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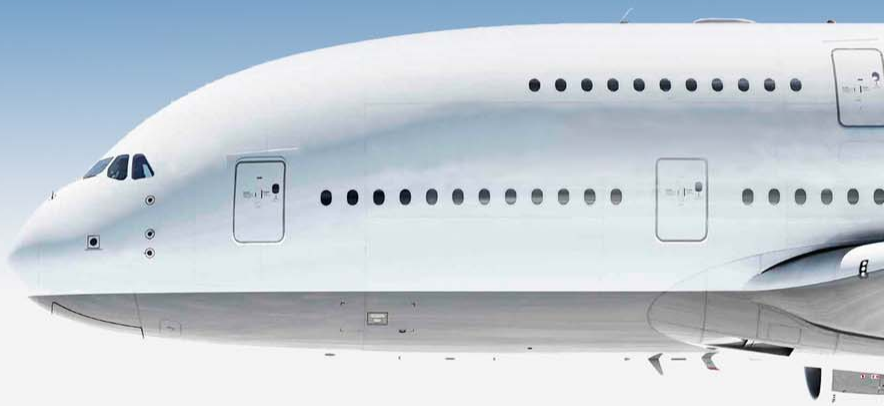
THE GLOBAL TECHNICAL LEVEL OF THE GANP



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Note: All the material presented in this slides is available in the GANP Portal.

PART I – THE BBB FRAMEWORK

Introduction

The Basic Building Block (BBB) framework outlines the foundation of any robust air navigation system. It is nothing new but the identification of the essential services to be provided for international civil aviation in accordance with ICAO Standards. 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 assets (communications, navigation, and surveillance (CNS) infrastructure) that are necessary to provide them.

The BBB is considered an independent framework and not a block of the ASBU framework as they represent a baseline rather than an evolutionary step. This baseline is defined by essential services recognized by ICAO Member States as necessary for international civil aviation to develop in a safe and orderly manner. Once these basic services are provided, they constitute the baseline for any operational improvement.

The BBB framework will be updated every two years taking into account amendments to ICAO provisions. Although an initial draft of the BBB framework is presented online in the GANP Portal (https://www4.icao.int/ganpportal/BBB), the BBBs will be included in a web-based application in a format similar to the ASBU framework.

BBB Verification

In 2014, the ICAO Council approved a new template for the Regional Air Navigation Plans (ANPs) to better align global and regional planning. This template consists of three volumes. Volumes I and II list the regional facilities as well as the general and specific regional service requirements, required for international civil aviation operations in accordance with regional air navigation agreements, in the areas of aerodrome operations, communications, navigation and surveillance, air traffic management, meteorology, search and rescue and aeronautical information management.

To set a baseline for the system envisioned in the GANP and to ensure a robust foundation for the global air navigation system, an effective process should be established to verify, pursuant to Article 37 of the Chicago Convention, that the essential air navigation services identified in the BBB framework are provided. It is important to highlight that this process should focus on verifying the implementation of the essential air navigation services outlined in the BBB framework as the capability of the States to oversight these services is covered by the ICAO USOAP. To avoid duplications and to align global and regional planning, the process for verifying the implementation of these essential services should be embedded within the methodology for the identification of deficiencies against the regional air navigation plans. If these essential services are not being delivered, ICAO, upon request of a State, provides the necessary technical assistance to address the needs as identified within the process.

To ensure the provision of seamless air navigation services based on the deployment of interoperable systems and harmonized procedures, States need to leverage the implementation of the BBBs through their national air navigation plans as a strategic part of their national aviation planning framework. This will also pave the way for the future implementation of air navigation improvements to increase the quality of the services and meet the performance expectations of the aviation community

PART II – THE ASBU FRAMEWORK

Introduction

The Sixth edition of the GANP has a multilayer structure which comprises two global levels- global and technical- as well as a regional and national ones.

