

CANSO AFRICA CONFERENCE 2022

Dakar, Senegal

5 – 9 September 2022

Host:



UPDATE ON COMPLETE AIR TRAFFIC SYSTEM (CATS) VISION

PRESENTER



Loise Mwangi

CANSO Focal Point
Kenya Civil Aviation Authority



Our shared vision for 2045

By the Complete Air Traffic System
(CATS) Global Council

DATE

The Complete Air Traffic System (CATS) Global Council



The first ever cross-industry vision for our future skies

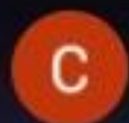
In October 2021 the Complete Air Traffic System (CATS) Global Council, a forum of industry aviation leaders, launched 'our shared vision for the skies of 2045'





2045 Vision Statement

To create global airspace that is safe, fair, intelligent and interoperable, leveraging revolutionised design, technology and services to power global mobility and prosperity



CATS Global Council vision



Watch later



Share



Explore the skies of 2045 at futureskyvision.com



Key elements of our Vision

- We're experiencing physical and digital connectivity like never before
- Our skyscape is one of variety, efficiency and vitality
- The sky is quieter and greener
- Airspace is an integrated, harmonised, flexible system
- Seamless point-to-point flights, interoperability and scalability are powered by advanced technologies
- Safety standards have been adopted system-wide
- Global airspace is a unified environment accommodating a diverse mix of airborne vehicles, equipment and services

