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North American, Central American and Caribbean Office

INFORMATION PAPER

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**Fifth North American, Central American and Caribbean Directors of Civil Aviation Meeting  
(NACC/DCA/5)**

Port-of-Spain, Trinidad and Tobago, 28 to 30 April 2014

**Agenda Item 5.5: Air Navigation**

**5.5 Fourth Edition of the Global Air Navigation Plan (GANP): First Annual Global Air Navigation Report and Regional Performance Dashboard Implementation**

**ICAO FOURTH EDITION GLOBAL AIR NAVIGATION PLAN (GANP), ANNUAL GLOBAL AIR NAVIGATION REPORT AND IMPLEMENTATION OF THE ICAO REGIONAL PERFORMANCE DASHBOARDS**

(Presented by the Secretariat)

**EXECUTIVE SUMMARY**

This information paper provides an overview of the fourth edition of the *Global Air Navigation Plan (GANP)* - Doc 9750 as guidance for planning and implementation of air navigation matters for use by States, service providers, airspace users and other stakeholders, as well as the development of the annual Global Air Navigation Report and ICAO Regional Dashboards to be implemented for monitoring and reporting progress on air navigation/safety targets in each ICAO Region.

<i>Strategic Objectives:</i>	<ul style="list-style-type: none"><li>• Safety</li><li>• Air Navigation Capacity and Efficiency</li><li>• Economic Development of Air Transport</li><li>• Environmental Protection</li></ul>
<i>Reference s:</i>	<ul style="list-style-type: none"><li>• Doc 10007 - <i>Report of the Twelfth Air Navigation Conference</i> (2012)</li><li>• Doc 9750 – <i>Global Air Navigation Plan</i></li><li>• 38<sup>th</sup> ICAO Assembly, ICAO Headquarters, Montreal, Canada, 24 September to 4 October 2013</li></ul>

**1. Introduction**

1.1 The Global Air Navigation Plan (GANP) drives the technical work programme of the Organization in the field of air navigation for each triennium as a strategic planning document for the implementation/planning of air navigation worldwide.

1.2 Following the 12<sup>th</sup> Air Navigation Conference (AN-Conf/12), a new GANP was developed and approved by the 38th Session of the ICAO Assembly. Together with the new GANP, supporting electronic tools, including an annual Global Air Navigation Report and regional dashboards were envisioned to dynamically communicate progress and share implementation experiences.

## **2. Fourth Edition of the GANP**

2.1 To support a globally harmonized air navigation system, ICAO has developed the fourth edition of the GANP to provide clear operational target guidance and support new technologies, avionics, procedures, standards and required regulatory approvals. The GANP establishes a framework for incremental implementation based on specific operational profiles and traffic densities of each State. This is accomplished through the Aviation System Block Upgrade (ASBU) methodology, which forms the basis of the revised GANP.

2.2 The ASBU modules are supplemented by Communications, Navigation and Surveillance (CNS), avionics and Aeronautical Information Management (AIM) roadmaps. The AN-Conf/12 agreed that the ASBU modules and associated technology were an integral part of the GANP; a valuable implementation tool kit; and that the policy and associated principles of the GANP would be fundamental to the success of a long-term global Air Navigation (AN) Plan. The revised GANP represents a rolling 15-year strategic planning methodology, which leverages existing technologies and anticipates future developments based on State/industry agreed operational objectives. This will enable sound investment strategies and help generate the required commitment from States, equipment manufacturers, airspace users and service providers to the GANP.

2.3 The ASBUs are subdivided into 5-year increments starting in 2013 and continuing through 2028 and beyond. ASBU implementation is to be implemented through tailored regional work programmes based on specific operational needs. ICAO's Planning and Implementation Regional Groups (PIRGs) design these work programmes by identifying the operational characteristics of specific Air Traffic Management (ATM) areas, major traffic flows and international aerodromes. Analysis of this operational data, are then evaluated to identify performance improvement opportunities associated with ASBU modules and which best delivered the needed operational improvements.

2.4 Once operational analyses and resulting implementation have been completed, the next step calls for air navigation performance monitoring through an established measurement and reporting strategy.

