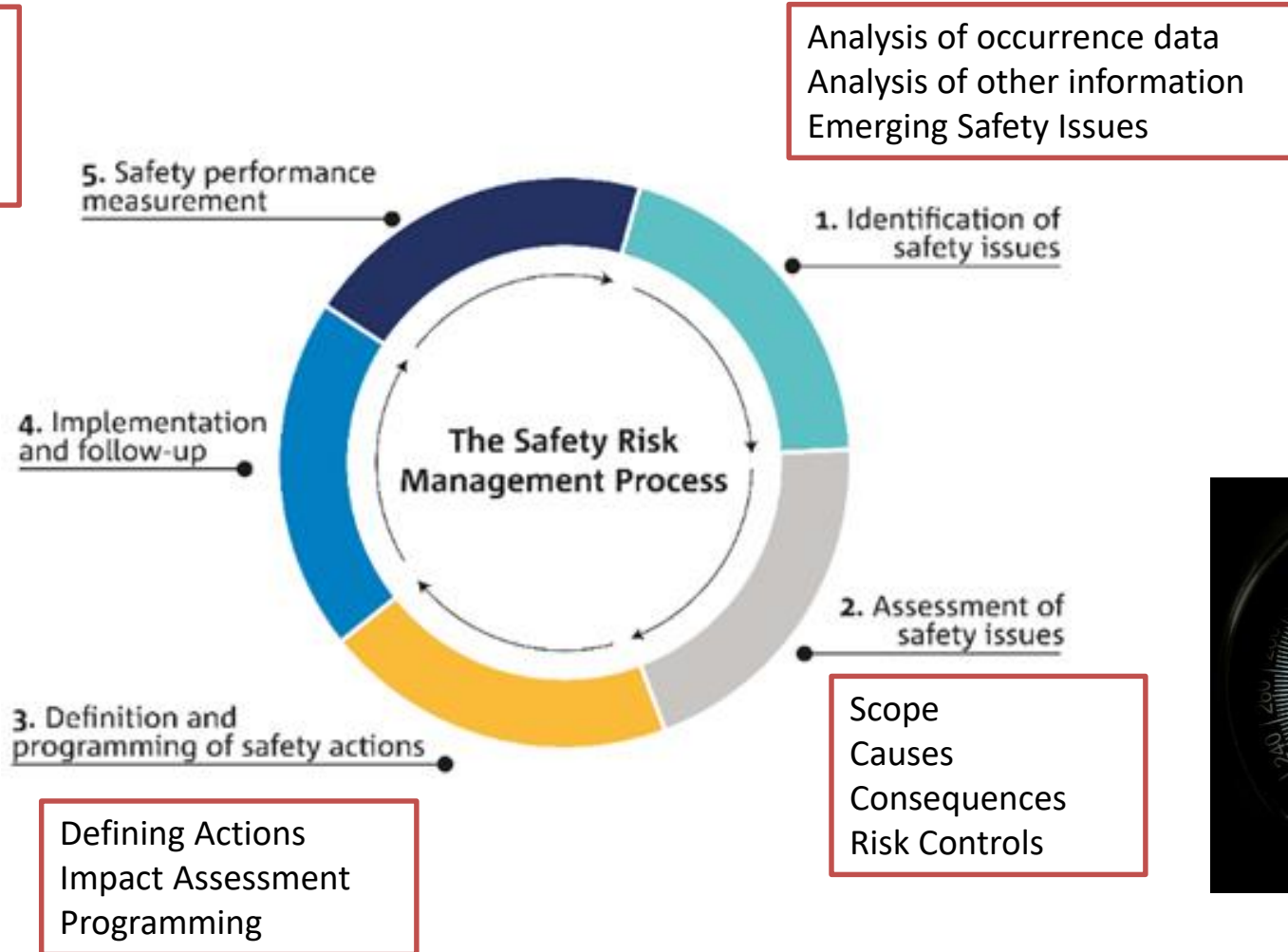
Objective for this presentation

- To provide an overview of the work EASA is undertaking in regards to the fatigue and in the context of EU SRM.

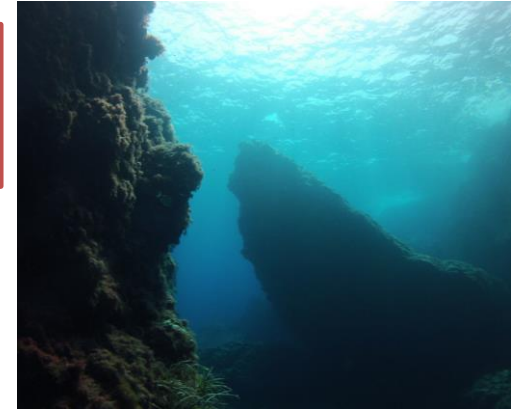
Fatigue in EU regulations

- Regulation (EU) No 965/2012 – Air Operations (Part-CAT)
- Regulation (EU) No 83/2014 – Air Operations (Part-ORO)
- Regulation (EU) No 373/2017 – Common Requirements for Providers of Air Traffic Services