2045 Vision Building Blocks



Services and Service Delivery



Technology and Digitisation



Safety and Regulation



Environmental Sustainability and Social Impact



Airspace Design and Classification



Data and Security



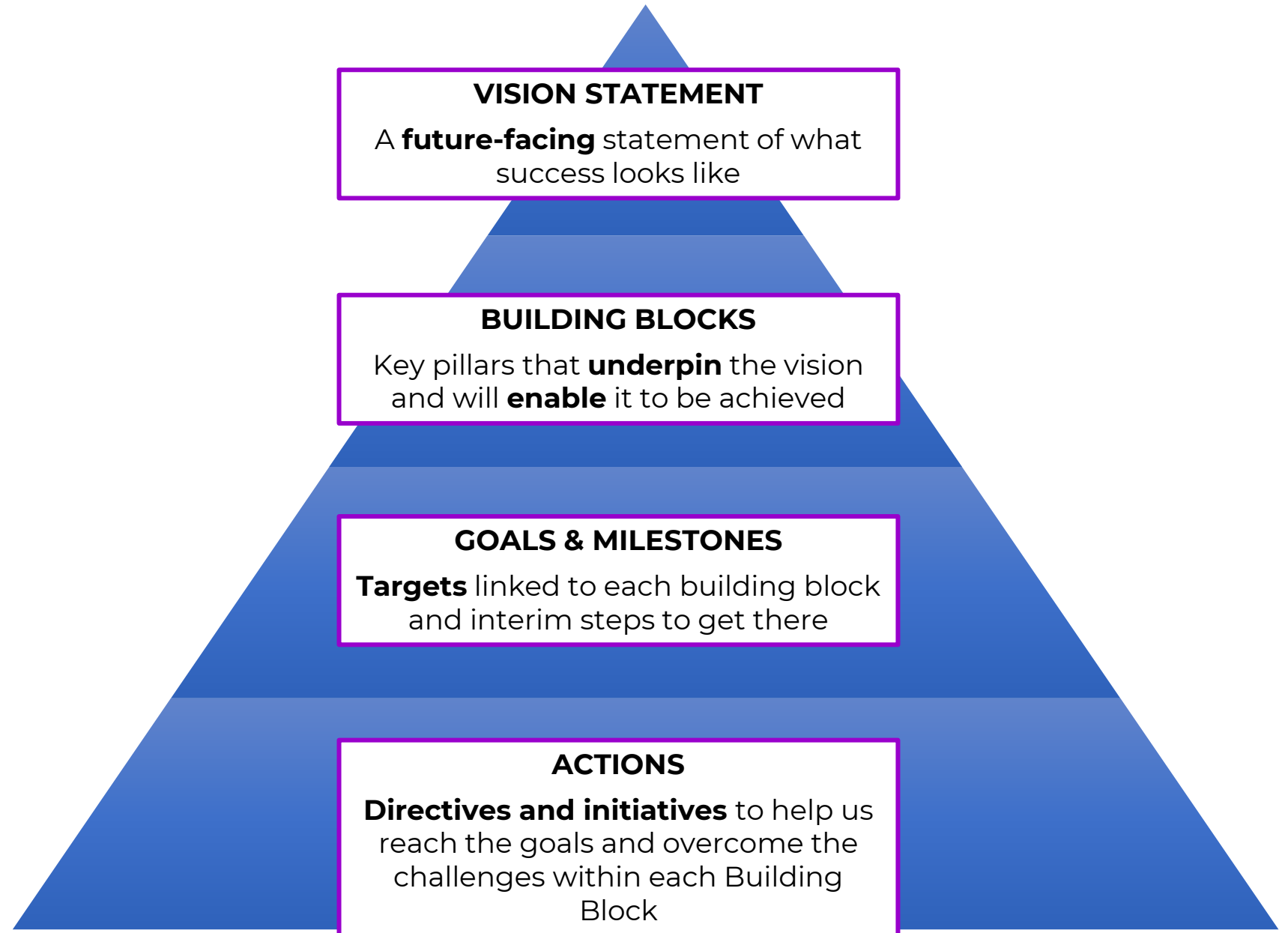
People, Organisation and Talent

The Complete Air Traffic System (CATS) Global Council

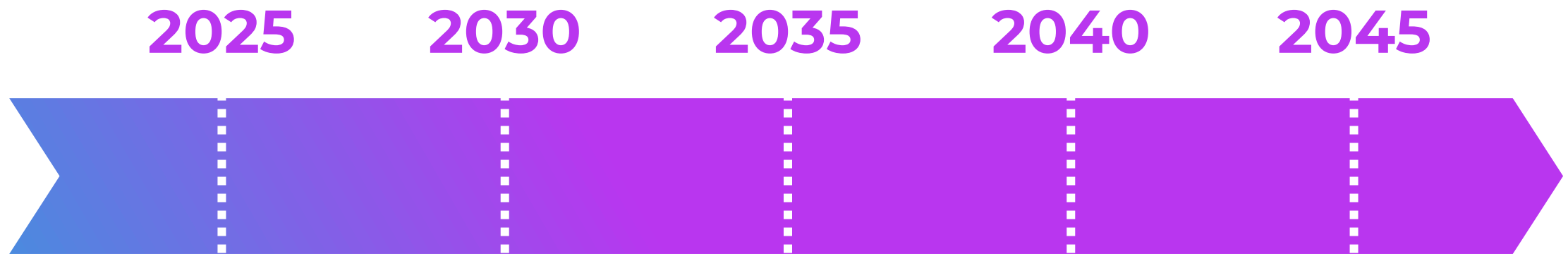
CATS GC Vision Roadmap



CATS GC Vision Roadmap Structure



Start in the future and work backwards



**Identify intermediate
Goals / Success factors**

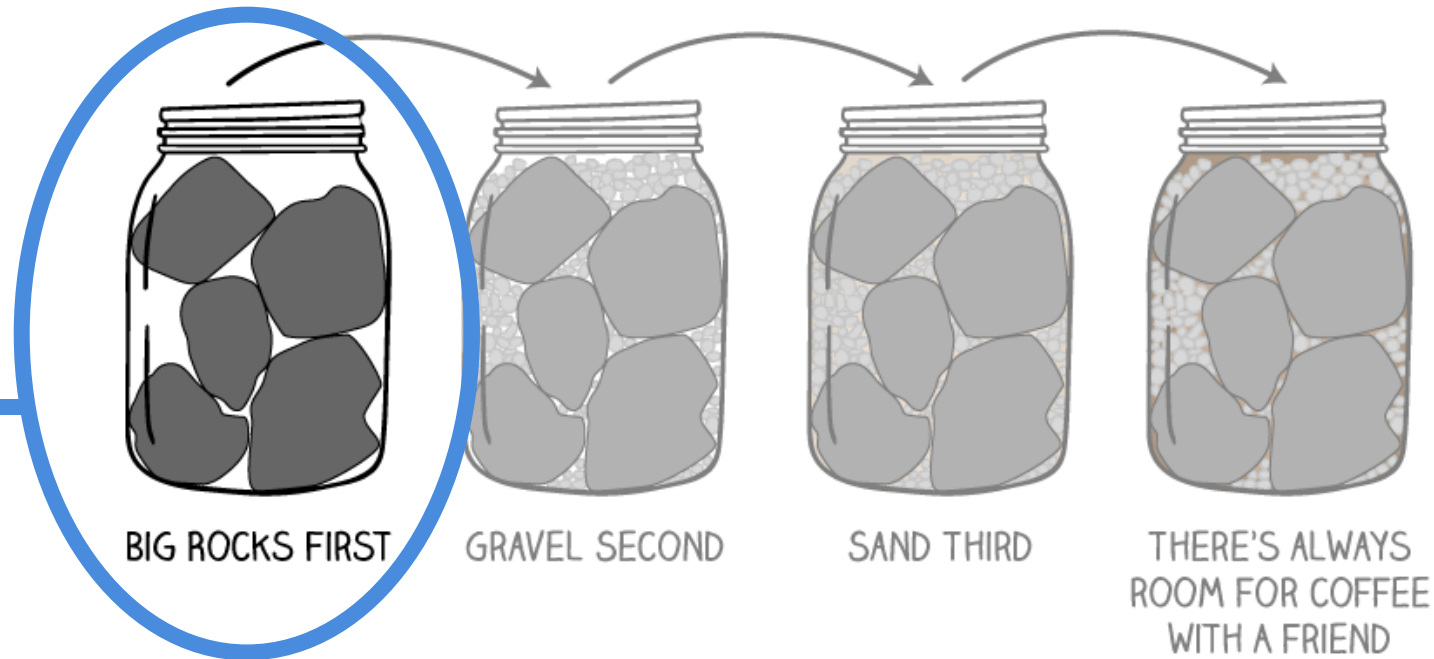


**2045 Goals / Success
factors identified in the
CATS Vision**

Scope of the CATS Roadmap

It is a high-level roadmap – focused on goals and key actions.
We scoped the Roadmap so it is manageable and it effectively steers the ATM industry towards the CATS GC vision

**Goals and
key actions**





GOAL 1 Improved performance through automation	GOAL 2 Harmonised service delivery	GOAL 3 Integrated airspace	GOAL 4 Harmonised, efficient and flexible systems
GOAL 5 Digital Collaboration	GOAL 6 Safety and Security by design	GOAL 7 Predictive approach to risk management	GOAL 8 Strong safety and quality culture
GOAL 9 Towards reduced climate impact	GOAL 10 Environmental sustainability and social impact management are broadly integrated into the air transport system	GOAL 11 Integrated and connected multimodal transportation network and infrastructures	GOAL 12 Data-powered ecosystem
GOAL 13 Thriving airspace management community	GOAL 14 High performing teams		

LONG TERM GOALS (2045)

GOAL 1

Improved performance through automation

Advancements in technology and digitisation have enabled higher levels of automation and fuelled the rise of new and improved user-centric services.

2025

2030

2035

M1 New CONOPS

M4 Conceptual framework for cross border service delivery and management of sovereign airspace

M9 Technology roadmap

M18 Network of sandboxes

M68 New ANS financing mechanisms

M25 Agile regulatory practices

M31 Sustainable integration of new technologies

M34 Electric UAS and eVTOLS reduce emissions in urban areas

M72 Disruption management

M17 Autonomous and decentralised operation

M50 Digitally connected aviation

GOAL DESCRIPTION

GOAL 4

Harmonised, efficient and flexible systems

Implementation of harmonised, efficient and flexible systems is based on a technology platform which is based on latest technology practices and paradigms and allows simplification and modularisation of systems with a multi-cloud platform.

2025

M9 Technology roadmap

M16 Use of open standards

M54 Cyber security and resilience

2030

M26 Clear standards development path and outcome

2035

M10 Open architecture

M17 Autonomous decentralised operations

M70 Global standardisation strategy

GOAL DESCRIPTION

GOAL 13

Thriving airspace management community

The airspace management community is thriving with a diverse, high-skilled talent base focused on value delivery and attracting talent to collaborate in a hybrid digital and people workplace.

2025

M55 New competency model

M56 Holistic review of the skills needed in future aviation system

M58 Harmonised change management

M59 Open and collaborative social dialogue

M61 Diversity and Inclusion campaigns

2030

M57 Learning experience is immersive and digital

M60 Flexible deployment of resources

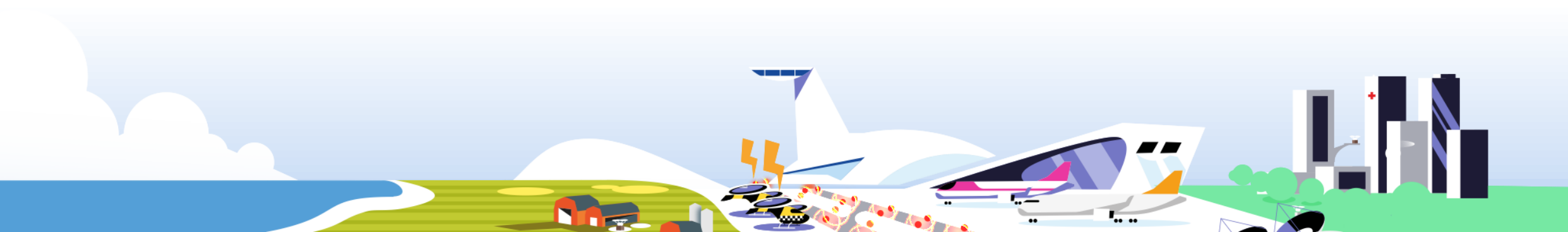
M63 Adapted contingency provisions

2035

M62 Diversity and Inclusion targets

Next activities of the CATS Global Council

- Alignment issues with existing global and regional plans
- Start working on the implementation of the vision roadmap:
 - Define a 3-year work programme facilitated by CANSO
 - Find champions / sponsors for each key milestone





THANK YOU

HIGHLIGHTS ON MOMBASA ATFM PROGRAMME – CRAFTING THE WAY FORWARD

FACILITATOR



Simon Zwane

Senior Manager ATM Planning & Research
ATNS

CAN SO Mombasa ATFM Roadmap

CAN SO MOMBASA ATFM ROADMAP

The CAN SO Mombasa ATFM Roadmap is one of the pillars to achieving harmonised operations in Africa and a vital step towards a seamless African sky“

CONTENT



Background



Where are we-
Implementation
Roadmap



On the Horizon



Other CANSO
Initiatives

BACKGROUND

- ATFM procedures are not currently utilised in most of the Africa regional airspaces and where they're utilised they're not always documented.
- With the fluctuation in demand for air transport, political challenges and rise of new airspace users in Africa, ATFM procedures are essential for ensuring safety, capacity and efficiency performance, while reducing impact on the environment.