2.5 The ICAO Council (C199/5) approved the fourth edition of the GANP on 29 May 2013, which is available at the following link: <http://www.icao.int/sustainability/Pages/GANP.aspx>

**Annual Global Air Navigation Report**

2.6 Since 2009, all PIRGs adopted a performance-based approach to air navigation planning and implementation. The next step calls for the establishment of a measurement and reporting strategy. States have recognized that a measurement strategy composed of data compilation, processing, storage and reporting for the identified regional performance metrics is fundamental to the success of the performance-based approach. In order to support this ongoing task of collecting, measuring and reporting data (see Fig. 1) the ICAO website will allow visualization of the status of implementation through dynamic and interactive charts (see Fig. 2).

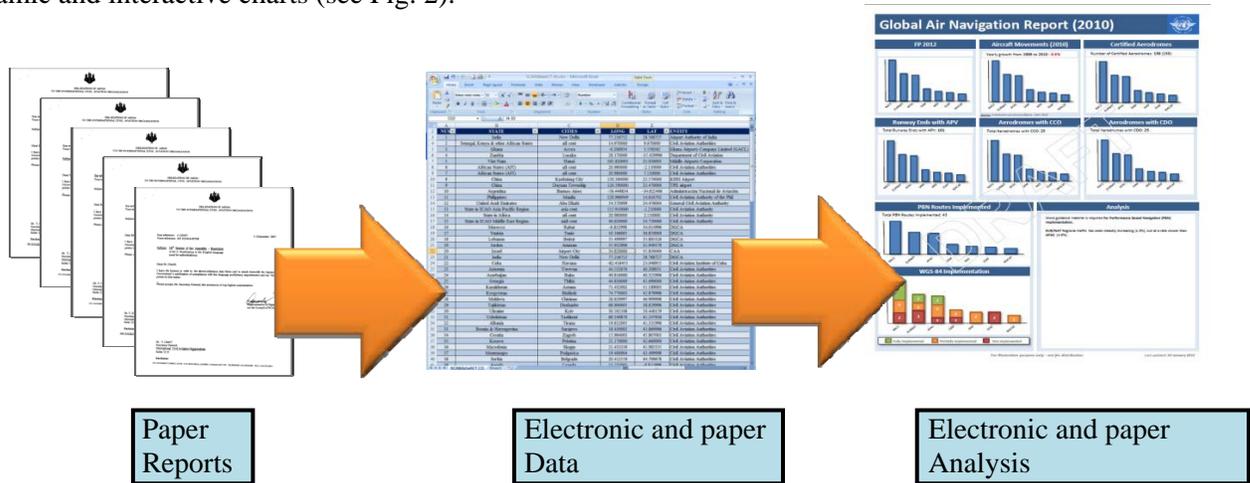


Fig. 1 Air Navigation Reporting in Current Media

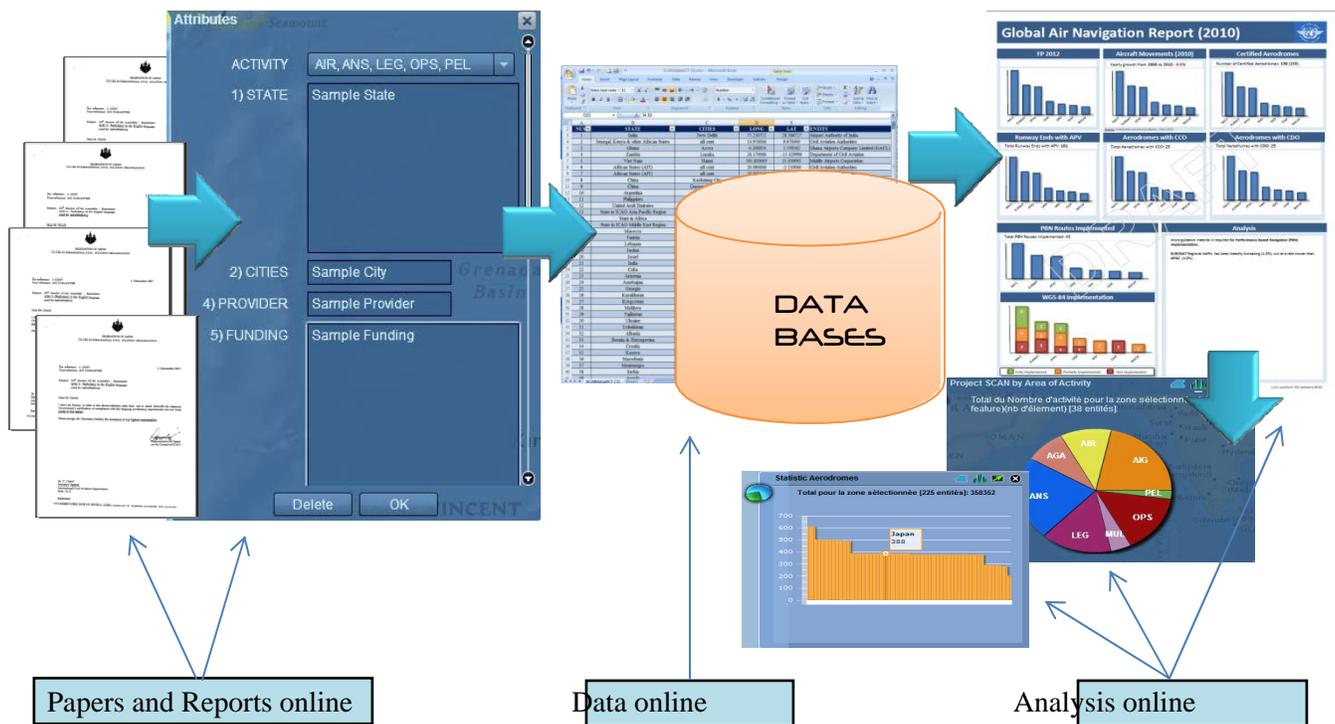


Fig. 2 Air Navigation Reporting in Electronic Media (WEB)

2.7 According to the GANP, measurement will utilize a reporting mechanism and tools to present the data to different regional bodies through a web portal, which will include reports to:

- **Visualize** the status of implementation through dynamic and interactive charts
- Provide **feedback** on the data (qualification of the data)
- Perform **self-assessments**, generate ad-hoc reports and **export** data
- Provide a venue for **annual report(s)** data collection

2.8 In this respect, the annual Global Air Navigation Report has a proposed content in terms of global air navigation challenges, measuring metrics according the challenges, status of operational measures for performance improvement, implementation progress of selected priority ASBU Block 0 Modules and sharing of successful initiatives and key demonstrations:

- a) **Purpose:** Much like the existing annual Safety Report, the objective of the annual Global Air Navigation Report is to assist PIRGs and States with understanding which areas require special attention to effectively improve air navigation performance worldwide.