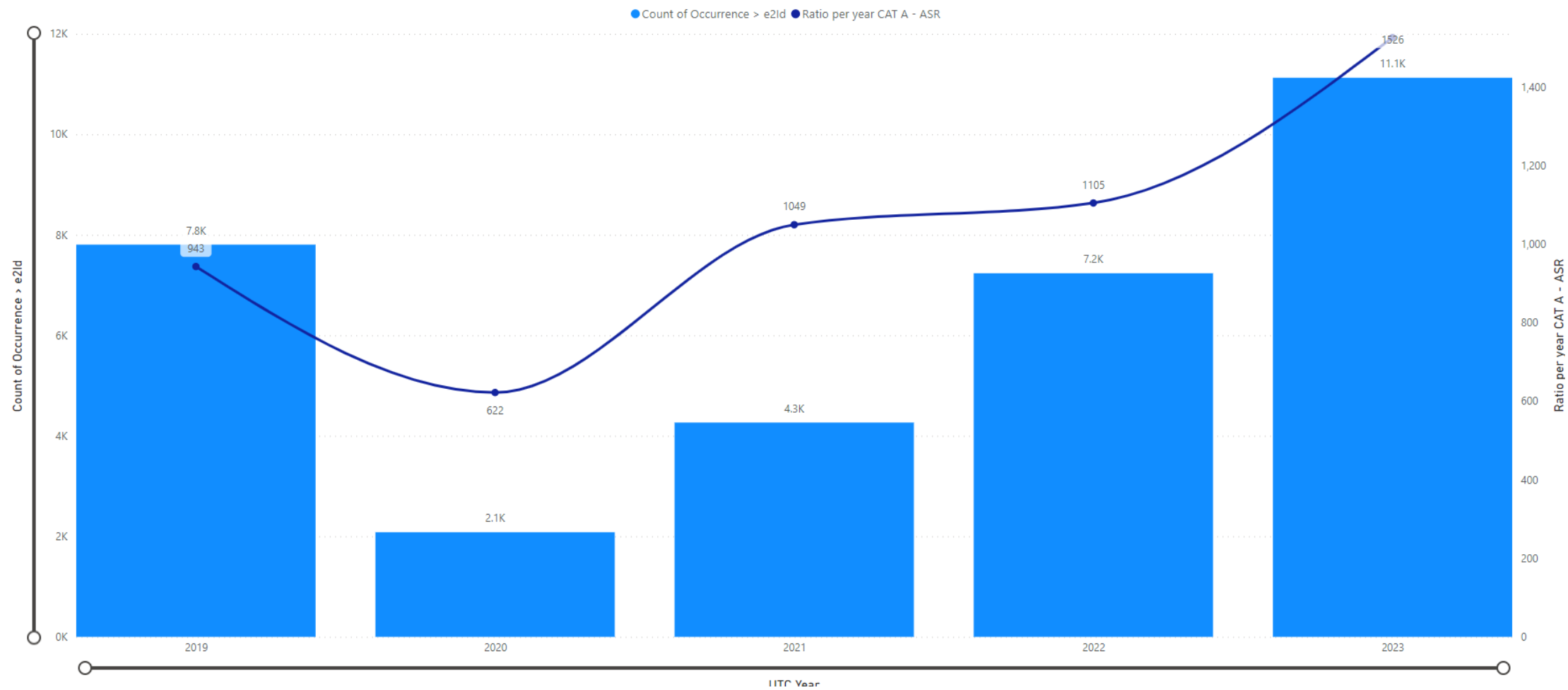
EU SRM collaborative process



Step 1: Identification of safety issues



[Back to report](#) | COUNT OF OCCURRENCE > E2ID AND RATIO PER YEAR CAT A - ASR | BY UTC YEAR



EPAS volume 3 edition 2025

- SI-0039 Fatigue (Flight Time Limitations)
- SI-1038 Inadequate fatigue risk management systems
- SI-1039 Worker fatigue leading to human error
- SI-3005 Fatigue and quality sleep
- SI-5002 Aviation personnel fatigue
- SI-8016 Pilot fatigue



Time for another acronym

- BIS Best Intervention Strategy
- Two parts, goal is to mitigate identified risks by addressing the systemic causes of fatigue and supporting organisations in implementing effective fatigue management practices
- Part 1: Safety Issue Assessment = actions proposed
- Part 2: Impact Assessment = impact of the proposed actions assessed



BIS part 1: Assessment of safety issues

- **SI-0039 Fatigue (Flight Time Limitations)**
- SI-1038 Inadequate fatigue risk management systems
- SI-1039 Worker fatigue leading to human error
- **SI-3005 Fatigue and quality sleep**
- SI-5002 Aviation personnel fatigue
- SI-8016 Pilot fatigue



SI-3005 Fatigue and quality sleep

- Primary challenges identified:
 - Lack of awareness and understanding of fatigue risks.
 - Insufficient integration of fatigue management into safety systems.
 - Risks when using technology and data to monitor fatigue.



SI-3005 Safety Issue Assessment – actions

1. Guidance on fatigue monitoring apps and smart technology.

2. Promote positive organisational culture to senior managers.

3. Develop material to support Member States in implementing fatigue requirements.

4. Conduct regular scientific reviews on fatigue prediction and management.

BIS part 2: Impact Assessment



Next BIS steps

- Multi-Criteria Analysis - a method allowing a comparison of impacts which cannot be measured in the same unit.
- Prioritise actions - based on their safety impact, feasibility and resource requirements (affecting the MS).
- Identify additional implementation support needs for Member States.
- Have concrete actions ready by the end of 2025.



Continuation of the EU SRM collaborative process



Objective for this presentation

- To provide an overview of the work EASA is undertaking in regards to the fatigue and in the context of EU SRM.

Thank you for your attention.

easa.europa.eu/connect



Your safety is our mission.

An Agency of the European Union 

Panel discussion: Advancing Safety Culture in African Aviation: Leadership and Accountability



**Mr. Kayode
Ariwodola**
Director, Global
Safety and
Regulatory Affairs,
Middle East & Africa
BOEING



**Mr. Kennedy
Murichu**
Director
Compliance and
Risk,
RwandAir



**Eng. Richard
Gatete**
Executive
Director
EAC CASSOA



**Mr. Andrew
Mutabaruka**
Director Aviation
Infrastructure, Safety
& Security Standards
**Rwanda Civil Aviation
Authority**



**Mr. Gaoussou
Konate**
Consulting
Director, Technical
and Operations
AFRAA
Moderator



Networking Lunch

13.10-14.30hrs

Better Skies for Africa

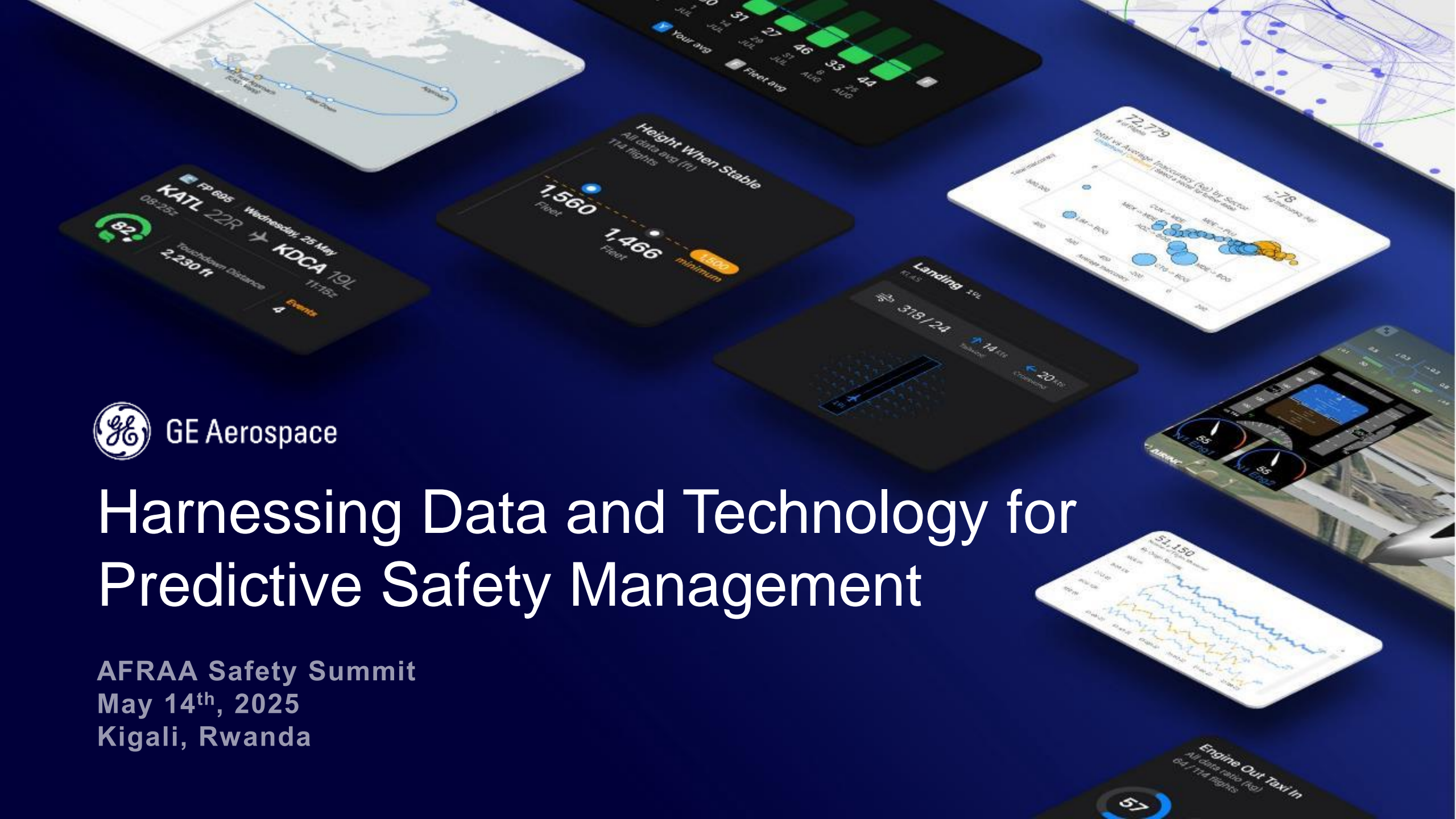


Technology Spotlight: "Harnessing Data and Technology for Predictive Safety Management"