WHERE ARE WE NOW- IMPLEMENTATION ROADMAP

- The CANSO Mombasa ATFM Roadmap is a regional strategy for implementing ATFM, based on the principle of proactive engagement of industry partners and maintenance of shared processes and procedures.
- Collaborative ATFM is a **key driver of safe, efficient and effective traffic management.**

The roadmap:

- **Establishment of CDM (SHORT TERM) 2021 - 2022**
- **Establishment of A-CDM (MID TERM) 2022 – 2023**
- **Initiate National ATFM system (LONGTERM) 2023 – 2024 and beyond**

WHERE ARE WE NOW- IMPLEMENTATION ROADMAP

Recap

- CDM
- A-CDM
- ATFM



WHERE ARE WE NOW- IMPLEMENTATION ROADMAP

ASECNA

Morocco – ONDA

Tanzania -TCAA

**South Africa - ATNS and
Zambia-ZACL**



WHERE ARE WE NOW- IMPLEMENTATION ROADMAP

A – CDM (Airport Collaborative Decision making)

- https://www.youtube.com/watch?v=i_asH_IRTz0

ON THE HORIZON

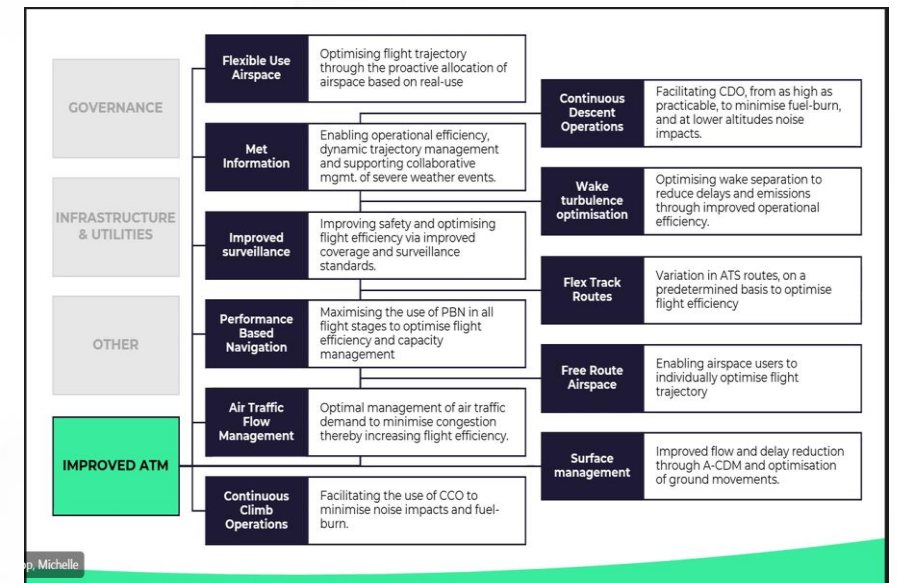
- The CANSO Mombasa ATFM Implementation TF is considering the following for upcoming webinars:
 - **FRA CONOPS development and Implementation (CIFRA)**
 - **Capacity Declaration (Determining Sector Capacity/ Airport acceptance rate)**

OTHER CANSO INITIATIVES

Align the CANSO
MOMBASA ATFM
Roadmap with the
Revised GANP 6th
Edition

LRATFM

Revise the CANSO
ATFM Roadmap



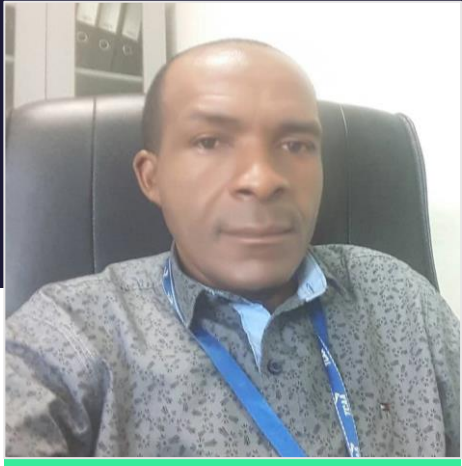
OTHER CANSO INITIATIVES

CADENCE



CANSO OSC

PANELLISTS



Shukuru Nziku

Principal ATS Operations
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**Zephania
Sholobela**

Manager Air Traffic
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Zambia Airports
Corporation Ltd



**Kokouvi
Atchrimi**

Manager Aerodrome
Operations
ASECNA



**Moses
Wabomba**

Principal ATM Officer
Planning & Training
Uganda Civil Aviation
Authority

HIGHLIGHTS ON MOMBASA ATFM PROGRAMME – CRAFTING THE WAY FORWARD



THANK YOU

THANK YOU

TO OUR SPONSORS



THANK YOU

TO OUR EXHIBITORS





THANK YOU
TO OUR NETWORKING BREAK
SPONSOR

ROAD TO RECOVERY – INDUSTRY VIEWS AND EXPECTATIONS FROM SEAMLESS OPERATIONS IN THE AFRICA REGION

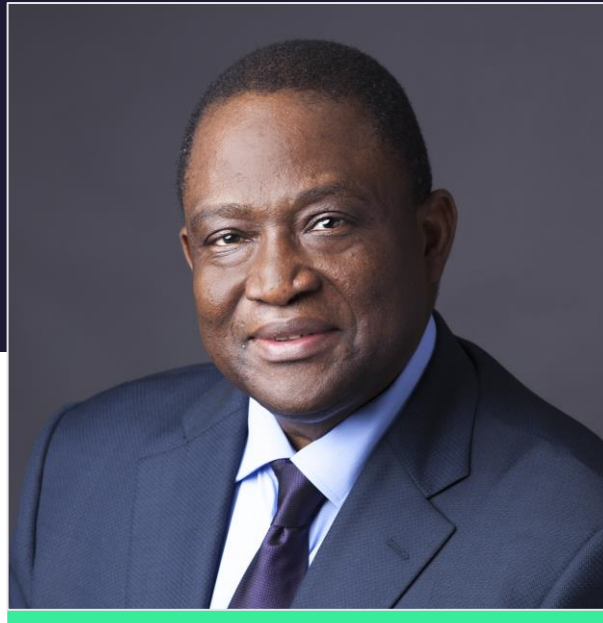
FACILITATOR



Louis Bakienon

Director of Operations
ASECNA

GUEST SPEAKER



Abderahmane Berthe

Secretary General
African Airlines Association

Road to Recovery - Industry Views and Expectations from Seamless Operations in the Africa Region

