



ASSEMBLY — 38TH SESSION

TECHNICAL COMMISSION

Agenda Item 35: Air Navigation — Implementation Support

REGIONAL AVIATION RESEARCH AND DEVELOPMENT

(Presented by 54 Contracting States², Members of the African Civil Aviation Commission (AFCAC))

EXECUTIVE SUMMARY

The Global Air Navigation Plan (GANP, Doc 9750), while providing the strategic direction for the technical work programme of ICAO in the air navigation field, serves as planning and implementation guidance for planning and implementation regional groups (PIRGs), States, service providers, airspace users and other stakeholders. On 29th May 2013, the Council (199/5) approved the Fourth Edition of the GANP which contains the new Aviation Systems Block Upgrades (ASBU) framework. As PIRGs are progressing with regional performance improvements through implementation of relevant ASBU Block 0 Modules of the GANP, this paper presents the need to establish a regional research and development framework and collaboration in implementing cost effective application of GANP 4th Edition.

Action: the Assembly is invited to:

- a) note the information in the working paper;
- b) request Council to consider establishing the framework for regional aviation research and development dedicated to the implementation of cost effective integrated and interoperable applications;
- c) request Council to coordinate with regional civil aviation commissions and other organizations necessary for the efficient functioning of regional research and development activities; and
- d) request Council to provide the necessary support and promote cooperation and collaboration among regional research and development units.

<i>Strategic Objectives:</i>	This working paper relates to the Safety and Environmental Protection and Sustainable Development of Air Transport Strategic Objectives.
<i>Financial implications:</i>	The cost impact cannot be quantified at this stage but will provide significant safety, operational, environmental and cost benefit to the global aviation system.

¹ English and French versions provided by AFCAC.

² Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Ivory Coast, Democratic Republic of the Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Swaziland, Togo, Tunisia, Uganda, United Republic of Tanzania, Zambia, Zimbabwe.

<i>References:</i>	Doc 9750, <i>Global Air Navigation Plan</i> , 4th Edition. Doc 9883, <i>Manual on Global Performance of the Air Navigation System</i> Doc 10007, <i>Report of the Twelfth Air Navigation Conference (AN-Conf/12)</i>
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1. INTRODUCTION

1.1 Innovations and improvements are the vehicles for progress and efficiency in every human endeavour, particularly in major industries such as international civil aviation.

1.2 It is gratifying to note that most of the great heights in many human endeavours have been attained through research and development (R&D) that have been established and funded by individuals and institutions in various regions. The USA NextGen and the Single European Sky ATM Research initiatives are recent reminders and good examples of regional research and development programmes that are defining the future of aviation.

2. RATIONALE

2.1 Many States are yet to make a mark in defining improvements in the future of international civil aviation. The involvement of budding talent and organizations in various ICAO Regions in R&D initiatives in international civil aviation and domesticating such initiatives could lead to accelerated growth and transformation of the Regions.

2.2 Implementation of the Regional R&D initiative will provide the means to develop expertise in various ICAO Regions to enhance the work of various ICAO Panels and Study Groups.

2.3 The initiative will also support the realization of ICAO's Next Generation of Aviation Professional's programme.

3. STAKEHOLDERS

3.1 Selected institutions of higher learning and polytechnics can be identified for Regional R&D programmes.

3.2 ICAO, as the pioneer in harmonizing regional civil aviation initiatives and programmes, can assist in establishing the framework for the aviation research and development cells in regions.

3.3 Regional civil aviation commissions will have to play a leading role in establishing the necessary regional structures, including the political environment to achieving the objectives of regional research and development programmes.

3.4 Key industry stakeholders (including the airlines, airports, air navigation service providers, etc.) who are the main beneficiaries of the R&D programmes, have large stake in such programmes and can make major contributions.

3.5 It is in the interest of major manufacturers to contribute substantially in terms of actual research processes and trials, data, and funding as they will realize benefits resulting from aviation development in any region.

4. COLLABORATION

4.1 There should be collaboration among regional aviation R&D institutions in order to internationalize the application of research findings. Regional initiatives in developing aviation communities should complement already well-established institutions in the developed aviation communities.

4.2 The establishment of the regional R&D programmes will initially have to focus on developing regional capacities and innovations in areas that have encountered regional challenges in implementing global programmes. For example, the PIRGs will benefit greatly from such research in coordinating the implementation of ASBU Roadmaps within the GANP.

4.3 The areas of research should be identified within the ICAO framework and consideration should be given to other on-going collaborative initiatives and work so far done by member States to provide a seamless global ATM framework & system.

4.4 The findings of regional R&D initiatives can be factored into the development and implementation of regional roadmaps or adopted by the developed aviation institutions, manufacturers and communities, in order to innovate or develop future systems.

5. FUNDING MECHANISMS

5.1 The establishment of regional R&D framework with the necessary institutional arrangements and funding, for the purpose of identifying talent, initiatives and institutions, will enable the developing aviation communities to become global partners for international civil aviation development.

5.2 ICAO, manufacturers, tertiary institutions, donors or other regional R&D groups may identify specific regional R&D programmes or ongoing regional activities so as to support or collaborate with a particular regional initiative. This will help to develop expertise, increase the knowledge base in the industry and integrate regional efforts to find global solutions to common challenges.

6. CONCLUSION

6.1 The establishment and funding of regional aviation R&D programmes will lead to the development of expertise across all regions and provide innovative solutions for enhanced growth in the aviation industry.