Mr. Amir Emam, Senior
Sales Director Middle East,
Türkiye, and Africa -GE
Aerospace

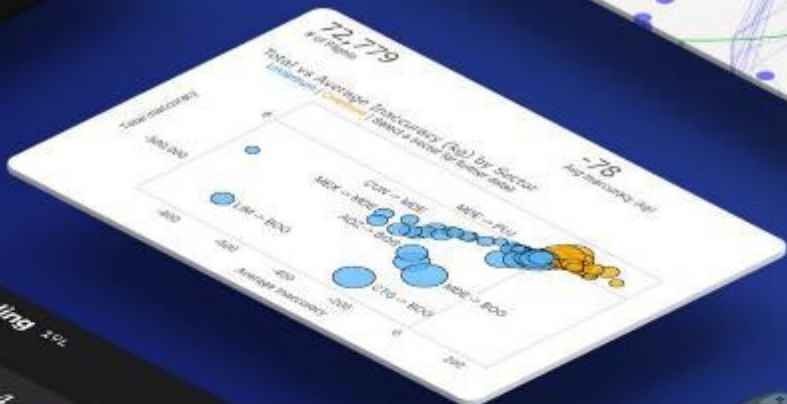




GE Aerospace

Harnessing Data and Technology for Predictive Safety Management

AFRAA Safety Summit
May 14th, 2025
Kigali, Rwanda





GE Aerospace



Why the Shift Toward Predictive Safety is Critical

**Traditional safety is reactive.
Today, data allows for
proactive decision-making.**



Why the Shift Toward Predictive Safety is Critical

-  Aviation is becoming more complex
-  Global air traffic is expected to double by 2040
-  Data Fragmentation
-  Safety professionals face data overload
-  Safety culture varies across orgs
-  Tradition reactive models no longer suffice
-  Ageing fleets and infrastructure



What is Predictive Safety Management?

- A **proactive**, data-driven approach to risk mitigation
- Uses **data** to detect risks before they escalate
- Enables **better decision making** and resource allocation



The Role of Data, AI and Automation

Utilization of key data sources such as **flight data, operational data, weather, maintenance,...** to name a few



AI/ML to identify hidden trends and leading indicators

Automation for real-time alerting and action

The use of **cloud tools** for collaborative risk management



Measurable Outcomes

95%

Proactive event
detection

70%

Reduction in
unstable
approaches

30%

High risk event
reduction

25%

Regulatory
reported events
reduced

30%

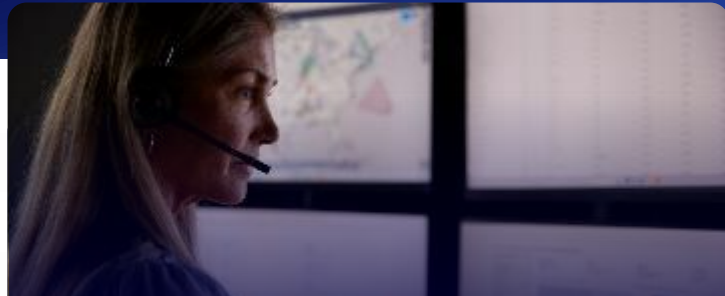
Unscheduled
maintenance
events
reduced

20%

Defect
resolution time
improved


What can we all do to enhance safety?

No one entity owns safety



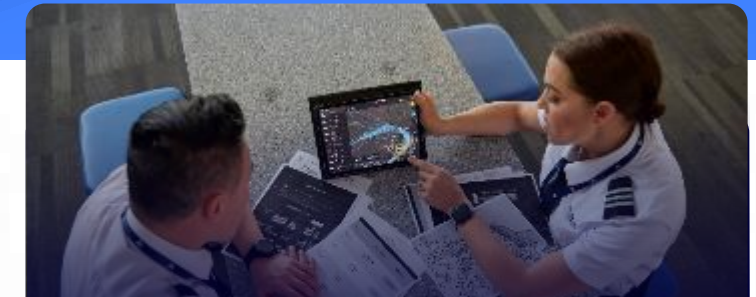
Data sharing

- Safety is a shared responsibility
- Collaboration among airlines, regulators, OEMs, and tech providers is key
- Standardize and anonymize data for safer industry-wide insights



Training and Culture

- Invest in training and shifting culture
- Shift mindset from blame to learning
- Create continuous feedback loops between analysts, crews and safety teams



Technology

- Move to predictive approaches- not just compliance
- Design systems that assist, not replace, human decision makers
- Automate early warning signals and link them to safety workflows

GE Aerospace's Commitment



Flight Ops & Safety

- Safety Insight
- Fuel Insight
- FlightPulse®
- Airspace Insight
- Network Operations





GE Aerospace

Full visibility into the data you need



**13th AVIATION
STAKEHOLDERS
CONVENTION**
11-13 May 2025 | Kigali, Rwanda
AFRAA
RwandAir
For the skies of Africa



**THE AFRICAN
AVIATION SAFETY &
OPERATIONS SUMMIT**



Better Skies for Africa



Keynote Interview: “A focus on best practices and innovative strategies yielding safe operations in the region and innovative approaches to effective infrastructure safety management”



**Mr. Charles
Habonimana**
Managing Director
Rwanda Airports
Company



**Mr. Prosper zo'o
Minto'o**
Director General
ASECNA



Ms. Maureen Kahonge,
Senior Manager
Business Development
& Communications –
AFRAA
Moderator