By Mr. Abdérahmane Berthé
AFRAA Secretary General

Better Skies for Africa



SUMMARY OF CONTENT

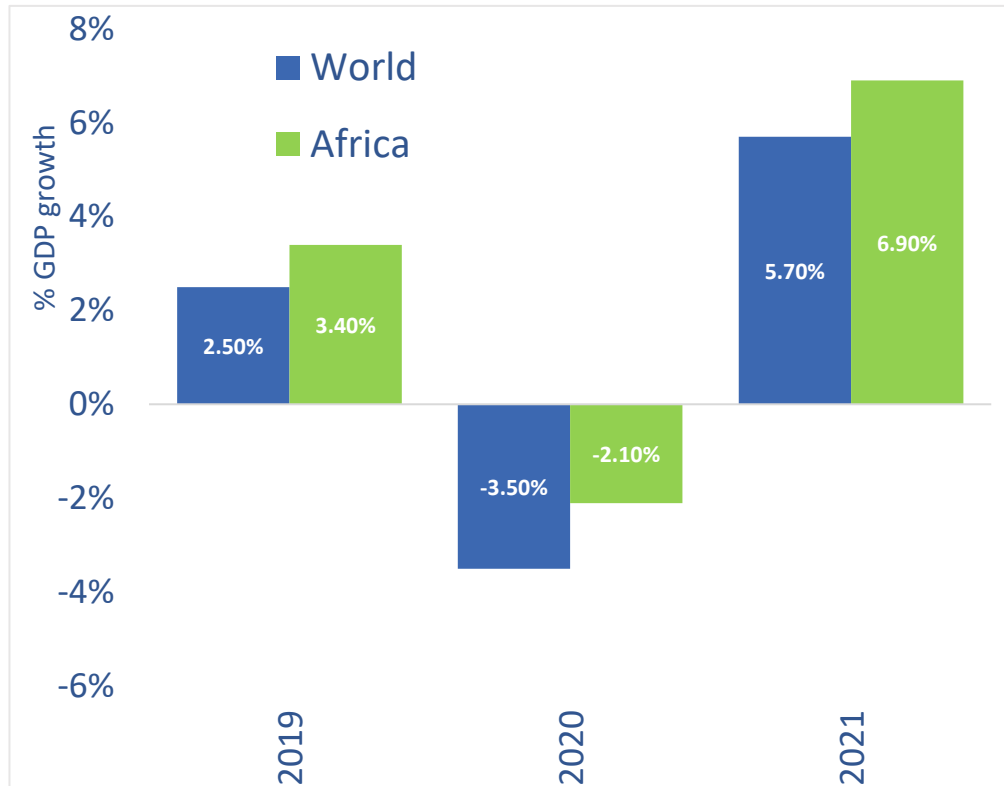


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- 1 STATE OF THE INDUSTRY**
 - 2 ROADMAP FOR AIR TRANSPORT SUSTAINABILITY**
 - 3 NAVIGATION CHARGES**
 - 4 AFI - FREE ROUTING AIRSPACE**
 - 5 SBAS IMPLEMENTATION IN AFRICA**
 - 6 CONCLUSION - AREAS OF INTEREST FOR USERS**
 - 7 ABOUT AFRAA**

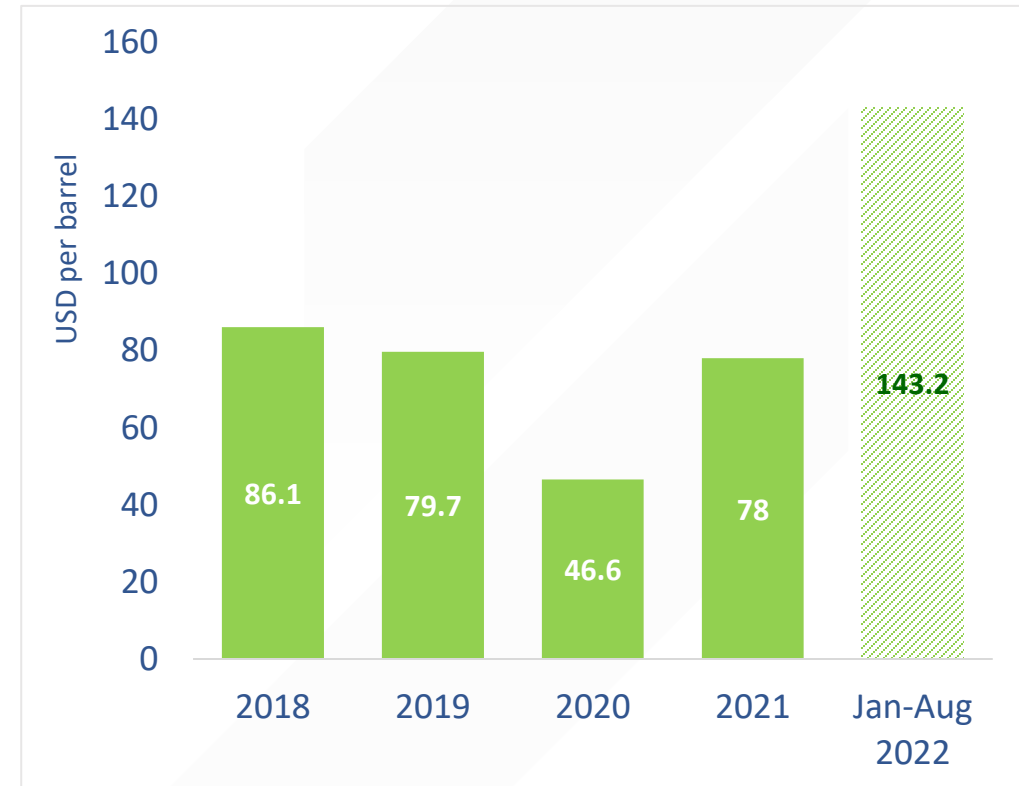


State of the Industry

ECONOMIC PERFORMANCE



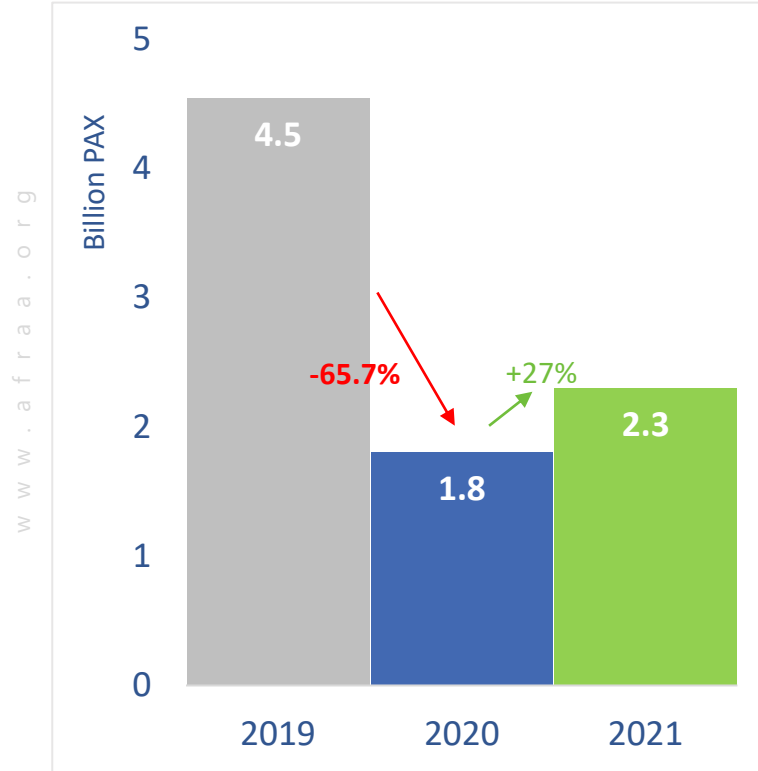
Global Economic growth 2021 : 5.7%
African Economic Growth 2021 : 6.9%