- b) **Subjects to be covered:** It will consist of qualitative and quantitative information and cover air navigation system key performance areas. The initial report will analyze the following subjects:
  - Global air navigation challenges
  - Measuring metrics according to the challenges
  - Status of operational measures for performance improvement
  - Implementation progress of selected priority ASBU Block 0 Modules. The metrics or initial dataset that includes key global air navigation priorities are Performance Based Navigation (PBN), Continuous Decent Operation (CDO), Continuous Climb Operations (CCO), Aeronautical Information Management (AIM), Air Traffic Flow Management (ATFM) and estimated environmental benefits accrued from operational improvements based on ICAO Fuel Savings Estimation Tool (IFSET) or any other rigorous tool recognized by the Committee on Aviation Environmental Protection (CAEP). This initial dataset for both the Regional Performance Dashboards and annual Global Air Navigation Report was recently agreed by the PIRG Chairs
  - Sharing of successful initiatives and key demonstrations

2.9 In preparation for the annual Air Navigation Report, successful regional implementation stories were requested by ICAO Headquarters for inclusion in the report, and several operational benefits in the selected priority topics like PBN, CCO, CDO, ATFM and AIM were included.

2.10 The first edition of the annual Global Air Navigation Report is scheduled for April 2014.

### ICAO Regional Performance Dashboard

2.11 As a result of the RASG-PIRG Meeting in 2013, the PIRGs have progressively identified and agreed on a set of initial regional performance indicators and supporting metrics. As discussed in the working group meetings where air navigation implementation progress and operational benefits were described, States have recognized that a measurement strategy comprised of data compilation, processing, storage and reporting for identified regional performance metrics is fundamental to performance-based success. This performance measurement strategy will enable global correlation of status and expectations.