Introduction of a collaborative approach in Wildlife Management



Ms. Cerian Henshaw
Director Aviaire Wildlife
Hazard Management
Consultants





WILDLIFE HAZARD
MANAGEMENT
CONSULTANTS

THE BENEFIT OF
COLLABORATION IN
WILDLIFE HAZARD
MANAGEMENT

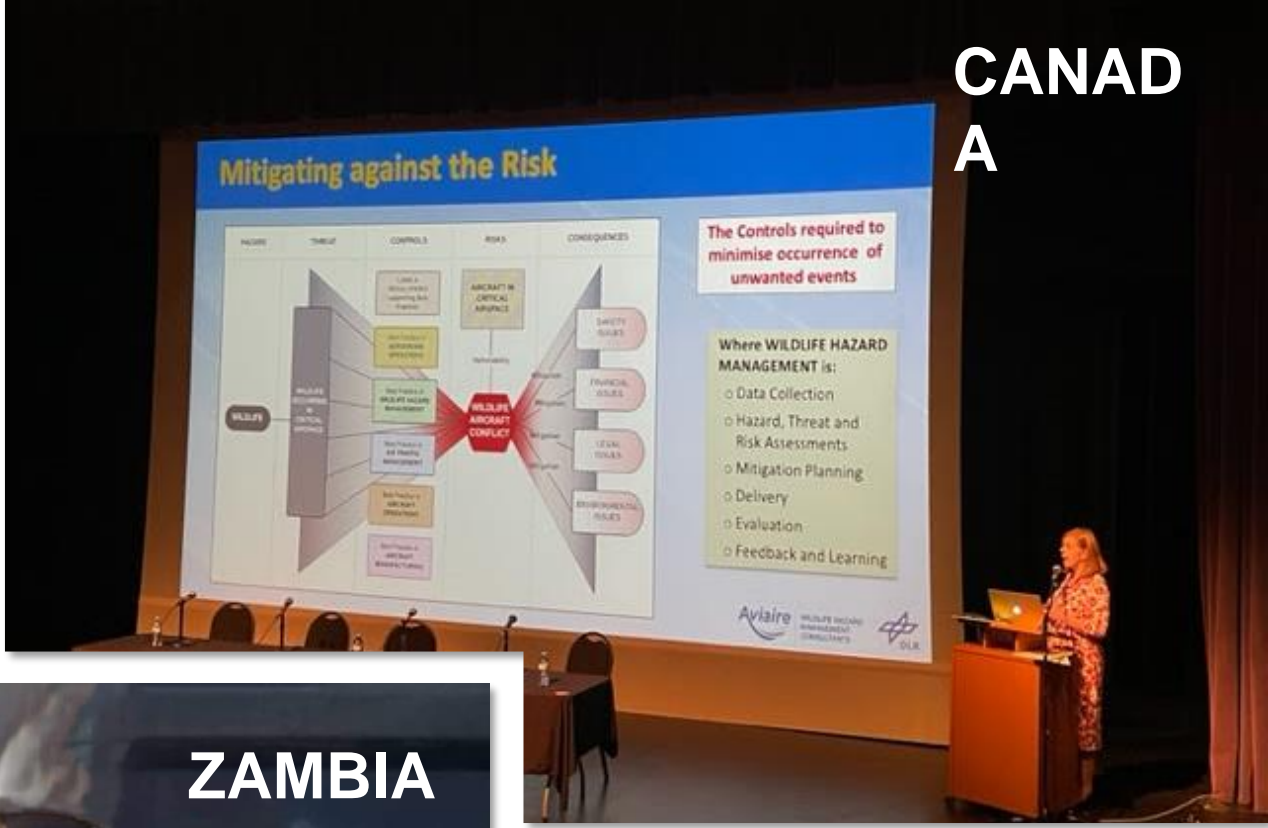
INTRODUCTION

Cerian Henshaw

Co-Founder and Director of Operations, Aviaire Ltd

- Environmental Studies BSc Hons
- 15+ years in Construction and Estates Management
- 15+ years in Project Management and Business Investment
- 12+ years in Bird Control and Wildlife Hazard Management





MY KEY MESSAGE TODAY

*Clear Accountability **EXISTS** in WHM*

*Clear Corridors of Culpability **EXIST** in WHM*

*Balance of probabilities **EASILY EVIDENCED** in WHM*



ICAO Definition of a Wildlife Hazard:

Section 1.1.1 *“A wildlife hazard is the presence of wildlife (i.e. birds and other animals, both wild and domestic) that could result in damage to aircraft”*

Four Types of Wildlife Hazard:

1. Bird



2. Mammal



3. Reptile



4. Insect





EVENTS WE SEEK TO AVOID



US Airways Flight

1549,

Hudson River, 15 Jan
2009



Flight 178,
Zhukovsky
International
Airport, 15 Aug
2019



UNWANTED CONSEQUENCES



**COMPENSATION
CLAIM**



WILDLIFE HAZARD
MANAGEMENT
CONSULTANTS

A close-up photograph of a person's hand holding a silver pen, poised to sign documents. The background is slightly blurred, showing more papers and a person's shoulder in a blue shirt.

ESCALATING LEGAL AND FINANCIAL CLAIMS

SO, WHO'S RESPONSIBLE FOR STOPPING THE UNWANTED EVENTS?

How do we
minimise the
consequences
?





IS IT AN
AERODROME
RESPONSIBILITY?

OOOPS!