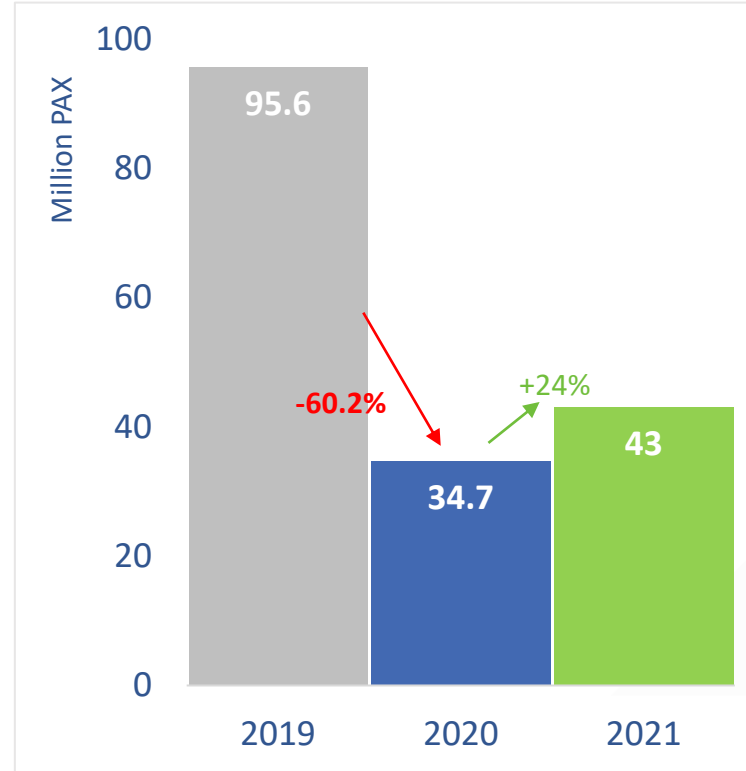
The average fuel price per barrel increased by 67% in 2021 compared to 2020 .