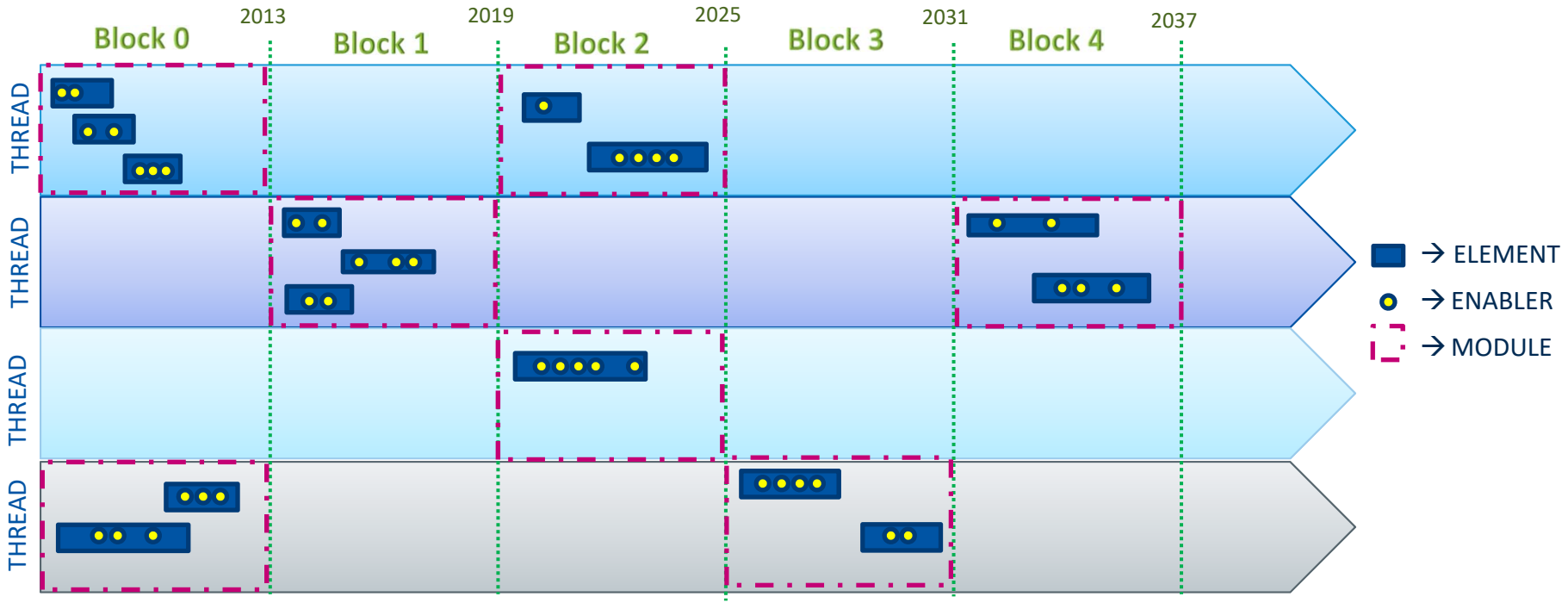
The Global Strategic Level is a document, written in executive language, which provides strategic directions for decision-makers, through a vision, performance ambitions and conceptual roadmap, to evolve the global air navigation system.

The ASBU framework is part of Global Technical Level of the GANP.

Based on the evolutionary steps described in the conceptual roadmap available in the GANP Document, different concept of operations have been described for the different areas of the air navigation system- ASBU threads- within six-year timeframes- ASBU Block-, starting with Block 0 in 2013. These concepts of operations have then been translated into specific operational improvements- ASBU elements. In order to ensure full realization of benefits from the deployment of the operational improvements, the different components- ASBU enablers- necessary for their implementation, have been identified. These components include technology, training and regulatory provisions as well as the stakeholder responsible of their implementation.

In the following slides you will find the conceptual clarifications and major updates regarding the ASBU framework.

ASBU key concepts



ASBU Element

- The main concept of the updated ASBU framework.
- The ASBU elements were defined in previous versions of the GANP in an inconsistent manner. With the digitalization of the framework, they have become the core concept and they have been defined in a harmonized manner.
- An ASBU element is a specific change in operations designed to improve the performance of the air navigation system under specified operational conditions.