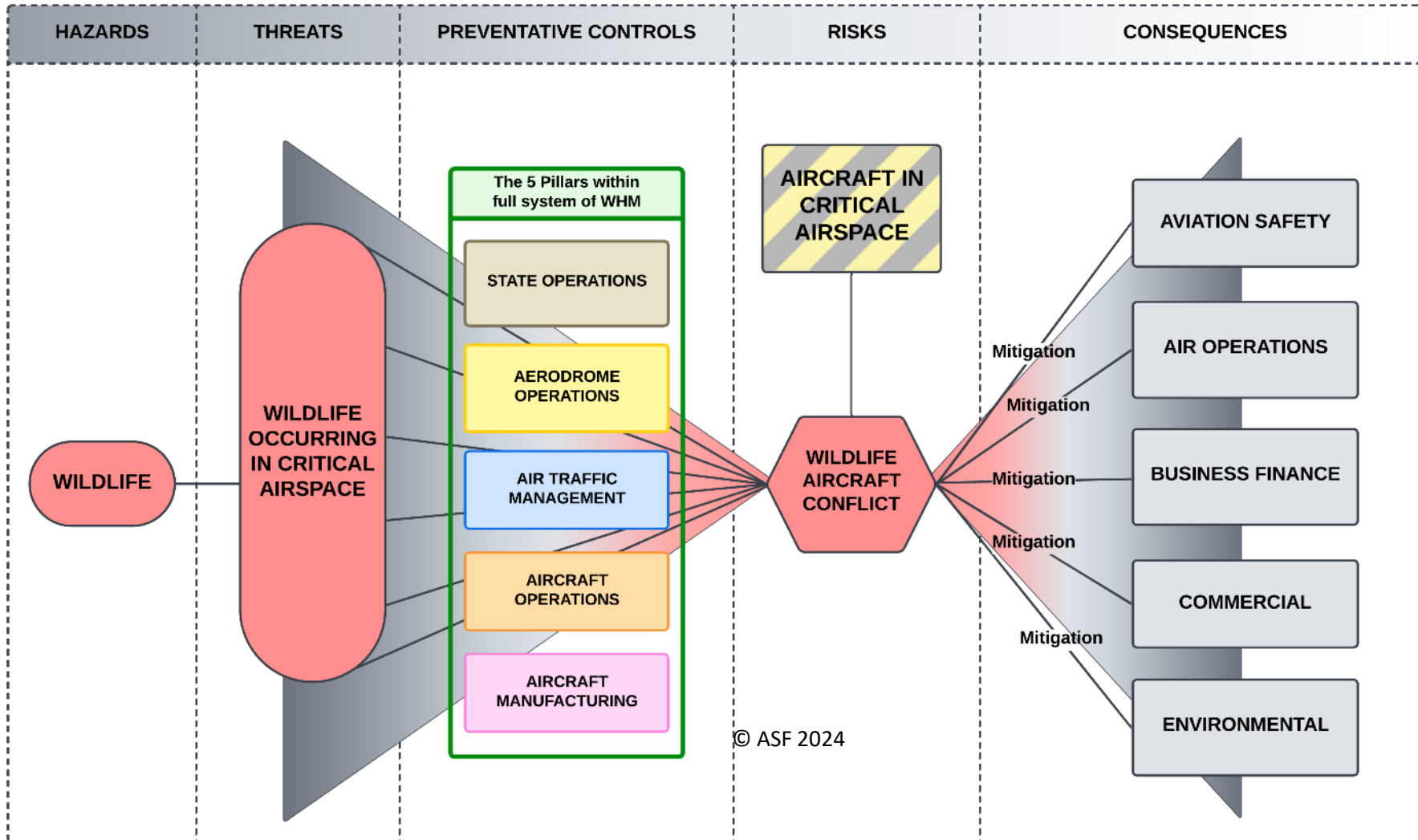
WRONG

Let's try that again

IT'S ALL OUR RESPONSIBILITY



Wildlife Hazard Management Safeguards Aviation

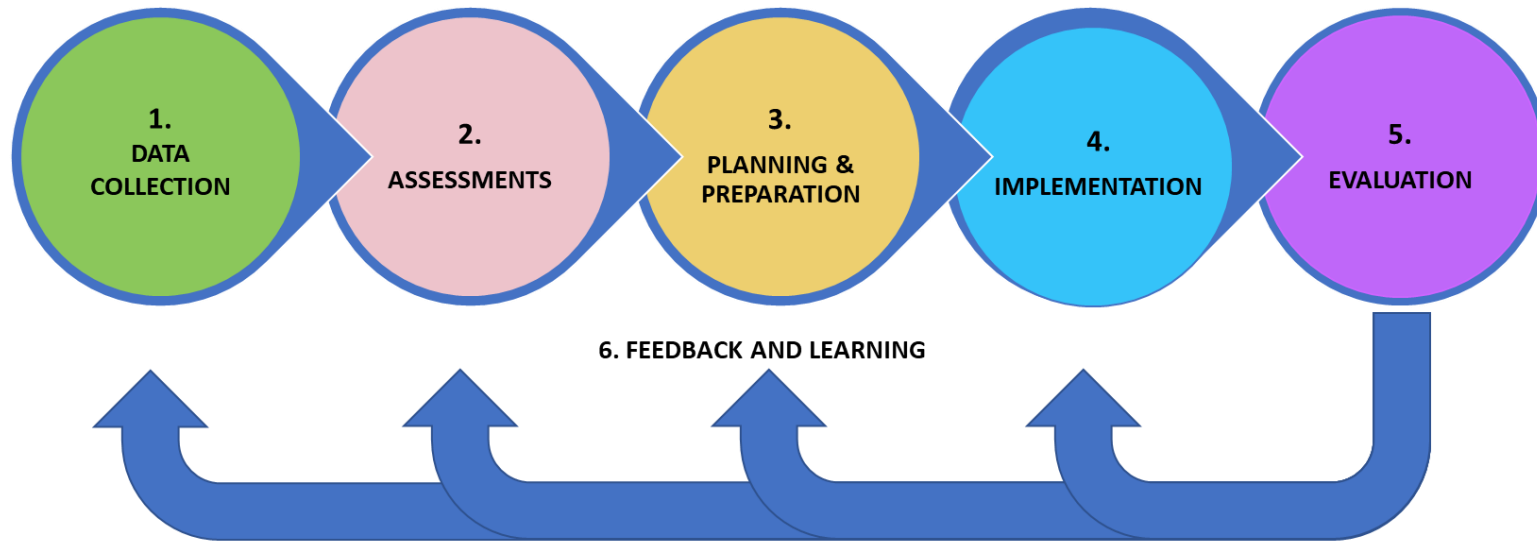


Preventative Controls

- Reduces Risks
- Reduces Consequences

Wildlife Hazard Management is a Process

Process of Good Practice in Safety Risk Management



Wildlife Hazard Management is NOT a Task or a Tick Box Exercise



WHM is a prescribed series of specific actions and events within the whole of a WHM System per area of Critical Airspace

Central Quality Management:

In Three Key Stages

Stage	Timing	Control Measures	
1	IN ADVANCE Years to days before operations	STRATEGIC	Primary actions and events preparing the environment as best as possible before any aircraft movements, and thereon
2	NEAR REAL-TIME Hours to minutes before operations	PRE-TACTICAL	Secondary supplementary actions and events, immediately prior to aircraft movements
3	REAL-TIME During operations	TACTICAL	Tertiary actions and events applied at the time of aircraft movements

Should have a Detailed Preventative Control Plan

There should be a WHMP per area of critical airspace, each with a clear goal, objectives, required actions, events and KPI in the WHMP.

Abstract from example qualified WHM programme with identified accountable entities and action holders:

© Aviaire 2024

Each action and event in the WHMP should have clearly identified Accountable Entities and Action Holders

Objective's DELIVERABLES	CRITICAL SUCCESS FACTORS to support Deliverables *** (Responsible Action Owners)			CRITICAL SUCCESS CRITERIA (CSC) ***	STANDARD DESIGN CODES (SDC) ***	STANDARD OPERATING PROCEDURES (SOP) ***	KEY PERFORMANCE INDICATORS (KPI) ***
	Strategic	Pre-Tactical	Tactical				
a) Robust wildlife and environment data for all airside, landside and the 13km safeguarding zone.	<ul style="list-style-type: none"> Desk assessments to determine the initial WSAC list and information on current / past human and physical geography (Airport WHM SME) Field surveys and monitoring to verify the presence of WSAC, plus their 24hr / 7-day location and activity (WHM Data Collectors – Airside, Landside & 	<ul style="list-style-type: none"> None There is no variation in required actions due to imminent aircraft movement 	<ul style="list-style-type: none"> None There is no variation in required actions due to live aircraft movement 	<ul style="list-style-type: none"> As per the generic CSC in Section 6.2.1 b) PLUS: Personnel with high accuracy in identification and related experience. Reference material to support accurate identification of 	<ul style="list-style-type: none"> As per the generic SDC in Section 6.2.1 c) PLUS: None 	<ul style="list-style-type: none"> As per the generic SOP in Section 6.2.1 d) PLUS Standardised data collecting procedure 	<ul style="list-style-type: none"> As per the generic KPI in Section 6.2.1 e) PLUS: Up-to-date and comprehensive data for wildlife and the environment on a continuous 24/7 basis for all locations. Compliance

Good Practice in WHM Already Exists

- **ICAO, Annex 14**, Aerodromes - Vol I, “Aerodrome Design & Operations”, 8th Ed, July 2018
- **ICAO, Annex 15** “Aeronautical Information Services”, 16th Ed, July 2018
- **ICAO, Document 10066**, Procedures for Air Navigation Services, “Aeronautical Information Management”, 1st Ed, 2018
- **ICAO, Document 4444**, Procedures for Air Navigation Services, “Air Traffic Management”, 16th Ed, 2016
- **ICAO, Document 8184**, Airport Planning Manual, Part II, “Land Use and Environmental Management”, 4th Ed, 2018
- **ICAO, Document 9137**, Airport Service Manual, “Part 3 - Wildlife Control & Reduction”, 5th Ed, 2020
- **ICAO, Document 9859**, “Safety Management Manual”, 4th Ed, 2018
- **ICAO, Document 9981**, Procedures for Air Navigation Services, “Aerodromes”, 3rd Ed, 2020