Source : IATA

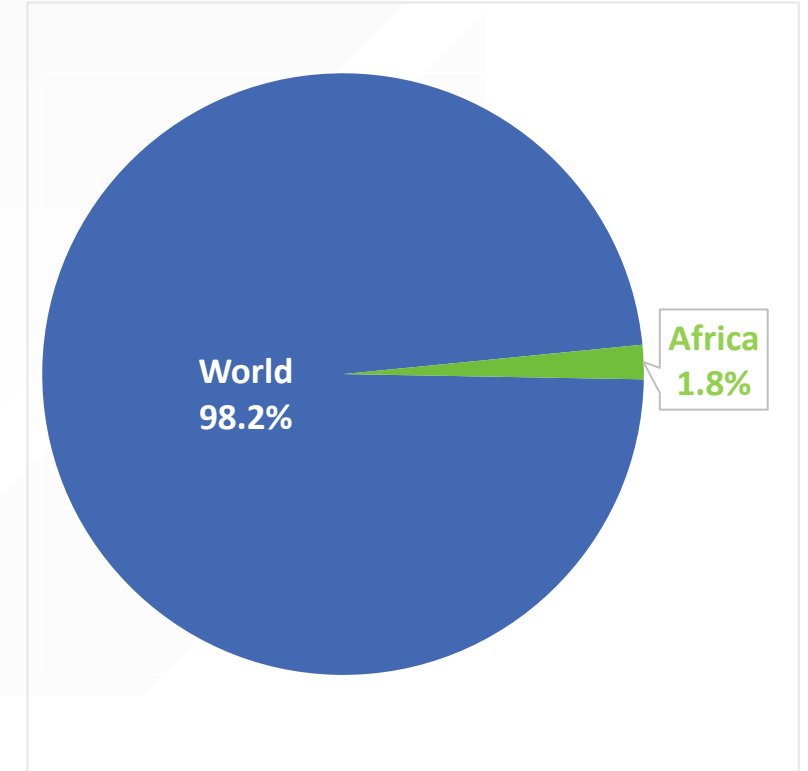
AFRICAN AIRLINES PERFORMANCE



Global airlines Passenger Traffic



African airlines Passenger Traffic



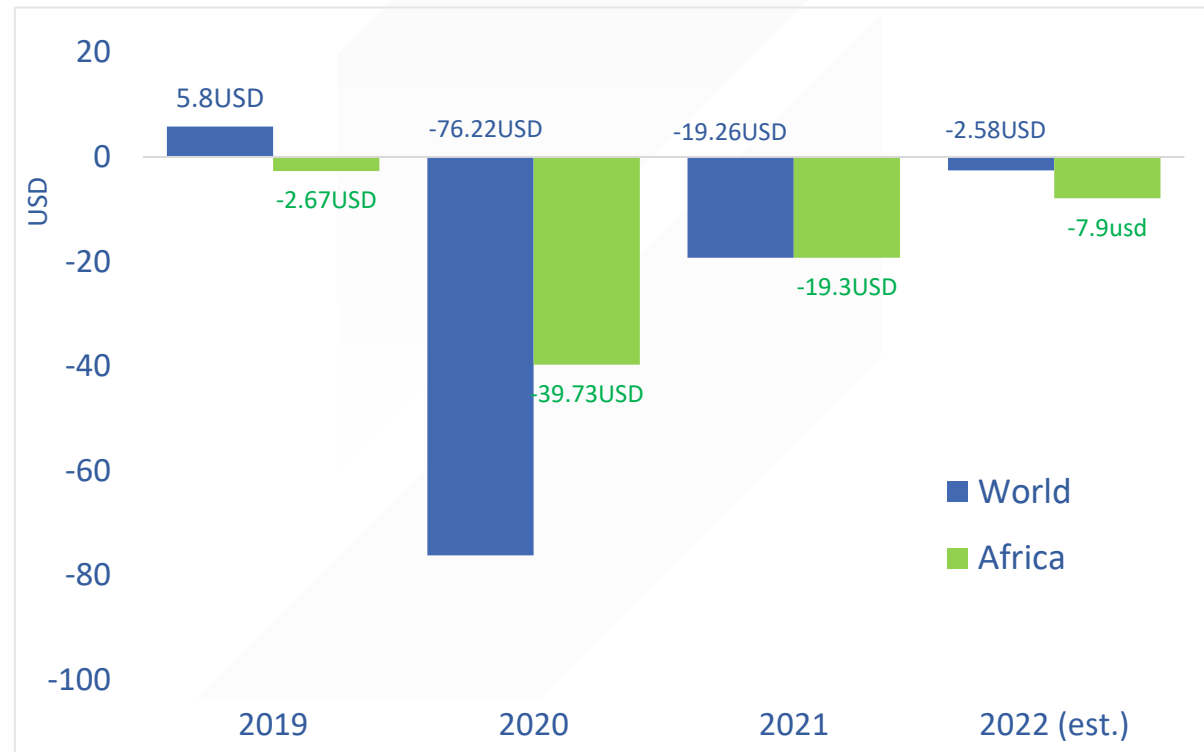
Contribution to global Traffic 2021

Source : IATA / AFRAA

AFRAA Training Department 2021

AFRICAN AIRLINES PERFORMANCE

www.afraa.org



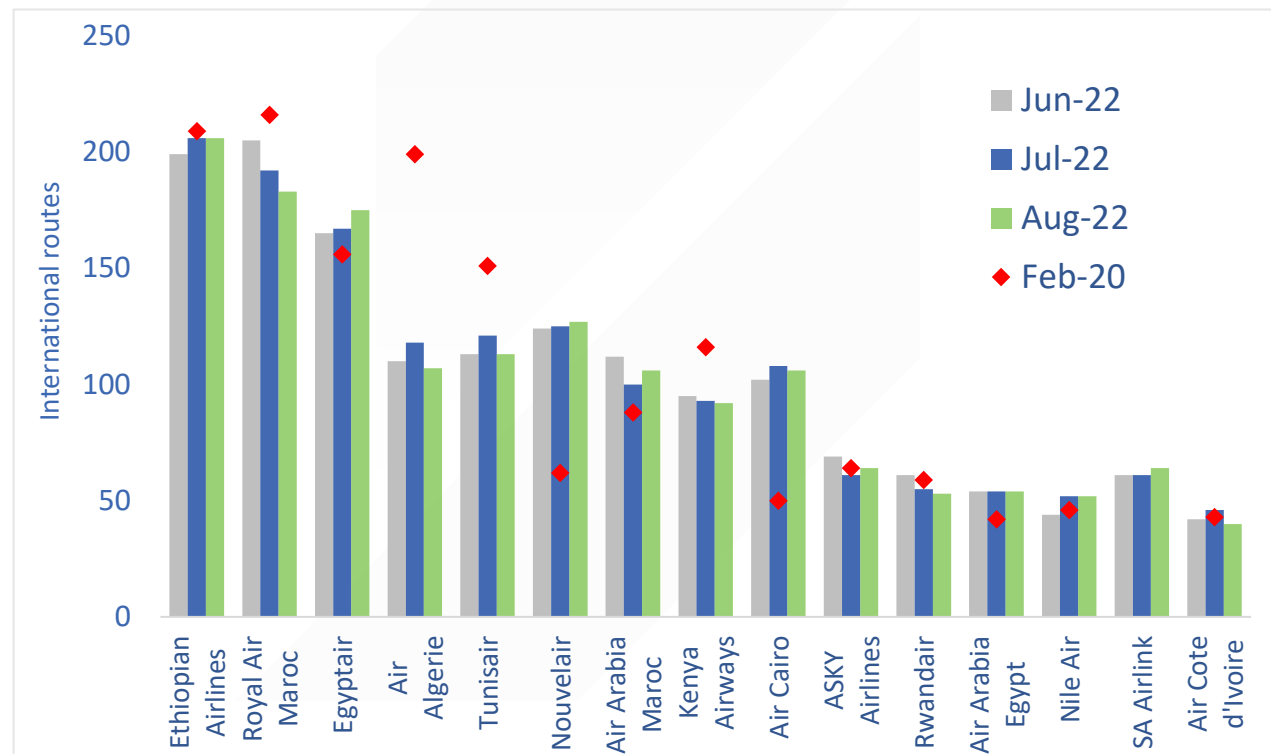
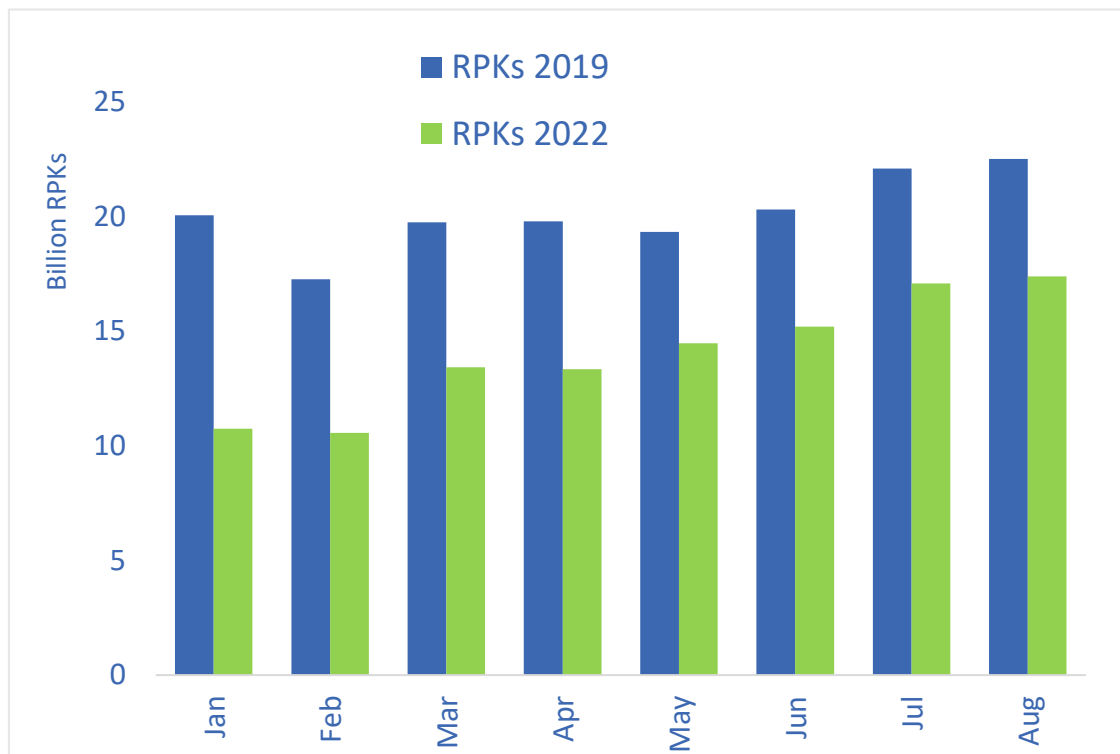
Estimated Passenger Revenue Losses for 2021 : **USD 8.6 billion**, representing **49.8%** of 2019 revenues

Global loss per passenger 2021: **USD 19.26**
Africa loss per passenger 2021 : **USD 19.3**

Source : AFRAA / IATA

AFRAA Training Department 2021

AFRICAN AIRLINES PERFORMANCE



- In August 2022, the traffic reached 77.2% of the 2019 level

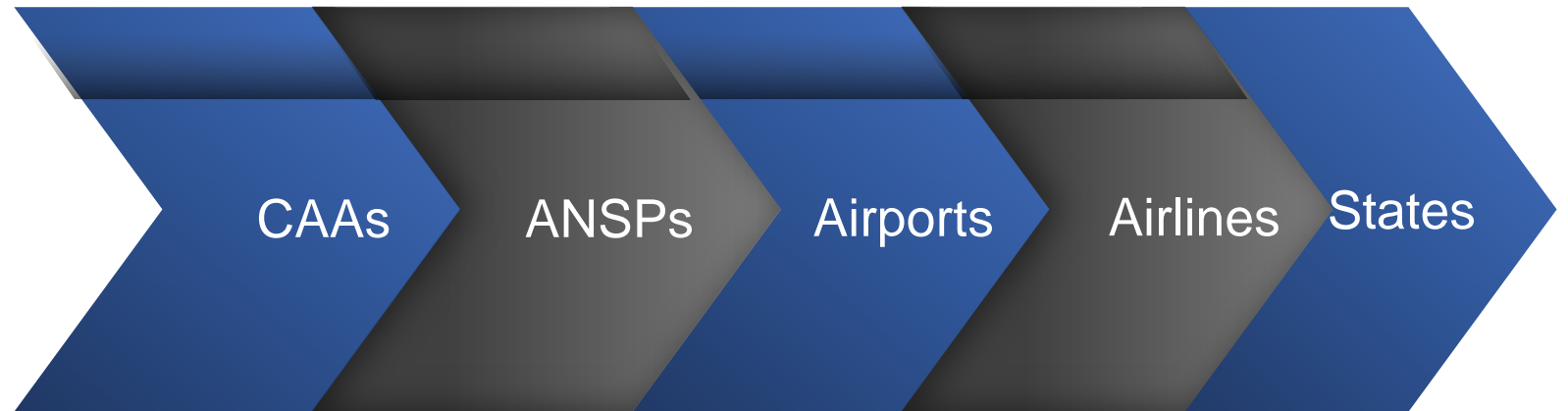
The percentage of international routes operated by African airlines compared to Feb 2020 reached 98.7% in August 2022, the same level as July.



