



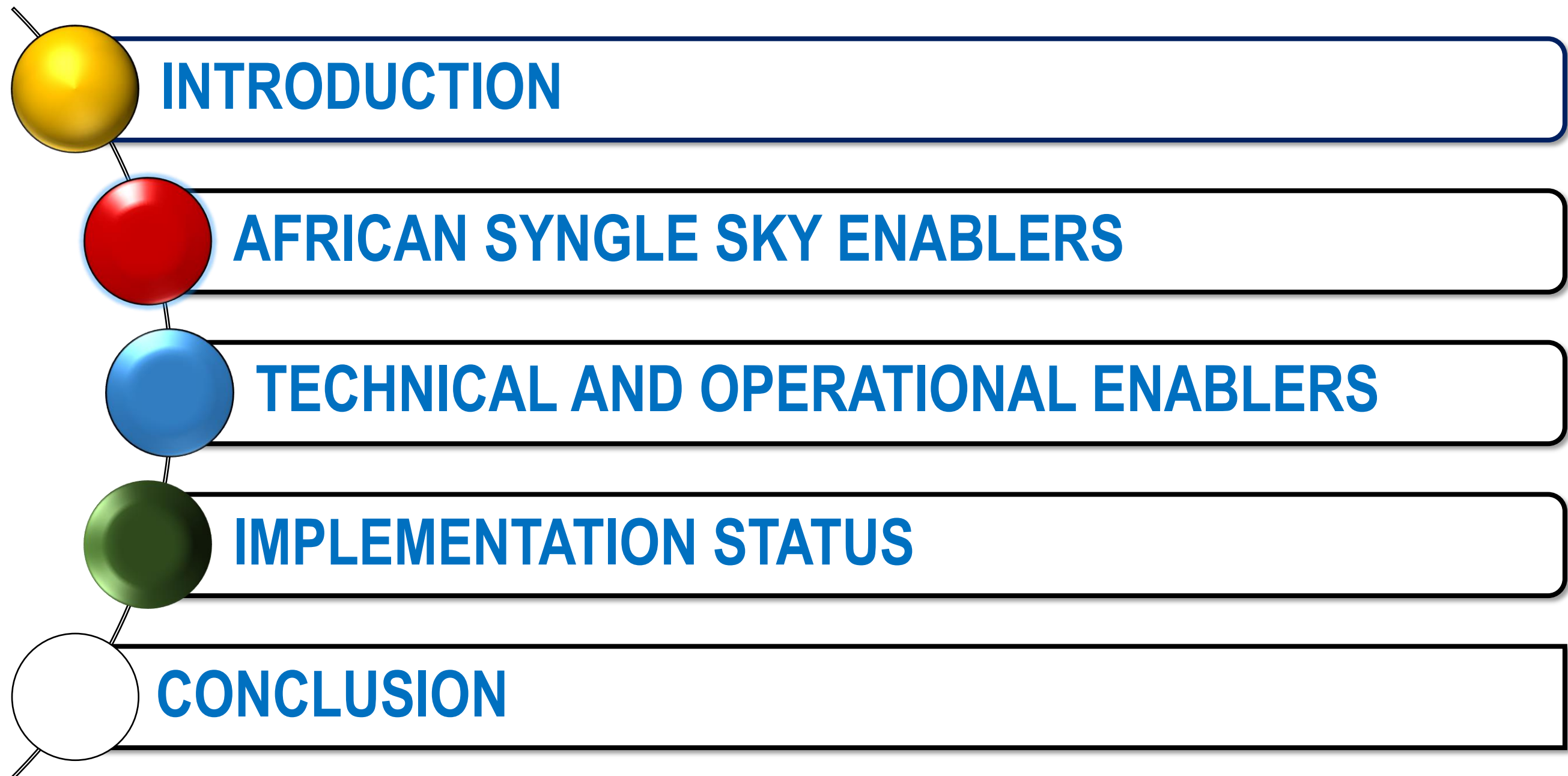
# 2023 EIGHT AFI AVIATION WEEK



## Session 3 : Air Navigation Capacity and Efficiency Seamless Sky initiatives in Africa

*Nairobi, Kenya, 21 - 25 August 2023*

Mohamed MOUSSA  
Director General ASECNA





# INTRODUCTION



- ❖ Air transport sector is changing with many challenges (capacity, environment, reduction of ticket cost...)
- ❖ Africa must seek opportunities and solutions to these challenges, and equip itself with tools in order to provide an appropriate strategic and coordinated response
- ❖ GANP (Global Air Navigation Plan) provide a framework for strategic air traffic management planning and encourage all ANSP and States to move towards a Single Sky solution
- ❖ Single Sky for Africa (CUPA) aims to address these challenges and encourage the achievement of a seamless airspace across the continent



# AFRICAN SINGLE SKY ENABLERS



The implementation of African single sky is amounts to assembling a huge puzzle, made up of a multitude of pieces :

- ❖ Technical an operational field
- ❖ Regulatory and legal field
- ❖ Institutional field
- ❖ Financial and Human resources field
- ❖ System interconnexion and information security

The interoperability of systems is essential to interchange all the pieces of this puzzle