Accountability is Transparent

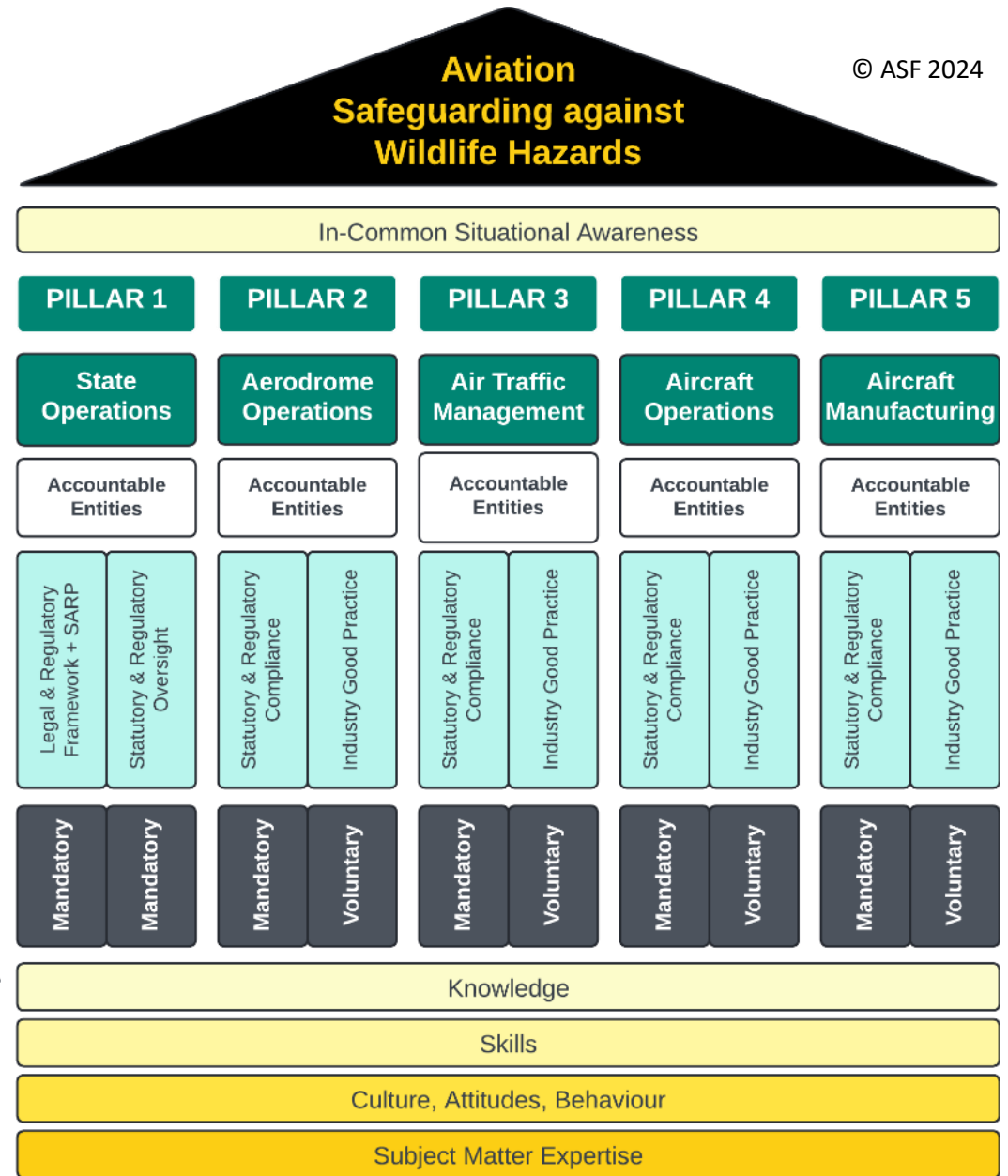
5 Accountable Entities:

- State Operations
- Aerodrome Operations
- Air Traffic Management
- Aircraft Operations
- Aircraft Manufacturing

Each with 4 Functional Components:

- Quality & Safety Policies
- Quality & Safety Assurance
- Quality & Safety Promotion
- Quality & Safety Risk Management

*Templated WHM Performance Reviews exist to test **Due Diligence** within each pillar*



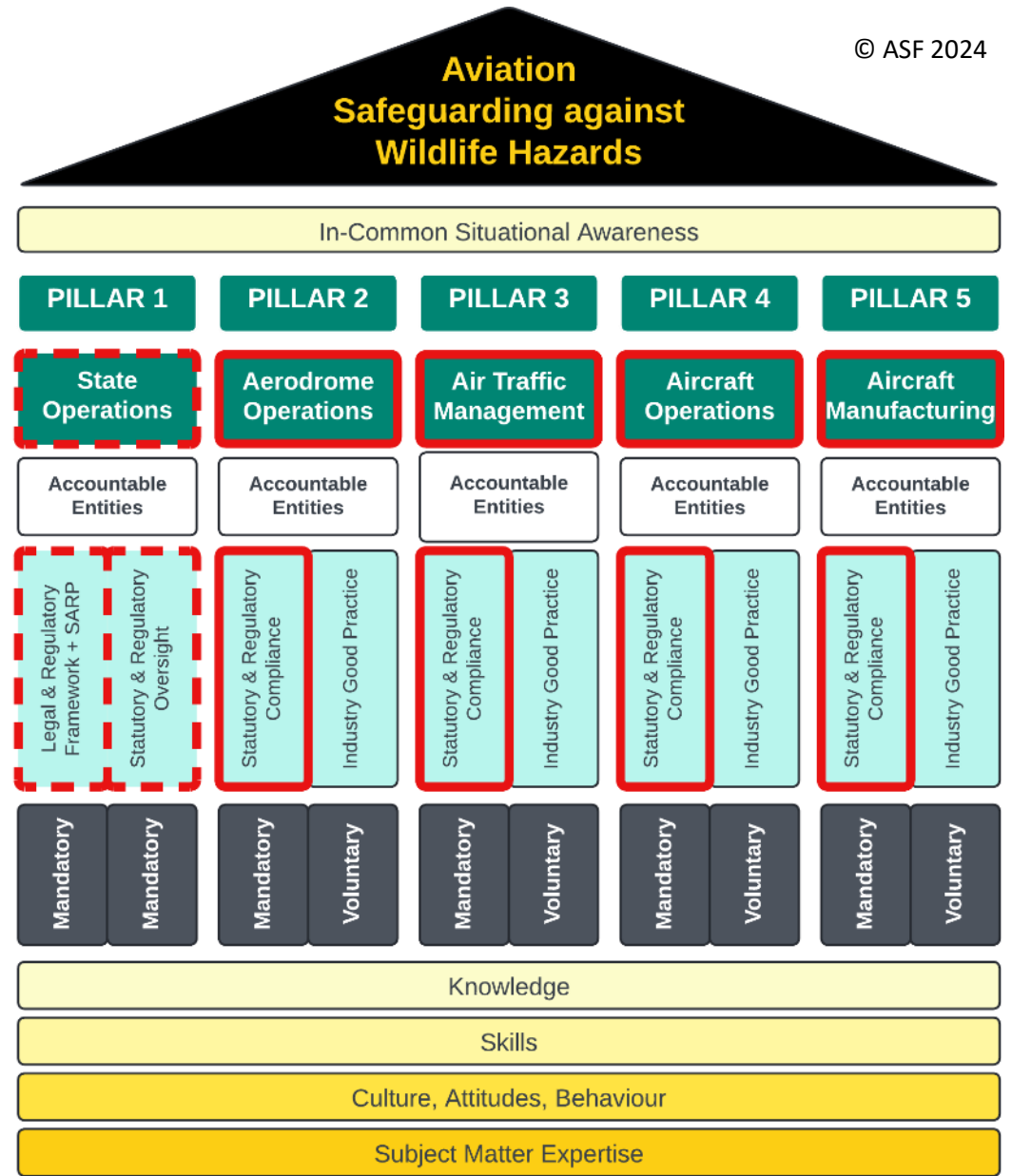
Regulatory Compliance

KEY FACT: ICAO guidance in relation to WHM is extensive and technically correct against good practice.