ROADMAP FOR AIR TRANSPORT SUSTAINABILITY

MARGINALIZATION ROUTE CAUSES

- Supply Chain High Costs
- High Air Transport service Fares and Rates
- Fares not affordable



**REDUCE COSTS, GAIN PRODUCTIVITY ALONG THE SUPPLY
CHAIN AND MAKE AIR TRANSPORT AFFORDABLE TO
AFRICAN CITIZENS**

Priority Projects to Make Air Services Affordable

Reduce Prices

Reduce Costs

Generate Revenues

**Conquer
Africa's Market**

THE 5 LAB PROJECT GROUPS



1. Taxes (Fuel and customs)



2. High Taxes and Charges



3. Navigation – Free Routing Area (FRA)



4. SAATM



5. Partnerships - Airlines and Tourism Bodies
to improve intra-African Tourism



NAVIGATION CHARGES

ANS charges within Africa*

(*November 2020 data)

Routing	En-route charges	Terminal charges	VSAT	Total
Guinea	750.0	544.1	-	1294.1
Sudan	1265.2	-	10.0	1275.2
Nigeria	822.2	235.6	-	1057.8
ASECNA	651.1	-	-	651.0
Kenya	366.2	50.	10.0	426.2
Egypt	204.2	176.4	-	380.6
Tunisia	340.0	-	28.4	368.4
South Africa	298.4	31.8	9.6	339.7
Algeria	298.6	-	-	298.5
Mozambique	280.0	-	9.0	289.0
Tanzania	235.0	-	9.6	244.6
Zambia	219.3	-	9.6	228.9
Botswana	193.3	19.7	9.6	222.5
Zimbabwe	200.0	-	9.6	209.6
Ghana	200.0	-	-	200.0
Ethiopia	142.2	-	10.0	152.2
Uganda	125.0	-	10.0	135.0
Rwanda	100.0	-	8.0	108.0
Djibouti	51.4	-	10.0	61.4
Seychelles	40.8	-	10.0	50.8
AVERAGE	317.1	167.6	11.0	395.5

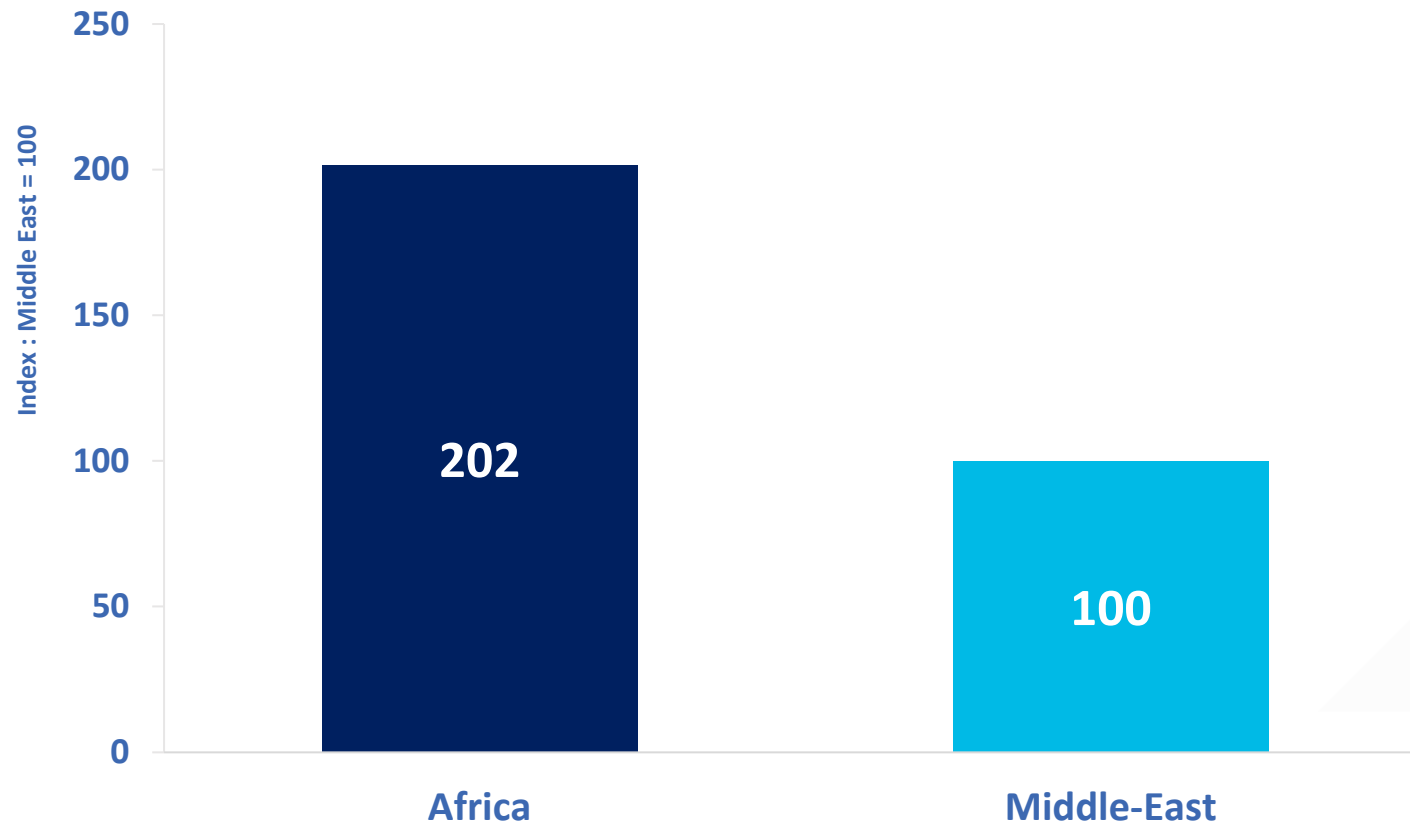
The average amount of air navigation charges in Africa is USD 395.5. This include an average USD 317.1 for En-route charges, USD 167.6 for terminal charges and USD 11 for communication.

Guinea, Sudan and Nigeria have the highest Air Navigation rate, charging more than USD 1000. On the other hand, two countries charge less than USD 100; Djibouti and Seychelles.

Nota:

- B737-700
- Distance: 500Nm

Comparison of ANS charges with neighboring regions



Using same parameter (same aircraft, same number of passengers, same travel type) :
The level of ANS charges is 50% less in Middle East compared to Africa.

