ORGANISATION DE L'AVIATION CIVILE INTERNATIONALE

GROUPE RÉGIONAL AFI DE PLANIFICATION ET DE MISE EN OEUVRE
DIX-NEUVIEME REUNION (APIRG/19)
Dakar, Sénégal (28-31 octobre 2013)

Agenda item 3:   **PERFORMANCE FRAMEWORK FOR REGIONAL AIR NAVIGATION PLANNING AND IMPLEMENTATION.**

Outcome of CANSO Communications, Navigation, Surveillance Sub group - First Seminar on preparatory activities for a regional CNS Implementation Plan for AFI.

(Presented by the Civil Air Navigation Services Organization)

SUMMARY
This working paper presents the outcome of CNS User Seminar under the auspices of CANSO themed *"A harmonized and interoperable African Airspace"*. The objective of the Seminar was to recognize the expectations of the airspace users on the one hand and lay a firm foundation for planning and implementation activities within the ANSP community. CANSO and its members in AFI proposed the establishment of a task force under the auspices of CANSO to: •Project facilitate and Develop a common regional surveillance need for CANSO members •facilitate communications with stakeholders, States, ANSP's, Users, and Suppliers in the best interests of promoting a harmonized and interoperable CNS system for the Region
Action by the meeting is in Paragraph 4.
References: ICAO Doc.9854: ICAO Global Air Traffic Management Operational Concept ICAO Doc.9750: Global Air Navigation Plan Ed.4 Report of the 1st CANSO User Seminar, Zanzibar, May 14-15, 2013 APIRG CONCLUSION 18/34: AFI SURVEILLANCE STRATEGY: That the AFI States adopt and implement the Surveillance Implementation Strategy.

Strategic Objectives	A: *Safety* B: **Air Navigation Capacity and Efficiency** and **E: Environmental Protection**

1. INTRODUCTION

1.1   The twelve CANSO members of the African Indian Ocean Region (AFI) take due cognizance of the expectations of airspace users regarding harmonization and interoperability. These expectations are considered within the context of the Air Traffic Management (ATM) Community, as described in the ICAO Global ATM Operational Concept (ICAO Document 9854). To this end, an ADS-B project group comprising of Botswana, Malawi, Mozambique, Zambia and Zimbabwe undertook to implement ADS-B collaboratively. The project when finally implemented will enhance safety and expedition of air transport in that region. Subsequently they took a decision to invite CANSO to assist with the facilitation of the consultation with all Air space users in Africa.

1.2   In view of these considerations CANSO and its members in AFI decided to present the Airspace User Seminar in Zanzibar, in cooperation with the Tanzanian Civil Aviation Authority (TCAA). The theme of the Seminar was "A harmonized and interoperable African Airspace".

2. DISCUSSION

2.1   The Seminar endeavoured to achieve the following objectives:

     a.   Explore avenues of achieving harmonisation and interoperability in a cooperative environment for AFI

      b.   Determine actions to pursue as the collective membership in achieving harmonisation and interoperability in AFI

      c.   Develop action plans describing the activities, accountabilities and timeframes to achieve the identified actions

      d.   Identify actions for the CANSO Regional Office to enhance the position of its members through interventions in Regional and Global forums

      e.   Develop relationships with the airspace users and identify opportunities and capabilities for consultation with IATA and other airspace user representative bodies.

2.2.1 The Seminar followed in five distinct and sequential Sessions as follows:

2.2.2 Harmonization and Interoperability in Context

It was widely agreed that any technological solutions for Surveillance must be validated through global standards with proven cost-benefits and coordinated timelines for implementation. Viewed in a global context, the continent had seen success in working within a sub-regional framework in the Communications domain and such an approach will maximize the value to the Operators and drive the benefits of global harmonization and interoperability.

2.2.3 User Expectations and Regulatory Environment

CANSO promotes a performance based operational environment in pursuit of a seamless, harmonized and interoperable Air Traffic Management. The attendees concurred on the need for performance-based and stable International Standards and Provisions to guide the planning and development process. The group underscored the need to work within the ASBU framework and in order to synchronize enhancements and improvements to the CNS system.

