Global Air Navigation Plan and the Aviation System Block Upgrades (ASBUs)

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Objective

To level knowledge on the relationship between the GANP, the ASBUs and their operational impact.
Flight plan

- Vision
- Planning mechanism based in scenarios
- GANP
- ASBU's
- Enhancement plan.
“Do we know where to go?”
YES

“To achieve an interoperable global air traffic management system, for all users during all phases of flight, that meets agreed levels of safety, provides for optimum economic operations, is environmentally sustainable and meets national security requirements”
GAP
Aviation is undergoing a fundamental change
WORKING TOGETHER – Overcoming today’s challenges and tomorrow’s needs
ICAO’s Role in ATM Modernization

“Increase the capacity and improve the efficiency of the global civil aviation system”

- Through the GANP, offer a long-term vision to assist all aviation stakeholders, and ensure continuity and harmonization among modernization programmes.
- Through the Aviation System Block Upgrades (ASBU), provide a consensus-driven modernization framework for integrated planning based on performance.
ASBU framework

4 Performance Improvement Areas

6-year blocks (new 2016)
Key concepts

- **ASBU Thread**: key feature area of the air navigation system that needs improvement in order to achieve the vision outlined in the Global ATM Operational Concept.

- **ASBU Element**: a specific change in operations designed to improve the performance of the air navigation system under specified operational conditions.

- **ASBU Enabler**: component (standards, procedures, training, technology, etc) required to implement an element.

- **ASBU Block**: a six year timeframe whose starting date defines a deadline for an element to be available for implementation.

- **ASBU Module**: a group of elements from a thread that, according to the enablers’ roadmap, will be available for implementation within the defined deadline established by the ASBU Block.
Aviation System Block Upgrades (ASBU) Framework
A plan for the future is essential for optimizing resources and meeting expectations.
GANP Update

• Objectives
  – International and overarching framework of a global investment plan: make it more usable towards implementation
  – Keep it stable while making the necessary updates/additions
  – Adjust the periodicity to the Assembly and ICAO editing cycles

• A Planning Document for Implementation
  – GANP should be comprehensive planning tool to support the development and implementation of a harmonized global air navigation system
2019 Update of the GANP

Multilayer Structure

- Web-based application: reports
- Global Frameworks: BBUs & ASBUs
- Performance-based Approach: Performance-based decision making for defining implementation strategies
- KPIs Catalogue

- Front door for all stakeholders to ICAO
- Document endorsed at the political level
- Written in executive language
- Contents derived from underlying

GANP with the template approved by ICAO Council
Global Performance Ambitions

Contents derived from underlying
<table>
<thead>
<tr>
<th>WAKE-B0/1</th>
<th>Wake turbulence separation minima based on six aircraft categories</th>
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</thead>
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<tr>
<td>APTA-B0/1</td>
<td>PBN Approaches (with basic capabilities)</td>
</tr>
<tr>
<td>APTA-B0/2</td>
<td>PBN SID and STAR procedures (with basic capabilities)</td>
</tr>
<tr>
<td>APTA-B0/3</td>
<td>Cat I Precision Approach Procedures</td>
</tr>
<tr>
<td>APTA-B0/4</td>
<td>PBN transitions to/from xLS (with basic capabilities)</td>
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</tbody>
</table>
What is Global Plan?

- Strategic Document for global, regional and national planning for air navigation improvements
- Refers to five major disciplines
  - ATM, CNS, MET, IM and AGA
Global Air Navigation Planning: an evolution

GANP Policy Principles

1. Commitment to the Implementation of ICAO’s Strategic Objectives and KPAs
2. Aviation Safety is the highest priority
3. Global Air Traffic Management Operational Concept (GATMOC)
4. Regional and National Air Navigation Priorities
5. Aviation System Block Upgrades (ASBUs), Elements and Roadmaps
Benefits

- Represents a rolling, 18-year strategic methodology
- Leverages existing technologies and anticipates future developments
- Offers a long-term vision
- Assist ICAO, States and industry to ensure continuity and harmonization among their modernization programmes.
Content

• Identifies issues to be addressed in the near future alongside financial aspects of aviation system modernization
• Recognizes importance of collaboration and partnership and addresses its multidisciplinary challenges.
Information on online support, documentation, description of ASBUThreads, and Technology Roadmaps, as well as financial guidance.

- Identity issues to be addressed in the near future along with financial aspects.
- Explores the need for more integrated aviation planning at both regional and national level.
- Identifies issues to be addressed in the near future along with financial aspects.
- Information on online support.
• Link improvements in air navigation with reduction in aviation emissions – as aviation pursues its commitment to comprehensively reduce its environmental impacts.
**Aviation System Block Upgrades – Definition**

- **What is an ‘Aviation System Block Upgrade’ (ASBU)?**

  A **global operational framework** that allows all Member States to advance their air navigation capabilities based on their **specific operational requirements**.
What is the Basis for Block Upgrades?

• Foundation of blocks originates from existing near term implementation plans
• Aligned with ICAO ATM Operational Concept
• Block upgrades will allow structured approach to meet regional and local needs, while considering associated business cases
• They reflect recognition that all elements are not required in all airspaces or airports.
Challenges

• Air traffic growth expands **two-fold every 15 years**
• Growth can be a **double-edged sword**. Challenge is how to achieve both safety and efficiency
• The 37th session of ICAO General Assembly advised to redouble our efforts with focus on **ensuring interoperability** of systems while at the same time maintaining or enhancing aviation safety.
Many Regional and National ATM modernization programmes are being developed worldwide

- They are following the Global ATM Operational Concept view, but nevertheless they are different in their own way
- Resulting in interoperability and procedures harmonization challenges
What is the difference between current implementation approach and ASBU framework?

- **Current method**
  - Scope covers only *ground equipment for ANSPs*
  - Planning based on short and medium term

- **ASBU framework**
  - Scope extends to *airspace users* and regulators
  - Planning based on short, medium and **long terms**
  - Provisions development process is through Blocks and corresponding module elements
  - *Envisages enhancement in performance and not in implementation of technologies*
What are the advantages of ASBU framework?

• Takes into account all related issues such as air/ground systems, air/ground procedures, air/ground regulatory requirements and business case formulation

• One stop planning at the same time flexible and scalable

• Module elements provide a series of measurable, operational performance improvements, which can be introduced as needed.
ASBUs Summary

• Addresses ANSP, aircraft and regulatory requirements

• Identify 4 improvement areas

• Availability of provisions through Block Upgrades (0, 1, 2, and 3) each comprising a number of threads

• Each thread and its elements is explained in a standardized 4-5 pages template
ASBUs Summary

- Provide a series of measurable, operational performance improvements
- Organized into flexible & scalable building blocks
- Can be introduced as needed
- All elements are not required in all airspaces.
Consists of two distinct phases:

- **Phase one**: harmonization of the provision of air navigation services in accordance to the ICAO SARPs and PANS

- **Phase two**: to improve the performance of the air navigation system as a whole
Enhancement Plan

• A performance-based approach will set the basis for collaboration among all aviation stakeholders

• Will ensure the achievement of agreed performance targets and the optimization of resource allocation for the implementation of air navigation operational improvements.
- Vision
- Planning mechanism based in scenarios
- GANP
- ASBUss
- Enhancement plan.
Objective

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THANK YOU