



Fifth Meeting of the Programmes and Projects Review Committee (PPRC/5)
 Mexico City, Mexico, 16 to 18 July 2019

Agenda Item 3: Global, Intra- and Inter-Regional Air Navigation Activities
3.1 Analysis of the recommendations of the ICAO 13th Air Navigation Conference (AN/Conf-13)

ANALYSIS OF THE PROJECT OF THE GLOBAL AIR NAVIGATION PLAN - SIXTH EDITION

(Presented by the Secretariat)

EXECUTIVE SUMMARY	
<p>This paper presents the proposal for the sixth edition of the Global Air Navigation Plan (GANP), which highlights the importance of harmonizing planning at the global, regional and national levels.</p>	
Action:	Described in item 3.1.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none"> • Capacity and efficiency of air navigation • Economic development of air transport • Environmental Protection
<i>References:</i>	<ul style="list-style-type: none"> • Global air navigation plan (Doc 9750) • Manual on global action of the air navigation system (Doc 9883) • Operational concept of global air traffic management (Doc 9854) • Manual on air traffic management system requirements (Doc 9882)

1. Introduction

1.1 The GANP ICAO Doc 9750 is the strategy to achieve a global interoperable air navigation system for all users during all phases of flight, which meets agreed levels of safety, provides for optimum economic operations, is environmentally sustainable and meets national security requirements. The GANP is being evolved to serve as a worldwide reference to transform the air navigation system in an evolutionary manner so that no State or Stakeholder is left behind¹.

¹ <https://www.icao.int/airnavigation/Pages/GANP-Resources.aspx>

1.2 The GANP includes as a high level guidance, the Global Air Traffic Management Operational Concept (ICAO Doc. 9854 GATMOC) and the Manual on Air Traffic Management System Requirements (ICAO Doc. 9882); The GANP also includes additional resources as the ASBU framework, guidance on the implementation as the Manual on the Global Performance of the Air Navigation System (ICAO Doc. 9883) as resources to support the planning and implementation activities.

1.3 The 39th session of the ICAO Assembly endorsed the fifth edition of the GANP, which covers the update of the Aviation System Block Improvement Framework (ASBU) and additional information and maintains, at the same time, a stable structure as requested by the aviation community.

1.4 However, during the Assembly, the need to carry out a more complete update of the sixth edition to include additional improvements was also highlighted, as part of the evolution towards a strategic planning environment based on efficiency that interacts with regional and national programs of research, development and implementation.

1.5 In this regard, the sixth edition of the GANP has been prepared. The Air Navigation Commission recently agreed the presentation of the draft GANP-Sixth edition, for the approval of the ICAO Council.

2. **Analysis**

Multi-level structure².

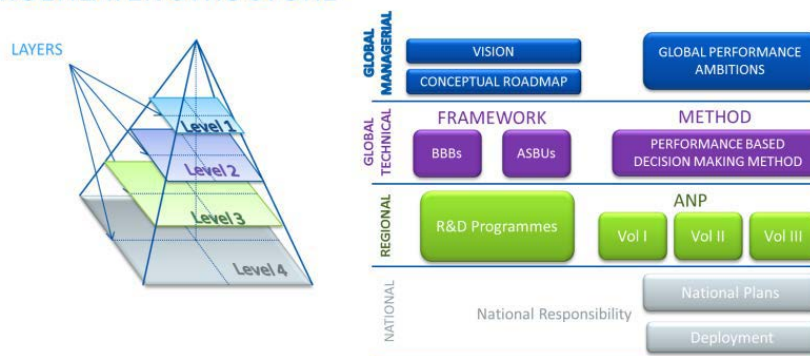
2.1 During the thirty-ninth session, the Assembly instructed the General Secretariat to promote, provide and effectively disseminate the GANP. Therefore, in order to better communicate with high-level administrators and technicians and not to leave any State or any interested party lagging behind, it is proposed that the sixth edition of the GANP have a multi-level structure designed for different recipients of the information.

2.2 This four-level structure is made up, as illustrated below, by the global level (which includes the strategic and technical ones), the regional level and the national level. This structure will provide a framework for harmonizing regional, sub-regional and national plans.

² https://www.icao.int/airnavigation/Documents/GANP_at_glance_flyer.pdf

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MULTILAYER STRUCTURE



2.3 The global strategic level is the one that will mark the high level strategic direction to guide decision makers, in order to evolve the global air navigation system. With this purpose, the global strategic level will include a common vision, performance ambitions at a worldwide level, and a conceptual roadmap.

2.4 The regional level will serve to meet regional and sub-regional needs in harmony with global objectives. Therefore, it will contain the ICAO air navigation plans (ANP) at the regional level and the consideration of other regional initiatives. The fourth level, responsibility of the States, will focus on national planning.

2.5 In order to achieve the common vision reflected in the GANP, it is decisive that States, in coordination with the interested parties, develop air navigation plans being them strategic elements of their national development plans (see AN-Conf/13-WP/24) and harmonized with regional and global plans. These air navigation plans will serve as reference documents for national investment in air navigation infrastructure.