QUESTION: What if State Laws, Regulations & “SARP” failure to adequately reflect ICAO guidance?

KEY FACT: HIGH probability WHM within a State will be poor is poor, safety risks with wildlife will be HIGH, corporate risks (consequences) will be HIGH.

QUESTION: What if State oversight is poor?



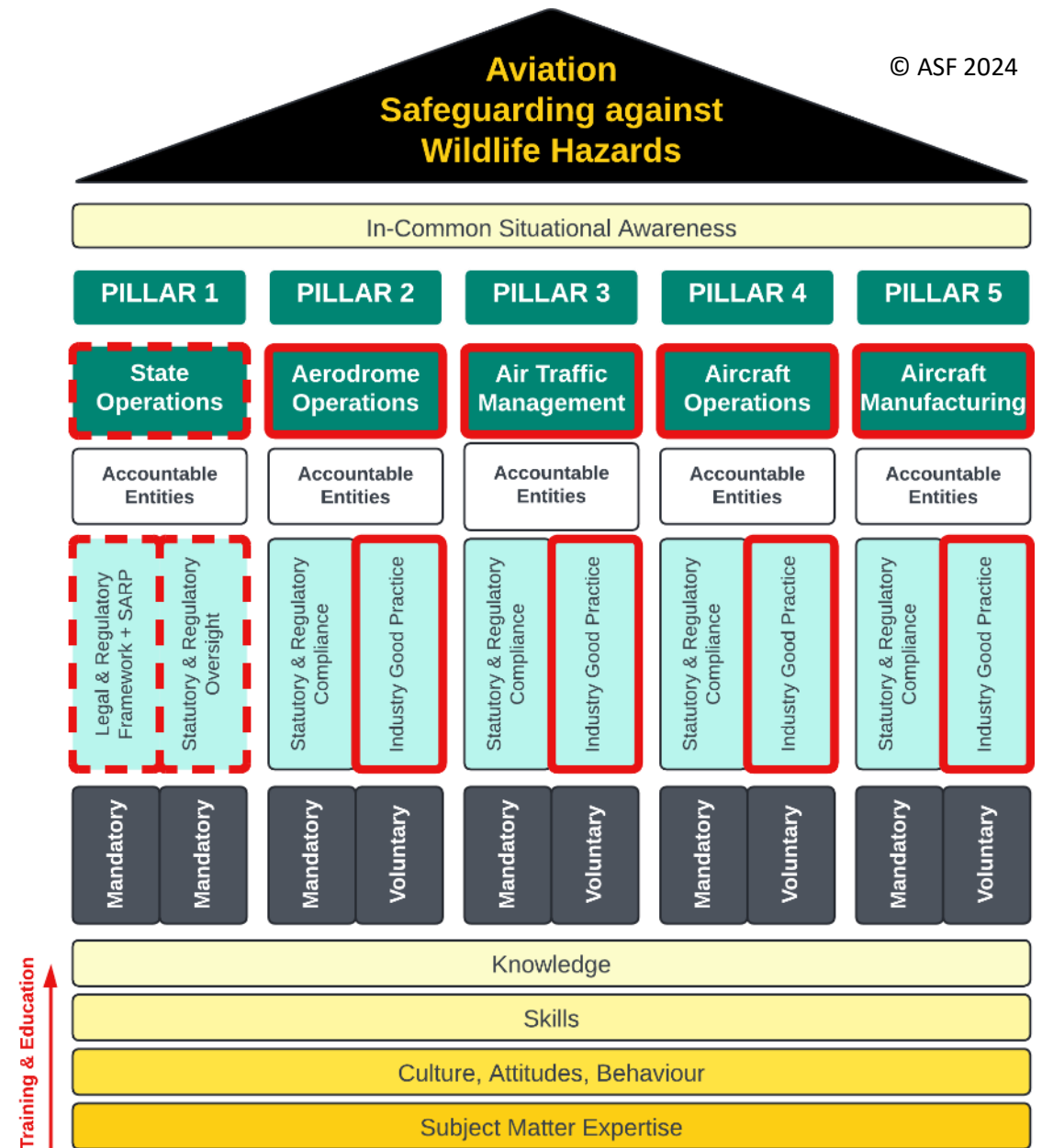
Good Practice in WHM

FACT: Evidenced good practice **reduces** safety risks **AND** corporate risk of claims for damages.

FACT: Guidance already exists from ICAO how to collate data, assess the scales of threat and risk and apply controls against a qualified balance of probabilities

QUESTION: Do you know if YOU are following Good Practice in WHM?

KEY FACT - Templated, robust WHM Performance Reviews now being used by SME to test for Due Diligence within one or more pillar



Civil Claims for Recompense - Aircraft Operators

FINANCIAL CONSEQUENCES associated with wildlife-aircraft event:

- Cost of **damage repairs** suffered by aircraft (A)
- Costs per number of **primary cancellations** (B)
- Costs per number of **primary delays** (C)
- Costs per number of **secondary cancellations** (D)
- Costs per number of **secondary delays** (E)

TOTAL CLAIM = (A) + (B) + (C) + (D) + (E)



USD \$10m - \$15m
for new Boeing
737 engine



**\$\$\$ Reputation
Impact?**

**\$\$\$ Network
Delays?**



**\$\$\$ Passenger
Claims?**

KEY FACT: Balance of probabilities CAN BE EASILY & ROBUSTLY EVIDENCED BY WHM SME using templated WHM Performance Reviews within one or more accountable pillar.

Is a Wildlife Strike an Extraordinary Circumstance?

FACT - Currently heavily debated with decisions varying between court cases

Legal Case to be aware of:

On 4 May 2017, the Court of Justice of the European Union (“CJEU”) handed down judgment in the case of **Marcela Pešková, Jirí Peška -v- Travel Service A.S. (C-315/15)[1]** (“Pešková”)

The case concerned the central question of whether a bird strike to an aircraft could amount to an “extraordinary circumstance” such that the air carrier was excused from paying compensation for delay under Regulation (EC) No.261/2004 (“the Regulation”).