# TECHNICAL AND OPERATIONAL ENABLERS



Several technological innovations are already underway at ASECNA to support the implementation of the single sky. These include

- ❖ Implementation of ADSB-satellite based
- ❖ Free route airspace
- ❖ Augmented Navigation for Africa
- ❖ Air traffic flow management
- ❖ SWIM and FF-ICE

## ADS-B satellite based

- ❖ ADS-B satellite based is operational since 2020 and offer the visualisation of air situation in all ASECNA airspaces
- ❖ Safety assessment has been already conducted for implementation of advanced surveillance-enhanced procedural separation minima (ASEPS) to reduce the separation minima in the oceanic and remote continental airspace from 80 NM to 20 NM
- ❖ FIR involved for ASEPS:
  - Oceanic airspace : Dakar, Abidjan and Tana
  - Remote continental airspace: Niamey, N'Djamena and Brazza



## Free route airspace

- ❖ Safety assessment has been already conducted for implementation of Free route airspace
- ❖ An outreach had been made in ASECNA members states to to inform all stakeholders involved by the change.
- ❖ Air traffic services personnel is on ongoing process
- ❖ Free route airspace will permit aircraft to fly directly from one point to another without following pre-established routes, giving greater flexibility in the choice of flight paths.

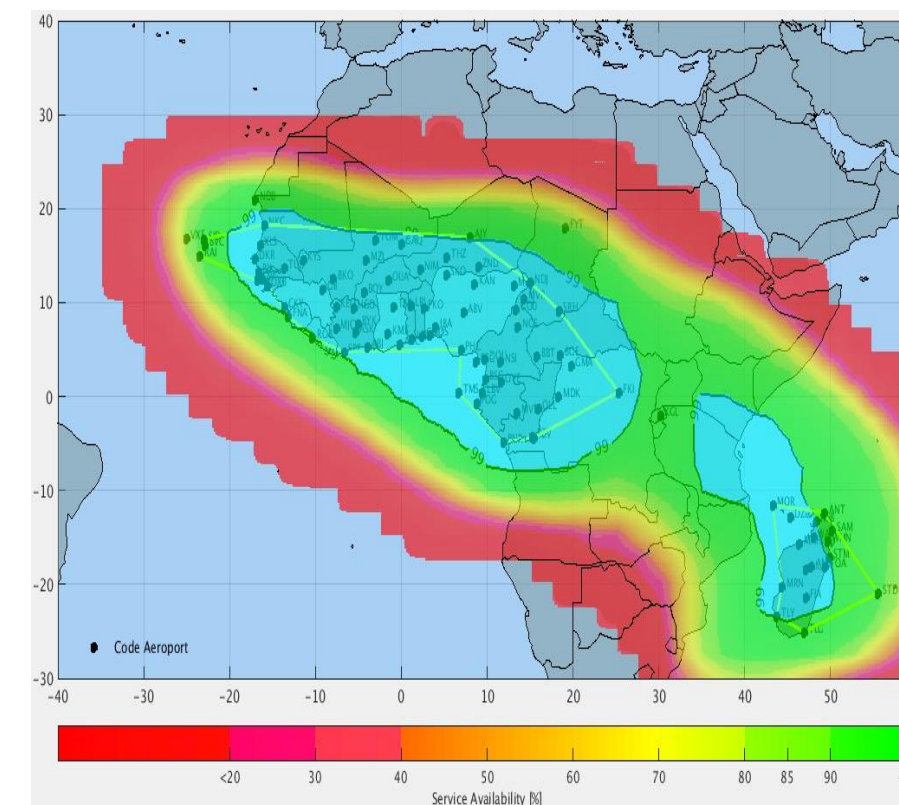
## Augmented Navigation for Africa (ANGA)