2.6 For all interested parties to have easy access to the vast amount of information contained in the multi-level structure of the GANP, ICAO has created the GANP Portal (currently in English only): <https://www4.icao.int/ganpportal/> where different users can find the most important information that fits their specific context. This web-based platform will ensure the congruence of the GANP content for the different levels and will offer more complete information through a single interface.

The GANP vision

2.7 The GANP vision will contain the ultimate objectives of the air navigation system, as well as the new difficulties and opportunities that may arise from technological and aviation trends. The evolution driven by this vision will result in a highly efficient global air navigation system able to meet the society needs, in general, and of the air traffic management (ATM) community, particularly.

Ambitions of efficiency (Performance ambitions)

2.8 Supporting air transport sometimes requires making difficult decisions and the strong commitment of interested air navigation system stakeholders. In addition to the three fundamental principles of safety, aviation security, and environmental and economic sustainability, necessary elements to achieve aviation efficiency, there are several efficiency requirements that the air navigation system

must meet to satisfy the society needs. Efficiency should be the engine that drives the evolution of the system, and that is why the sixth edition of the GANP proposes performance ambitions.

2.9 These ambitions will serve as a point of reference to call for action, will be catalysts for change and will help to set global priorities. Therefore, they should not be seen as goals to be closely and continuously monitored and for which reports of results would be presented. Expressed qualitatively, but concretely, these performance ambitions will be reached when specific efficiency objectives are achieved in each region subject to planning, taking into account the pertinent regional difficulties.

2.10 The following table shows the performance ambitions associated to the 11 key performance areas (KPA) of Doc. 9883 "Manual on global performance of the air navigation system".

SUMMARY OF THE GANP PERFORMANCE AMBITIONS "A high performing system by 2040 and beyond"	
KPA	Ambition
ACCESS AND EQUITY	No aviation community member excluded or treated unfairly.
CAPACITY	Nominal capacity easily scalable with demand.
	Disruptive events do not interrupt service provision and do not significantly affect the performance of the system.
COST-EFFECTIVENESS	No increase of total direct ANS cost while maintaining the safety and quality of service.
	Significant increase of ANS productivity, irrespective of demand.
EFFICIENCY	Reduction of the gap between the flight efficiency achieved and the desired optimum trajectory of airspace users.
ENVIRONMENT	ANS-induced inefficiencies to be progressively removed to contribute to the global ICAO aspirational goals for CO ₂ emissions.
	To benefit from achieved flight efficiency gains.
FLEXIBILITY	To absorb required changes to individual business and operational trajectories.
INTEROPERABILITY	Essential at an operational and technical level.
PARTICIPATION BY THE ATM COMMUNITY	Pre-agreed level of participation to make the maximum shared use of the air navigation resources.
PREDICTABILITY	No increase in ANS delivery variability including asset availability.
SAFETY	Zero ANS-related accidents and a significant (50%) reduction of ANS-related serious incidents.
SECURITY	Zero significant disruptions due to cyber incidents

2.11 The GANP portal has included a Performance Objective Catalog, which show an initial set of indicators and their respective metrics developed for each of the eleven KPA. See link; <https://www4.icao.int/ganpportal/ASBU/PerformanceObjective>

2.12 In this sense, the indicators for the key area KPA 04 – Efficiency, developed, among others, from parameters of "Vertical flight efficiency" which is divided for the stages of flight in ascent, in cruise and in descent, in this case called "Vertical flight efficiency during the descent phase - KPI19".

2.13 These efficiency indicators are still being perfected in their description and practical use; however, the SIMS initiative ([Safety Information Monitoring System](#)) found in the ICAO portal (<https://portal.icao.int>) is already monitoring the vertical efficiency of several airports in our Region, focused on continuous descent operations (CDO) and missed approaches that are recorded through the ADS-B.

Restructuring of the ASBU Reference Framework

2.14 The sixth edition of the GANP restructures the ASBU Reference Framework. The Meeting could observe that in the GANP portal, the modules of the ASBU are broken up by elements and by block.

2.15 Additionally, since the sixth edition, the GANP includes the Reference Framework of the Basic Constituent Elements (BBBs). The BBBs framework describes the basis of any robust air navigation system. It is nothing new, but the identification of essential services that must be provided for international civil aviation in accordance with the ICAO Standards and Recommended Practices. These essential services are defined in the areas of aerodromes, air traffic management, search and rescue, meteorology and information management. In addition to essential services, the BBB framework identifies the end users of these services, as well as the communications, navigation and surveillance (CNS) infrastructure that are necessary to provide them.

3. **Suggested action**

3.1 Meting is invited to:

- a) analyze the information provided and consider the necessary actions,
- b) encourage the ANS Community of all States to familiarize itself with the improvements and new conformation of the sixth edition of the GANP, available on the ICAO website; and
- c) provide feedback on the GANP, as well as the utilities and structure of the GANP portal