ASBU Thread

- Another key concept in the updated framework.
- The ASBU threads already existed in previous versions of the GANP and they were key feature areas of the air navigation system where improvements are needed in order to achieve the vision outlined in the Global ATM Operational Concept.
- The ASBU threads are been categorized in 3 groups:
  - Operational threads: ACDM, APTA, NOPS…
  - Information threads: SWIM, AMET, DAIM, FICE,…
  - Technology threads: COMS, COMI, NAVS, ASUR (previous roadmaps)

ASBU Thread (cont)

- This updated version of the GANP presents the following major changes regarding the threads:
  - The CCO and the CDO threads have been merged into the APTA thread, which has expanded its scope to cover terminal and approach operations.
  - Some elements in the OPFL thread have been moved to FRTO, so FRTO will from now on cover horizontal and vertical en-route flight efficiency. However, in order to respect stability, elements in Block 0 and one element in Block 1 have been left in OPFL.
  - The RPAS thread is TBD, however, the lower airspace operations improvements have been reflected as elements in other threads.

ASBU Thread (cont)

– (Continuation):

- Higher airspace operations improvements have also been reflected as elements in other threads.
- There is a new thread for global tracking: GADS.
- The roadmaps have become technology threads in order to show the dependencies on them of the other ASBU elements.
- The TBO thread has been updated based on the TBO concept and as an integrating concept, its elements are the elements from the operational threads. The communication elements in the previous versions of the TBO thread are now in the COMS (communication services) thread.

ASBU Enabler

- Another key concept in the updated framework.
- The ASBU enablers are a new concept in the updated ASBU framework.
- They are the components (standards, procedures, training, technology, etc) required to implement an element.
- Their goal is to identify the stakeholders involved in the implementation of an ASBU element as well as all the necessary requirements, in order to ensure an effective implementation. Some of the enablers can be elements in other threads, for instance: avionics or ground systems in the technology threads.

ASBU Block

- Another key concept in the updated framework.
- The ASBU blocks already existed in previous versions of the GANP and they introduced the “time” dimension to the framework.
- An ASBU Block is the end date of a six years timeframe that defines a deadline for an element to be available for implementation. This implies, that the element and all the enablers associated to it, need to be available for implementation by the ASBU block year.
- ASBU Blocks years: 2013, 2019, 2025, 2031….

ASBU Module

- The last key concept in the updated framework.
- The ASBU modules already existed in previous versions of the GANP and they are the crossing point between the threads and the blocks. Therefore, an ASBU module is the 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.
- As such, if in the digital ASBU framework we select in the filter one ASBU thread and one Block, we will obtain the elements that constitute the module.

By clicking in the following image you can assess your understanding of the digital ASBU framework:

PART III – A GLOBALLY HARMONIZED PERFORMANCE MANAGEMENT PROCESS

Introduction

Given the fact that the GANP is about opportunities, the appropriate way to utilize the GANP is to apply a performance-based approach. A performance-based approach is results-oriented, helping decision makers set priorities and determine appropriate trade-offs that support optimum resource allocation while maintaining an acceptable level of safety performance and promoting transparency and accountability among stakeholders.

Although there are several ways to apply a performance-based approach, ICAO advocates for a globally harmonized performance management process based on six well-defined steps.

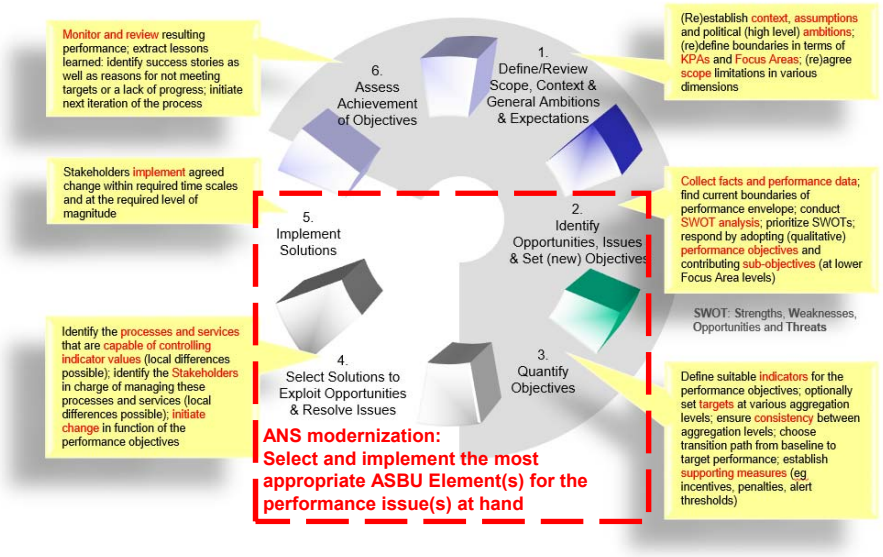
The goal of this cyclic six-steps method is to identify optimum solutions based on operational requirements and performance needs so that the expectations of the aviation community can be met by enhancing the performance of the air navigation system and optimizing allocation and use of the available resources.