Court held that bird strikes do amount to extraordinary circumstances BUT

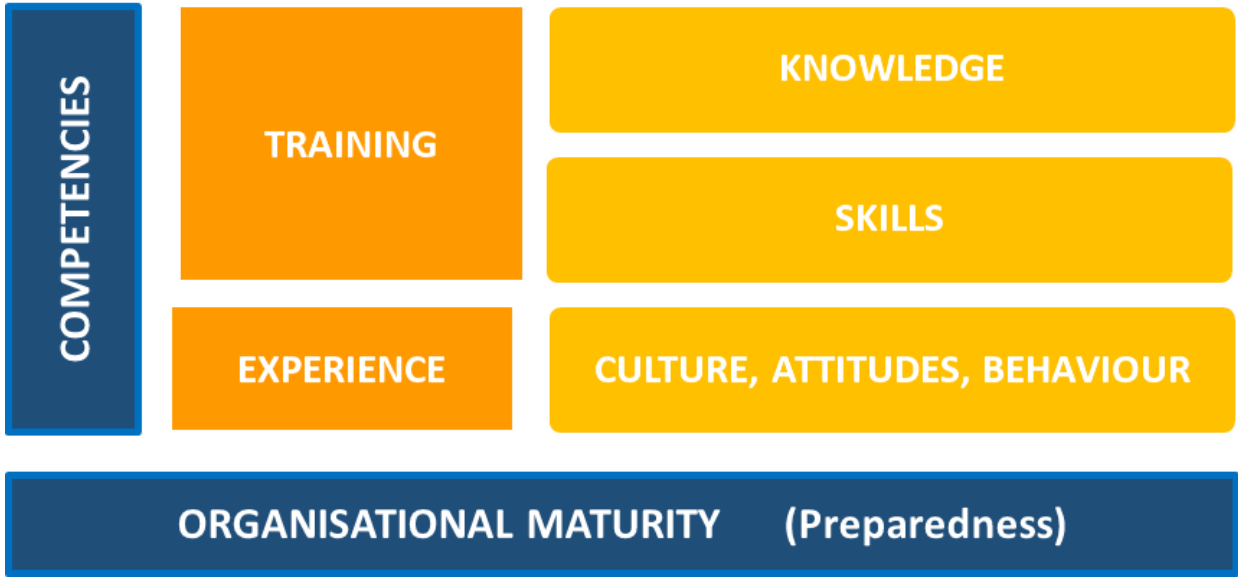


Minimising Risks & Consequences



Good Practice

In WHM Applies to Everyone



COMPENDIUM OF GOOD PRACTICE IN WILDLIFE HAZARD MANAGEMENT

- ROLES & RESPONSIBILITIES**
- WHM Good Practice Guidance for AIRCRAFT OPERATORS
- WHM Good Practice Guidance for STATE LEGISLATORS & POLICY MAKERS
- WHM Good Practice Guidance for STATE REGULATORS
- WHM Good Practice Guidance for AERODROME OPERATORS
- WHM Good Practice Guidance for AIR TRAFFIC MANAGEMENT
- WHM Good Practice Guidance for AIRCRAFT MANUFACTURERS

SUCCESS IN SAFEGUARDING AGAINST WILDLIFE HAZARDS

STATE & CAA RESPONSIBILITIES





AIRCRAFT OPERATOR RESPONSIBILITIES



AIR TRAFFIC MANAGEMENT RESPONSIBILITIES





WILDLIFE HAZARD
MANAGEMENT
CONSULTANTS

An aerial view of a large aircraft manufacturing plant. A white commercial airplane is the central focus, surrounded by complex blue and orange metal scaffolding and support structures. The floor is filled with various pieces of equipment, including forklifts and conveyor systems. The overall scene is one of intense industrial activity.

AIRCRAFT MANUFACTURER RESPONSIBILITIES



AERODROME

RESPONSIBILITIES



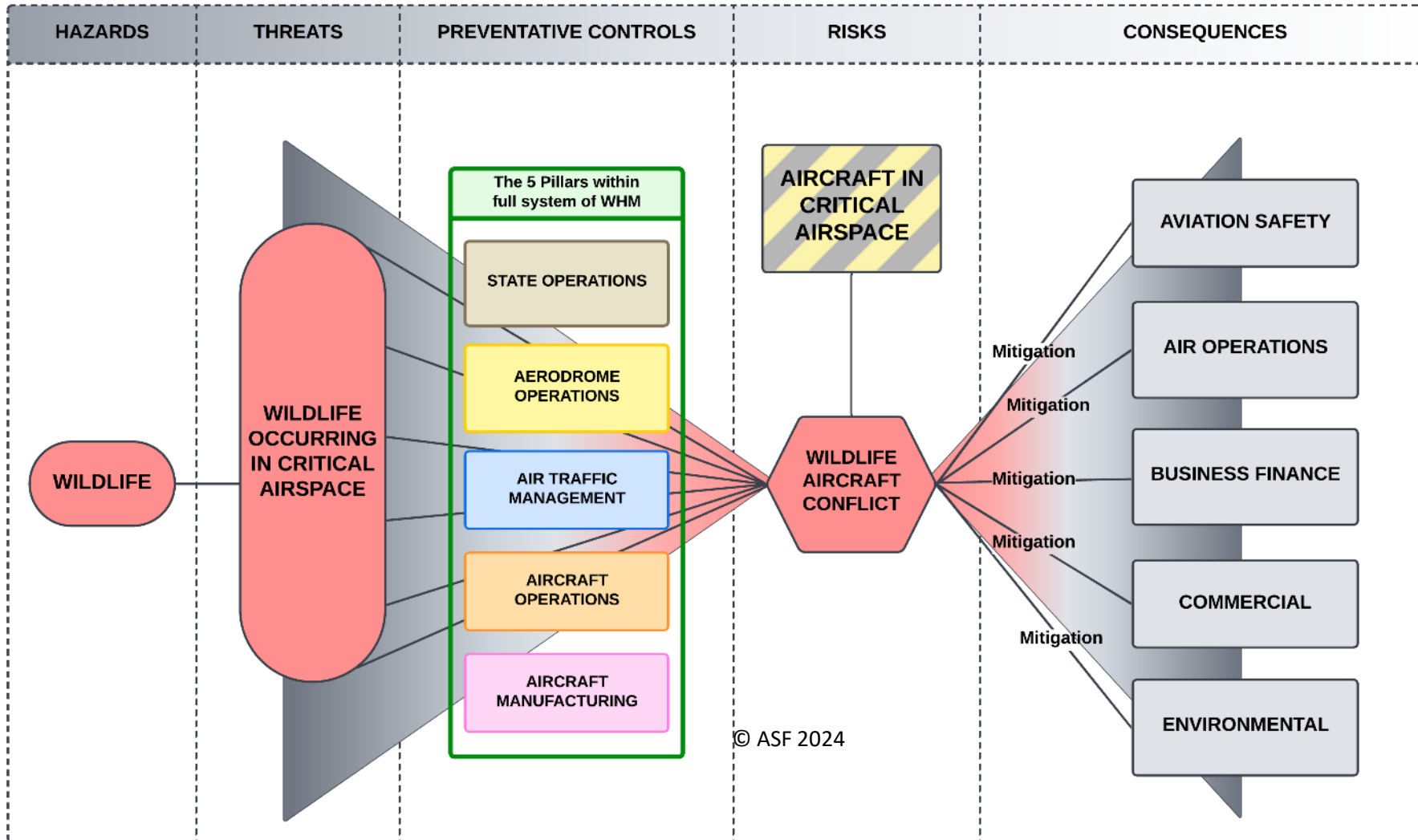
ICAO RESPONSIBILITIES

ORGANISATION DE L'AVIATION
CIVILE INTERNATIONALE

INTERNATIONAL CIVIL
AVIATION ORGANIZATION



Wildlife Hazard Management Safeguards Aviation



Full Programme
of Preventative
Controls in all
5 pillars

- MINIMISED Risks
- MINIMISED Consequences

Key Takeaways Today

*Clear Accountability **EXISTS**
in WHM*

*Clear Corridors of Culpability
EXIST in WHM*

*Balance of probabilities
EASILY EVIDENCED in WHM*

The Benefit of Collaboration In Wildlife Hazard Management



Cerian Henshaw
Director
Aviaire Limited

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Email: cerian.henshaw@aviaire.co.uk

Closing Ceremony



Closing remarks
Mr. Abdérahmane Berthé, Secretary
General - AFRAA

Better Skies for Africa



Networking coffee

17:00 – 17:30 hrs

Better Skies for Africa





THANK YOU

Better Skies for Africa