2.12 The ICAO Regional Office website, through a Geographical Information System (GIS), will provide implementation status through dynamic and interactive charts. This system will generate ad hoc reports and enable easy transfer of the datasets into the Regional Performance Dashboards and annual Global Air Navigation Report (see Fig. 3).

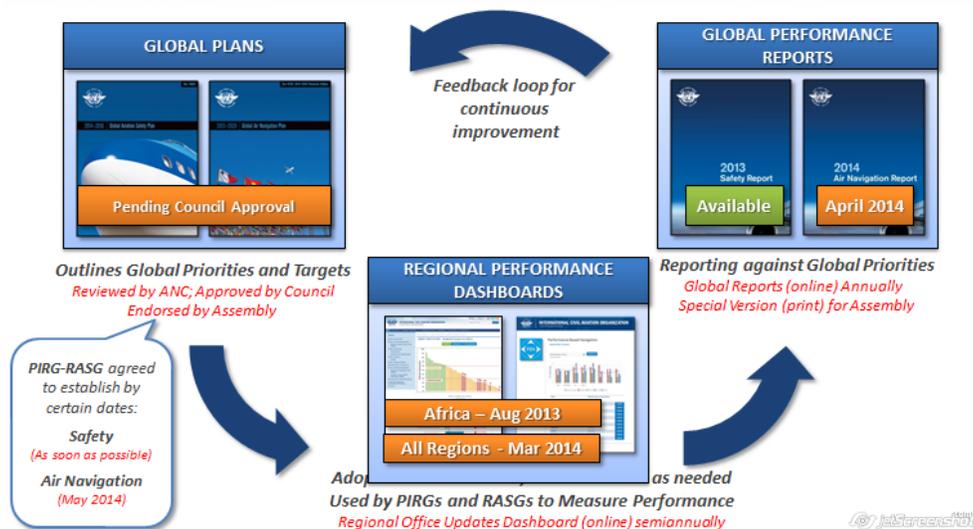


Fig. 3 ICAO Dashboard – Global Air Navigation Plan relationship

2.13 Additionally, a Memorandum of Understanding has been established with industry to obtain international aeronautical information pertaining to implementation status of air navigation infrastructure. Transparency and sharing of information are fundamental to a safe and efficient global air transportation system. Consistent with this principle, ICAO is planning to introduce a regional “Performance Dashboard” public website homepage for every ICAO Regional Office. These dashboards will illustrate regional implementation status related to the ICAO Strategic Objectives for the period 2014-2016, which were approved by the 38th Session of the ICAO Assembly. They will show targeted performance at the regional level and will initially contain graphics and maps with planned expansion to include the ASBU Block 0 Modules. This new interactive online system has been in Beta mode for the ICAO west and east Africa regions since August 2013 and the official launch for all ICAO regions will be in April 2014.

2.14 The dashboard prototype (Beta mode) is available at: <http://www.icao.int/safety/pages/rpd-test.aspx>. Upon official launch, this page will be shut down and replaced with <http://www.icao.int/safety/pages/regional-targets.aspx>.

2.15 The 38th Session of the ICAO Assembly formulated Resolution 38-2 - *ICAO global planning for safety and air navigation*, which recognizes the importance of effective implementation of regional and national plans, including initiatives based on the global frameworks and progress with improving global safety, capacity and efficiency of civil aviation, which is best achieved through a cooperative, collaborative and coordinated approach in partnership with all stakeholders under the leadership of ICAO. Therefore, ICAO:

- invites PIRGs to use ICAO standardized tools or adequate regional tools to monitor and, in collaboration with ICAO, analyze the implementation status of air navigation systems;
- instructs the Council to publish the results of analysis on the regional performance dashboards and in an annual global air navigation report including, as a minimum, the key implementation priorities and accrued environmental benefits estimated using CAEP-recognized methods; and
- urges States that are developing new generation plans for their own air navigation modernization to coordinate with ICAO and align their plans so as to ensure global compatibility and harmonization.

### **3. Conclusion**

3.1 The Meeting is invited to take note of the fourth edition of the Global Air Navigation Plan and the development and benefits of implementation of the annual Global Air Navigation Report and Regional Performance Dashboards.