



**WORKING PAPER**

**ASSEMBLY — 40TH SESSION**

**TECHNICAL COMMISSION**

**Agenda Item 28: Aviation Safety and Air Navigation Policy**

**ALIGNMENT OF GLOBAL, REGIONAL AND NATIONAL EFFORTS FOR  
AIR TRAFFIC MANAGEMENT MODERNISATION**

(Presented by Singapore, and co-sponsored by Japan, Nauru, Palau,  
Thailand, Trinidad and Tobago, the United Kingdom, and the  
Civil Air Navigation Services Organisation (CANSO))

**EXECUTIVE SUMMARY**

The *Global Air Navigation Plan* (GANP, Doc 9750) provides the global strategy in the technical and operational layers underpinning ICAO's air navigation policies and practices as set out in Assembly Resolution A38-12. The GANP lays the foundation for a needs-oriented and performance-based approach towards air traffic management modernisation while ensuring global interoperability. The sixth edition of the GANP introduces a basic building block (BBB) framework, a change management process, and a multi-layer structure encompassing global strategic, global technical, regional, and national layers. This GANP edition is tailored to serve different stakeholders, consolidates regional and national efforts in the planning and implementation of air traffic management (ATM) initiatives, and provides practical steps able to be applied at the regional and national levels to realise the *Global Air Traffic Management Operational Concept* (GATMOC, Doc 9854). The Council of ICAO will be updating Assembly Resolutions A38-12 and A39-12 to include GANP in the policies and to incorporate the sixth GANP edition, respectively.

**Action:** The Assembly is invited to:

- a) adopt the sixth edition of the GANP, with the multi-layer structure and support through a revision of A39-12 (updated vide A40-WP/24, *A Comprehensive Strategy for Air Navigation: Endorsement of the Updated Global Air Navigation Plan*) by the Council of ICAO;
- b) support the inclusion of GANP under A38-12 as updated vide A40-WP/3, *Recommendations for Updating Resolution* by the Council of ICAO;
- c) urge ICAO, Member States and planning and implementation regional groups (PIRGs) to support the implementation of the sixth edition of the GANP at the regional and national levels, including developing and aligning regional and national air navigation plans with the GANP; and
- d) urge Member States to plan, develop, and conduct activities, via a collaborative decision-making process, to raise awareness of key ATM concepts, and ICAO regional offices and respective PIRGs to facilitate and coordinate such activities to achieve regional harmonisation and alignment with the GANP.

*Strategic  
Objectives:*

This working paper relates to all Strategic Objectives.

<i>Financial implications:</i>	The activities referred to in this paper should be borne by the individual States and the ICAO global and regional offices, subject to the resources available in the 2020-2022 Regular Programme Budget and/or from extra budgetary contributions.
<i>References:</i>	Doc 9854, <i>Global Air Traffic Management Operational Concept, First Edition</i> Doc 9750, <i>Global Air Navigation Plan, Fifth Edition</i> Resolution A35-15, <i>Consolidated statement of continuing ICAO policies and practices related to a global ATM system and CNS/ATM systems</i> Resolution A38-12, <i>Consolidated statement of continuing ICAO policies and associated practices related specifically to air navigation</i> Resolution A39-12, <i>ICAO global planning for safety and air navigation</i>

## 1. INTRODUCTION

1.1 The *Global Air Navigation Plan* (GANP, Doc 9750) has been instrumental in providing the strategic direction for global air navigation system evolution. The sixth edition of the GANP applies a multi-layer structure for the modernisation of ATM and global interoperability. It includes a performance framework, articulation of appropriate ATM concepts based on the aviation system block upgrades (ASBUs), identification tool for possible enhancements based on operational challenges, operational performance monitoring, and the introduction of a BBB framework to ensure the alignment of GANP to the No Country Left Behind (NCLB) initiative. This edition of GANP is available as an interactive portal serving to consolidate converging efforts across regions and States under a multi-layer structure involving different stakeholders with different roles and processes to better drive evolution of the global air navigation system.

1.2 The new GANP is the collective effort of the Global Multidisciplinary Visionary Team (GMVT) and the ASBU Panel Project Team (PPT). Endorsement of the sixth edition GANP at this ICAO Assembly and subsequent development of the regional and national air navigation plans (ANPs) provide a timely opportunity for the review and establishment of a holistic approach for air navigation system enhancement. The new GANP will be included in the updated Assembly Resolution A38-12 vide A40-WP/3 by the Council of ICAO. It supports Assembly Resolution A35-15 for Member States, PIRGs, ICAO regional offices, and the aviation industry to collaborate to meet the challenges of growing air traffic.

