



ICAO

Fifth Meeting of the African Air Navigation Services Providers

(Lomé, Togo, 28 March - 1st April 2022)

Agenda Item 6: Implementation of the Global and Regional Air Navigation Plans (GANP & AFI ANP) and ANSPs Priority Areas of Cooperation

AFRICA AVIATION RESEARCH, DEVELOPMENT AND INNOVATION ESTABLISHMENT AND IMPLEMENTATION - ANSPs

(Presented by Ghana Civil Aviation Authority)

SUMMARY	
<p>This working paper presents the background on the need for the establishment and implementation of an African research and development (R&D) programme and proposes actions to be taken by ANSPs.</p> <p>Action by the Meeting is at paragraph 3.</p>	
<p>REFERENCE(S):</p> <ul style="list-style-type: none"> ○ ICAO Assembly – A38, WP211 ○ Summary of Discussions – African ANSPs Meeting, Freetown, Sierra Leone 	
<p>Strategic Objectives</p> <p>This working paper relates to the Safety, Environmental Protection and Economic Development of Air Transport Strategic Objectives.</p>	
<p>Financial implications:</p> <p>The cost impact cannot be quantified at this stage but will provide significant safety, operational, environmental and economic benefits to the global aviation system.</p>	

1 INTRODUCTION

- 1.1 Over the past decade, the African Region has considered the critical role of research and development as prelude to innovations and an important precursor for growth and modernization of aviation systems. However, lack of appropriate framework and funding for research and development initiatives have become major roadblocks, thus leaving the region with no effective means of contributing to innovations in the aviation sector.
- 1.2 It is said, “that necessity is the mother of inventions”. In the financial sector, the inadequacy of the traditional banking establishments led to Africa finding innovative ways of using cellphones to advance mobile money transfers, mobile wallet, mobile banking, etc., and leapfrogging to smarter domestic means of transacting business in the national, regional and global economy. Africa has not lacked talents, therefore, there is the need for the aviation sector to establishment the framework to operationalize research and development, leading to innovations and modernization, and leapfrog to new systems, products, services and business models. The African Region is replete with budding talents, including many young people without any formal education trying to build aircraft.

- 1.3 The emergence of digitization, big-data, Artificial Intelligence (AI), etc. and lessons from the COVID-19 global pandemic have brought about the need to explore new opportunities to work smarter, improve efficiencies, increase sustainability, as well as build capacity to be relevant in the emerging global community.
- 1.4 The rationale of this paper is to consolidate previous discussions on research and development (R&D) and innovations in the region, with the view to agreeing on specific actions by the major players in the aviation ecosystem who are directly involved and are also impacted by research and development outcomes.

2. DISCUSSION

2.1. During the 38th session of the ICAO Assembly which was held in Montreal, Canada from 24 September to 4 October 2013, Ghana CAA was privileged to present the working paper (WP211) titled “**Regional Aviation Research and Development**”, on behalf of the 54 ICAO Contracting States that are members of the African Civil Aviation Commission (AFCAC), a copy of which is attached in **Appendix A** to this working paper for reference.

2.2. The African Air Navigation Services Providers’ meeting held in Freetown, Sierra Leone, from 3 to 5 May 2017 also agreed on the following research and development actions:

- Considering the wide impact of the programmes such as European SESAR and USA NextGEN in the provision of air navigation services, African ANSPs adopt a region-wide approach in addressing ANS safety and efficiencies, and also conduct regional research and development initiatives for improvement in the provision of air navigation services;
- African ANSPs conceptualize and establish research and develop programme with funding to proactively improve the provision of ANS continent-wide through a coordinated implementation of selected ASBU modules.

2.3. During APIRG/24 held virtually in November 2021, the meeting considered the need for incorporation of Research, Development and Innovation (RDI) in the APIRG Work Programme.

2.3.1. APIRG recalled the opportunities and challenges in the region and called on the Air Traffic Management (ATM) community in terms of the ICAO Global ATM Operational Concept (Doc 9854) to embrace digital technologies, and encourage early consultations and engagements to develop strategic approach in ATM research, development and innovation (RDI) to assist with Implementation of ASBU Module elements and other regional operational requirements.

2.3.2. The meeting discussed the introduction of Research, Development and Innovation (RDI) in aviation. Emphasis was made on the need to align research amongst the AFI States’ aviation stakeholders to prepare for the future, share relevant experiences and raise the members’ awareness of the potential benefits.

2.3.3. APIRG concluded as follows:

Decision 24/ 32 Incorporation of Research, Development and Innovation (RDI) in the APIRG Work Programme, *that, in order to assist AFI States with addressing the implementation of operational requirements and ASBU module elements, the work programmes of APIRG and its auxiliary bodies be amended to include activities related to Research, Development and Innovation (RDI).*

2.4. From the aforementioned, the need for a regional research, development and innovation in aviation systems has been duly established. However, the need for a special-purposed-vehicle approach for its implementation is lacking. Since aircraft operators, airport operators and air navigation service providers are key industry stakeholders, it is incumbent on each to consider the need for research, development and innovation as part of its business philosophy and practice, and accordingly tailor measures to establish and implement emergent products and services.

2.5. This fifth meeting of African ANSPs should therefore discuss and decide on how to establish and operationalize RDI in the ANS field. It is expected that similar framework arrangements can be considered for aircraft operations as well as airport operations.

3 ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) **note the information in the working paper;**
- b) **consider establishing the framework for regional aviation research, development and innovations dedicated to the implementation of cost effective integrated and interoperable applications;**
- c) **establish a team to coordinate the implementation of African ANSPs research, development and innovation activities;**
- d) **request ICAO to coordinate with AFCAC, Regional Economic Commissions and other organizations necessary for the efficient functioning of regional research and development activities; and**
- e) **request ANSPs to provide the necessary support and promote cooperation and collaboration with other regional research, development and innovation units.**