



canoso

civil air navigation services organisation

Transforming Global ATM Performance

1st SECFAL plan Steering Committee
Implementation to seek reduction of unstable approaches
18-21 May 2015

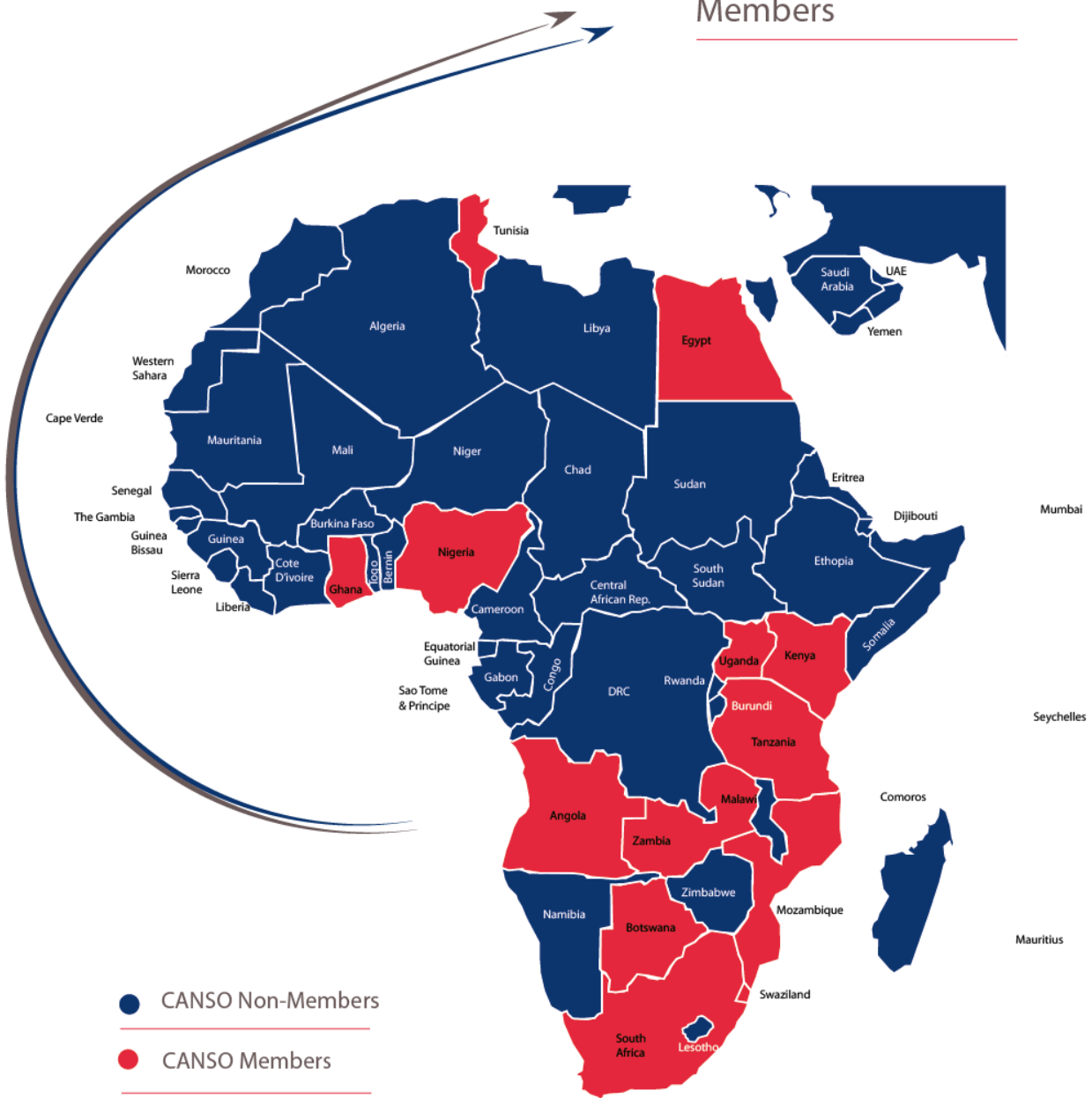
Discussion points

- About CANSO
- Trends affecting the ATM industry
- ICAO and CANSO on Implementation of PBN
- CANSO objectives promote partnership/ Collaboration
- PBN has a number of benefits including
- CANSO Performance-Based Navigation Best Practice Guide for ANSPs
- The key learning's from the Guide are as follows
- Status of implementation of the CANSO members in Africa
- Industry declaration on PBN
- Conclusion

Who we are

- Global voice of air traffic management
- Members support over 85% of world air traffic
- Open to air navigation service providers and industry suppliers
- Founded 1997, based in Amsterdam
- **84** Full (ANSP) and **81** Associate Members

Members



Trends affecting ATM

- Traffic growth, leading to congestion and complexity challenges
- New technologies
- Enhanced information management (SWIM)
- New airspace users –
- Changing ANSP business models
- Demands to improve efficiency and reduce cost

ICAO and CANSO on Implementation of PBN

- Performance-based navigation (PBN) is the highest air navigation priority of ICAO and is an important element of the ICAO Aviation System Block Upgrades (ASBUs).
- The implementation of PBN is equally a high priority for CANSO and its Members.