Source : AFRAA/IATA ACIC



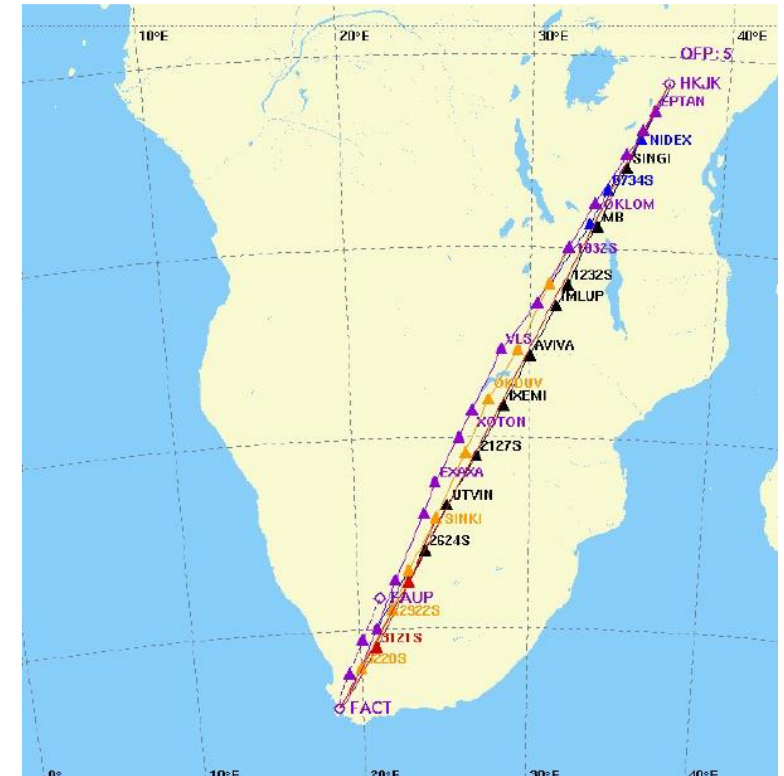
AFI Free Routing Airspace

AFI Free Routing Airspace

- The AFI - Project Management Team (PMT) is engaged in preparatory works towards FRA implementation.
- Africa 1st Air Transport Sustainability Laboratory retained the FRA as a priority project supporting the reduction of operational costs.
- Coordination, cooperation, and collaboration, among relevant stakeholders led the Laboratory to work out an FRA implementation roadmap.
- Let's use CADENA - (CANSO ATFM Data Exchange Network for the Americas) application and coordinate FRA trial implementation.

AFI Fee Routing Airspace

- The Roadmap selected three city-pairs for trial.
 - Nairobi – Abidjan
 - Nairobi – Dzaoudzi
 - Nairobi – Cape Town
- Collaboration around CADENA to implement the trials
 - ICAO
 - States
 - AFI PMT
 - IATA
 - AFRAA
 - CANSO





Satellite-Based Augmentation System (SBAS) Implementation in Africa

AFRICAN AIRLINES POSITION

- African Airlines recognize the value of SBAS in enhancing safety and improving efficiency at I airports not equipped with ILS.
- African Airlines support implementation of SBAS in Africa provided that;
 - a) no mandatory requirements by regulatory authorities to fit SBAS equipment to aircraft,
 - b) no unjustified restrictions to operations due to a lack of SBAS equipment; and
 - c) no costs or charges related to SBAS being imposed directly or indirectly to airspace users who do not use such technology.



CONCLUSION AREAS OF INTEREST FOR USERS

CONCLUSION - AREAS OF INTEREST FOR USERS

- Safe, efficient and affordable infrastructure
- Seamless, Cost-effective navigation
- Collaboration between users, Service Providers and the regulators
- Air Transport Sustainability

AFRAA

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ABOUT AFRAA



53 years of AFRAA's existence...

The leading trade association of African airlines



- **Vision:** A sustainable, interconnected and affordable Air Transport industry in Africa where African Airlines become key players and drivers to African economic development.



- **Mission:** To promote, serve African Airlines and champion Africa's aviation industry.

CONTACTS

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Nairobi, Kenya

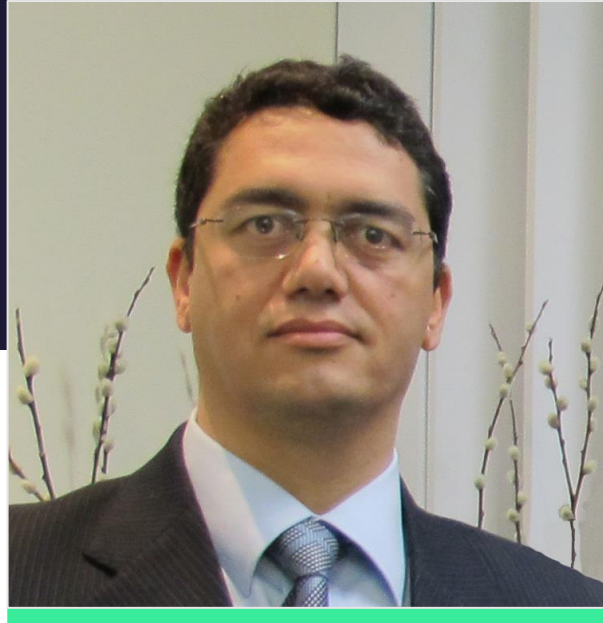
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Better Skies for Africa

SPEAKER



Ali Tounsi

Secretary General
ACI Africa



The
voice of
African
airports

ACI's Views and Expectations on Seamless Operations in Africa

Long Standing Relationship between ACI and CANSO

- 2012 - Memorandum of Cooperation signed to promote the global implementation of Airport Collaborative Decision Making.
- 2015 – Jointly ‘Managing the Impacts of Aviation Noise’
- 2020 - Joint publication on the ‘Use of Performance-Based Navigation for Noise Management’



Grasping innovation in processes and leveraging technology remains crucial for the industry to continue to power growth

- ACRIS - Airport Community Recommended Information Services
- A-CDM - Airport-Collaborative Decision Making
- NEXTT - New Experience Travel Technologies

ACRIS, A New Frontier



- Improve economic and environmental sustainability
- Improve situational awareness
- Improve operational performance
- Improve the planning process
- Reduce cost and time involved
- Provide support for initiatives

A-CDM





NEXTT

A vision for the future of air
travel and technologies

Barriers in Africa

- Complexity in introducing digitalisation in airport processes
- Data ownership issues
- Lack of stakeholders' collaboration
- Regulatory obstacles to enable fully online or mobile processes
- Funding priorities not necessarily geared towards technology and innovation

Thank You

About ACI-Africa

ACI Africa is the international association of African airports. It is the voice of African Airports and has as prime objective to advance the interests of airports and to promote professional excellence in airport management and operations on the African continent. ACI Africa is composed of 71 members from 53 African countries, managing more than 260 airports, and of 52 business partners.

ACI Africa Website <https://www.aci-africa.aero/>



PANELLISTS



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Fred Bamwesigye

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Uganda Civil Aviation Authority

ROAD TO RECOVERY – INDUSTRY VIEWS AND EXPECTATIONS FROM SEAMLESS OPERATIONS IN THE AFRICA REGION



THANK YOU

SUMMARY OF THE DAY



Moises Monteiro

Board Member

ASA S.A

THANK YOU

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THANK YOU

TO OUR EXHIBITORS