This process can be applied at global, regional and local levels, with different level of detail. At a global level, the performance ambitions and a conceptual roadmap resulted from the application of this approach. States and Regions should use, in collaboration with all the members of the aviation community, this performance management process as the basis to develop national and regional air navigation plans adapted to their specific operational requirements and performance needs.

AN-SPA (Air Navigation System Performance Assessment), is an automated tool to guide the user on the application of the six-steps method at a local level.

In the following slides you will be able to find an outlined of these six-steps method.

The ICAO six-steps method



The ICAO six-steps method

- Steps 1 and 2 serve to know your system, its strengths, weakness, opportunities and threats as well as how it is performing in order to set objectives.
  - The catalogue of performance objectives that is part of the GANP global performance framework facilitates the definition of objectives .
- Based on these objectives, targets can be set in step 3 and in step 4 potential solutions identified to achieve the targets by addressing the weakness and threats of the system. Once a set of potential solutions have been identified, a cost-benefits analysis, environmental impact assessment, safety assessment and human factor assessment should be performed to identify the optimum solution.
  - In the GANP performance framework, a list of KPIs, linked to the relevant objectives in the performance objectives catalogue, is provided to set targets though the quantification of objectives.
  - A list of potential solutions to be consider as part of step 4 is the ASBU framework with its functional description of the operational improvements and their associated performance benefits
- Step 5 manages a coordinated deployment of the agreed solution by all stakeholders based on the previous steps. Finally, step 6 consists of monitoring and reviewing the performance of the system after the full deployment of the solution.

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PART IV – THE GANP PERFORMANCE FRAMEWORK

Introduction

The performance ambitions, at a global level, will be met by pursuing more specific performance objectives.

At a regional level, Volume III of the regional Air Navigation Plans provides regional performance objectives according to specific regional requirements. These objectives are “SMART” — (specific, measurable, achievable, relevant and timely), and although expressed in qualitative terms they may include a desired or required trend for a performance indicator while not yet expressing the performance objective in numeric terms (this is done as part of a performance target setting). The regional performance objectives assist the aviation community in identifying relevant and timely enhancements (operational improvements) to a given region’s air navigation system. And at a national level, States can set performance targets for their different operational environments using the list of KPIs, taking into account regional performance requirements.

The GANP performance framework is part of the global technical level of the GANP. Its goal is to allow harmonization of air navigation performance measures at a Regional and national levels. This will allow benchmarking, sharing of lessons learnt regarding the benefits achieved from the implementation of operational improvements within different operating environments, as well as Regions and States to set common performance objectives and comparable targets.

The performance framework consists of a catalogue of performance objectives, defined in the same 11 key performance areas as the ambitions, and an associated list of key performance indicators (KPIs).

Catalogue of performance objectives

- New in the digital ASBU framework!
- The performance objectives are qualitative but focused statements of desired improvements from today's performance.
- The catalogue of performance objectives was developed to fulfil the gap between the KPAs list and the list of potential KPIs, already available in previous editions of the GANP.
- They served for Regions and States to set common performance objectives and for air navigation implementation planning designers to know, in a qualitative manner, the performance benefits expected from the implementation of the different operational improvements outlined in the ASBU framework, under specific operational conditions.

List of Key Performance Indicators (KPIs)

- Already available in previous editions of the GANP.
- The KPIs are quantitative means of measuring current/past performance, expected future performance as well as actual progress in achieving performance objectives.
- Three new KPIs have been added to the list of 16 KPIs.
- The list of KPIs will assist States in setting performance targets.

ASBU Performance assessment

- In the previous editions of the ASBU framework, the performance assessment was only done qualitatively, at a key performance area level (capacity, efficiency, predictability...) and by module.
- In the digital edition of the ASBU framework, the performance assessment is done with more detail:
  - At a level of performance objective within each KPA
  - Qualitatively, however, the performance objectives are linked to key performance indicators (in order to facilitate the implementation of a quantitative approach)
  - By element, operational improvement by operational improvement.

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THANK YOU