## 2. ROLES OF REGIONAL AND NATIONAL BODIES IN THE GANP

2.1 Assembly Resolution A39-12 calls upon Member States, PIRGs, and aviation industry to use the GANP as the guidance for the cooperative development of regional, sub-regional and national planning and implementation activities for ATM based on commonly established priorities and targets to meet globally harmonised objectives. The GANP supports the vision as described in the GATMOC which outlines how emerging and future ATM system should operate and in turn provide the common framework for the planning and implementation of communications, navigation and surveillance (CNS)/ATM systems. The ICAO regional offices and the respective PIRGs are thus well-positioned to facilitate planning and subsequent implementation activities at the regional and national levels.

### *Facilitation of Regional Strategic Planning*

2.2 The GANP provides stakeholders with a comprehensive process to achieve the GATMOC vision through the ASBU framework. At the same time, the all-encompassing scope and level of granularity of ASBU elements require collaboration and coordination among individual stakeholders in the region to align the priorities and adoption of these elements in a practical and cost-efficient manner using a performance-based approach for the modernisation of the whole ATM system to ensure interoperability across systems and stakeholders.

2.3 The regional ANPs (RANPs) serve as rallying points for regional aviation communities to define a common ATM modernisation strategy based on the GANP framework. It is envisaged that RANPs will form the foundation for ATM modernisation activities and initiatives to be prioritised, planned and developed. The timely review of RANPs and a shared work programme of Air Navigation Commission (ANC) and its technical panels will need to be conducted upon the endorsement of the sixth edition of GANP. With the establishment of shared work programme, PIRGs and their subordinate groups would then ensure that their respective RANPs and guidance material are complementary and aligned to the GANP. Moreover, further development of the RANP templates by ICAO, particularly for Volume III which outlines regional strategic objectives aligned with GANP, to help ensure the development of RANPs in a coherent and consistent manner across regions should be utilised by the regional offices and PIRGs in future review and development of RANPs.

2.4 The regional offices and PIRGs have crucial roles to identify the initial key enablers to support States' prioritisation for implementation. In the case of trajectory-based operations (TBO), the regional offices and PIRGs can help identify the important ASBU-elements implementation such as arrival and departure management (RSEQ-B0/1 and RSEQ-B0/2) for time-based management (TBO-B0/1) and the automated inter-facility data exchange and filing service (FICE-B0/1 and FICE-B2/2) for pre-departure trajectory synchronisation (TBO-B2/1). The clarification of operational concepts and identification of holistic dependencies and relations by the regional offices and PIRGs will thus be constructive to enable the realisation of complex ATM concepts with clear performance frameworks.

2.5 ICAO regional offices and PIRGs can also play proactive roles in supporting and coordinating States' implementation by providing technical assistance and access to necessary resources. The planned implementation of the system-wide information management (SWIM) concept in Asia Pacific provides a good illustration. SWIM is an important enabler in the modernisation of ATM, allowing seamless information flow among the stakeholders. However, the implementation of SWIM is multi-faceted and requires a harmonised implementation across multiple States to yield tangible results. Collectively, Singapore and Thailand, with the support of the United States and the International Air Transport Association (IATA), initiated a SWIM in Association of Southeast Asian Nations (ASEAN) Demonstration project to familiarise South East Asia and the Asia Pacific region with the operational concept and benefits of SWIM. The SWIM in ASEAN Demonstration which is slated to take place in November 2019 will provide better understanding of SWIM and, with the active support of ICAO Asia and Pacific Regional Office, will encourage greater interest in the region for further collaborations in the initiative.

### ***Support for National Implementation***

2.6 With coherence on the regional performance ambitions and goals for the ICAO RANPs, States in the regions will be able to develop and align their national air navigation plans, which are crucial parts forming the foundation for the RANPs and the GANP. The national air navigation plans should identify the priorities as well as implementation activities, and should be developed with relevant stakeholders to achieve the common vision of the GATMOC.

2.7 PIRGs could lend support to States with the involvement of the industry such as IATA and the International Federation of Air Traffic Controllers' Associations (IFATCA), and by tracking implementation progress and performance improvements to provide a comprehensive overview of the implementation progress in accordance with RANPs of the region as a whole. Concurrently, States' open sharing of operational challenges and coordinated awareness raising of relevant operational concepts and associated ASBU elements will help build consensus on regional priorities.

### 3. CONCLUSION

3.1 The GANP is the authoritative ICAO document to support global air navigation policies and practices laid out in Assembly Resolution A39-12, providing an implementable roadmap towards actual operations to achieve the GATMOC vision. To reach a globally interoperable air navigation system requires different aviation stakeholders working in tandem with a common vision and on a similar timeline. Although the global strategic and technical levels of the GANP have provided such roadmap, the active support at regional and national levels are critically required to drive the implementation of their respective air navigation plans to fulfil the requirements of the future global aviation system.

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