CANSO defines PBN as

- PBN is a global set of area navigation standards, based on performance requirements for aircraft navigating on departure, arrival, approach or en route segments of flight.
- These performance requirements are expressed as navigation specifications in terms of accuracy, integrity, continuity, availability and functionality required for a particular airspace or airport.
- PBN does not exist in isolation but rather as an integral component of an airspace concept.
- The PBN concept is defined in the ICAO Document 9613, Performance-Based Navigation Manual.
- This encompasses two types of navigation specifications: area navigation (RNAV); and required navigation performance (RNP).

PBN has a number of benefits including

- flexible route structures which allow for more efficient flight paths and result in reduced fuel burn and emissions
- access to airspace and runways that are limited or not achievable by conventional navigation aid (NAVAID) infrastructure
- improved safety through more straight-in instrument approaches with vertical guidance
- increased airspace capacity and increased airport accessibility
- more efficient operations and reduced infrastructure costs (for example the reduction of sensor-specific (e.g. VOR or non-directional radio beacon (NDB)) conventional procedures and routes enables a reduction in legacy infrastructure)
- and importantly PBN reduces negative environmental impact

Objectives of PBN implementation

- In terms of the PBN Roadmap ANSP's aim to achieve and implement a certain number of required Navigation Performance (RNP) Approaches and Area Navigation (RNAV) Standard Instrument Departures (SID) and Standard Terminal Arrival Routes (STAR) for international runways during a certain period of time specific to their individual ANSP requirement
- CANSO provides practical information on implementing PBN to States and air navigation service providers (ANSPs), including seminars and workshops on PBN.
- To that effect, CANSO has recently developed a "Best Practice Guide" as another practical and useful tool to assist in the implementation of PBN.

Performance-Based Navigation Best Practice Guide for ANSPs

- The CANSO PBN guide provides useful tips that will prove invaluable to those ANSPs that are embarking on the implementation of PBN.
- This document provides guidance on PBN implementation as it applies primarily to the terminal and approach environments.
- This document provides guidance on PBN implementation as it applies primarily to the terminal and approach environments.
- It draws on the lessons learned from those with previous PBN implementation experience and provides PBN guidance that specifically addresses the five key issues that have been highlighted by CANSO Members:
 - Knowledge
 - Regulations
 - fleet equipage
 - Resources
 - and training

The key learnings from the Guide are

- The ANSP will know the appropriate navigation specification for a given phase of flight (i.e., arrival, departure, approach, en-route)
- Improves the understanding and the interaction between aircraft systems and procedure design to reduce surprises during the simulation and implementation process
- Understanding the differences in path terminators to enable ANSPs to design a more predictable flight path, resulting in a reduction in design modifications
- Performance metrics can be used to help build a business case for PBN implementation, and to justify the provision of appropriate resourcing

The key learnings from the Guide “continued”

- Helps ANSP’s to determine the viability of a PBN concept, and to assess the success of implementation
- Helps to define key performance indicators (KPIs):
Airspace/aerodrome capacity on:
 - Safety
 - Efficiency
 - Environmental

Status of PBN implementation of the CANSO members in Africa

- CANSO members are at different stages regarding the PBN implementation
- The first group comprises of ANSP's who are still in the process of developing their plans
- There are ANSP's who have plans and have not started with implementation
- There are ANSP's who have achieved about 50% of their target
- The other ANSP's have exceeded their targets and are even providing support to other ANSP's through training.
- PBN implementation has been identified as a priority by the CANSO Africa region and the status of implementation is the focus area and providing the necessary support through the running of workshops and training has been planned for throughout the year

In CONCLUSION



Industry Declaration in support of Performance-based Navigation (PBN)

We, as representatives of the air transportation community,

Affirming our joint responsibility to seek continual improvements to the safety, access, capacity, efficiency and environmental sustainability of the air transportation system,

Recognizing that Performance-based Navigation (PBN) provides a catalyst for these improvements to air traffic operations, while enabling a seamless and cost effective solution throughout the entire flight,

Recognizing the work of ICAO in formulating and publishing globally harmonized Area Navigation (RNAV) and Required Navigation Performance (RNP) provisions, now known as Performance-based Navigation (PBN),

Recalling that Resolution A36-23 of the 36th ICAO General Assembly whereby States are urged to implement PBN procedures in accordance with the established timetable,

We resolve:

To support the timetable set out by ICAO for the global implementation of PBN,

To collectively work to facilitate the implementation of PBN, and

To assist States, regions and other stakeholders in their development and execution of a complete PBN implementation plan.

We call upon:

All leaders of the civil aviation community, to fully support implementation of PBN into the air navigation system according to the ICAO provisions and established timetable.




Roberto Kobeh González, Council President

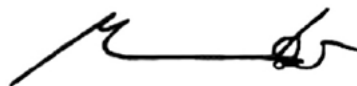



Giovanni Bisignani, Director General and CEO




Alexander ter Kuile, Secretary General




Marc Baumgartner, President & CEO

Summary

- A PBN Sub Group (PBN SG) was formed in 2012 to assist CANSO Members with PBN implementation.
- The PBN SG contributes to the Optimised ATM Systems Workgroup (OAS WG), under the CANSO Operations Standing Committee (OSC).
- One of the first tasks completed by the CANSO PBN SG was to conduct a survey of Members to identify the primary concerns of ANSPs with respect to PBN implementation.
- Five key areas were highlighted: *knowledge, regulations, fleet equipage, resource, and training.*
- The PBN guide document explains the five key PBN implementation issues that relate to ANSPs, and provides an overview of lessons learned from those ANSPs that have already implemented PBN

**For more information:
CANSO website**

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**THANK YOU
SIYABONGA
MERCI!!!!!!**

Questions



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