2.2.4 Infrastructure/Operational Landscape & Aircraft Equipage/Crew Capability

This session identified the need for a commonly agreed, regional Concept and Implementation plan. When seen in context of the ICAO Deficiency list, the need for a centralized en-route control facility for the entire continent to support harmonization and interoperability becomes evident. Airport development is a critical area benefiting from CNS investments and should be integrated into a regional or sub-regional CNS development Plan.

2.2.5 Enabling Technologies

It was obvious from this session that CNS technologies are plentiful, diverse and available as Commercial-off the shelf solutions (COTS). The variety of CNS technologies available cover IP based ground communications supported by VSAT and fibre-optics, ADS-B, quadrant architecture M-LAT and its extension to remote aerodrome service solutions. The objective outcome of this session was to align aircraft operators needs and the need for an implementation strategy taking into account aircraft current and future capabilities. From an ANSP perspective, equipage mandates could be considered as well fusing MLAT and ADS-B data as also sharing data where infrastructural investments may not be justified.

2.2.6   Critical Issues to be addressed Towards Implementation

In consolidating the outcomes, expectations and objectives for the four Working Groups outlined above, the Seminar then turned towards devising an implementation strategy under the following guiding objectives:

- *What do you believe we should do in the short and medium term to address the issues in your area of expertise?*
- *Who should be performing these tasks?*
- *What are the timelines for these tasks?*
- *How do we collectively achieve these objectives?*
- *What should CANSO do to advance our goals?*

3.   Conclusion

3.1   As a logical outcome of these intense working sessions, the CNS workgroup proposed the establishment of a task force under the auspices of CANSO to:

- Develop a common regional surveillance need
- Agree on implementation timelines and framework till 2025
- This will be achieved by:
- CANSO/IATA gathering and disseminating existing information about Surveillance in AFI. Task anticipated for completion by September. 2013. This task will focus on
- ICAO surveillance strategy
- IATA CNS roadmap
- Current (Annual) air traffic volume for upper airspace (CANSO/IATA to do projection modeling up to 2025)
- Current and future aircraft equipage
- Current AFI surveillance infrastructure
- Analyze separation requirements per FIR and airspace type (upper, lower, terminal) to finalize a regional needs document for surveillance
- Define a road map for ADS-B implementation which will:
- Propose an ADS-B regulatory mandate in 2020 for upper airspace
- Define best use of ADS-B data until 2020
- Improve ATC situational awareness
- Improve air navigation charges collection
- Explore the best equipped/best served notion.
- Investigate how the education of regional airlines/aircraft operators regarding the benefit of ADS-B equipage.
- Present final regional implementation road map at APIRG 19.

3.2   Organization

In establishing a working methodology (through ICAO/CANSO website) a depository workspace with internet access containing all the relevant information was considered. The importance of joint regular meeting involving ICAO, IATA, AFRAA, ANSP, CANSO, Civil Aviation Authorities, Industry and Airport Operators was underscored. Other related CNS areas were identified and a common regional communication statement of requirements was proposed in order to support migration from analogue to digital data, use of Data link for ATC/Pilot communications, data sharing and SWIM etc.

3.2.1   The group agreed on implementation timelines and framework till 2025. The ongoing activity will be supported by the ICAO communications strategy and the IATA CNS roadmap. Surveys will be conducted of current communication facilities, capacity & traffic volume (G-G/A-G), current and future A/C equipage, current AFI communication infrastructure in AFI region and as the basis to define a road map for G-G/A-G Communication implementation and to develop a work plan for a regional Navigation Roadmap. These activities will culminate with a Workshop to be held in the June 2014 timeframe.

3.2.2   CANSO has undertaken to facilitate the identified activities centrally and to collaborate with ICAO, IATA and other representative organizations to enable progress and finalization of tasks agreed to by the meeting. It was furthermore agreed that CNS and ATM tasks will be prioritized, with the capability and regulatory tasks following thereafter, since the former activities will inform the latter.

4. **Action by the meeting**

The meeting is invited to:

a. Note of the information related to the activities and the outcome of the CANSO CNS Working Group
b. Support and facilitate the development of a common regional surveillance need for the ANSP community in AFI
c. Note CANSO's role and on-going efforts to facilitate communications with stakeholders, States, ANSP's, Users, and Suppliers in the best interests of promoting a harmonized and interoperable CNS system for the Region.