- ❖ ANGA is the SBAS solution developed by Africa for Africa, which offers CAT-I equivalent services in a very large radius covering several airports at the same time in compliance with ICA SARPs.
- ❖ ANGA roadmap for full implementation and performances are below:

**Step 0:** Demonstration (L1, L5) (effective since 2020)

**Step 1:** (L1) services from 2024 for en-route/NPA, APV-1 (DH/250 ft) and CAT-I (DH/200 ft) operations

**Step 2:** (DFMC) services beyond 2028/2030 for CAT-I auto-land operations and potentially further



**APV-1 availability (L1) - 2025**



## Air Traffic Flow Management

- ❖ Aireon, working with Metron Aviation, has integrated its Aireon FLOW air traffic flow management (ATFM) data into the Metron Aviation's Horizon platform.
- ❖ The combination of the two systems allows for continuous global satellite-derived ADS-B position reports and will extend the visibility of ASECNA flights outside its airspace.
- ❖ This complete solution will assist ASECNA to more accurately predict traffic flows into its airspace and airports for ATFM implementation



# TECHNICAL AND OPERATIONAL ENABLERS



## SWIM IMPLEMENTATION

- ❖ System wide information management will improve situational awareness for collaborative decision-making by all stakeholders during all strategic and tactical phases of flight by ensuring the timely circulation of quality information
- ❖ Telecommunication infrastructure is already improved to support the exchange of information
- ❖ The roadmap including FF-ICE, AIXM and IWXXM is available



# SNGLE SKY IMPLEMENTATION STATUS



- ❖ CUPA feasibility studies have been carried out and presented to the Board of Directors and Committee of Ministers
- ❖ A communication plan for the project has been drawn up and is currently being implemented (WACAF, ANSP AFI meeting and the African Union workshop in Casablanca is already done)
- ❖ Tabletops are in process on the pilot site, the Brazzaville FIR with generic safety assessment and CONOPS
- ❖ The major CUPA axes are currently being aligned with the Agency's strategic orientations
- ❖ AMAAC (ASECNA civil aviation authorities) financial capacity have been strengthened to support States in harmonizing the texts



## CONCLUSION

- ❖ The implementation of a seamless sky for Africa may seem a complex activity which need to be harmonized
- ❖ Some technical and operational activities and other activities (Communication plan, feasibility studies safety assessment) are ongoing to enables the implementation of seamless sky for Africa
- ❖ The success key of this project is the willing of all African States to cooperate and pooling resource's together



# THANK YOU



Bénin Burkina Faso Cameroun  
Centrafrique Comores Congo  
Côte d'Ivoire France Gabon  
Guinée Bissau Guinée Equatoriale  
Madagascar Mali Mauritanie  
Niger Sénégal Tchad Togo

*Les routes du ciel, notre métier*

Agence pour la Sécurité de la Navigation  
Aérienne en Afrique et à Madagascar