



ICAO

UNITING AVIATION

Six steps Method

ICAO Workshop on the new version of the Global Air Navigation Plan (GANP)
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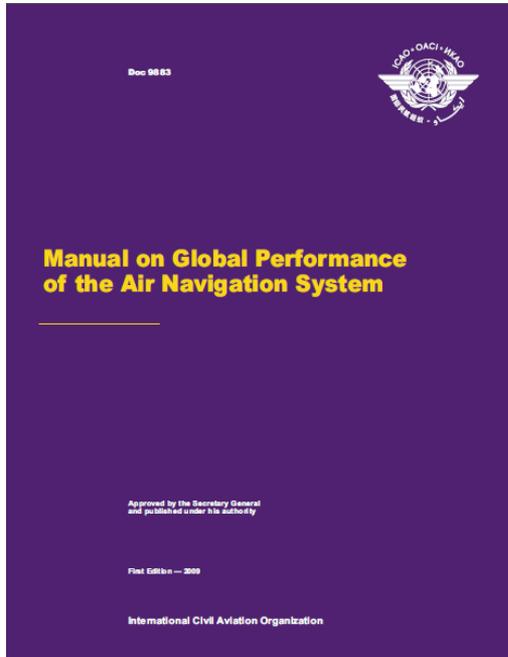


Agenda

- Sixth Edition of the GANP
- Performance Management Process
- Regional Air Navigation Plans-PBIP



PERFORMANCE MANAGEMENT PROCESS



Principles:

- Strong focus on desired/required results
- Reliance on facts and data for decision making
- Collaborative justified decision-making

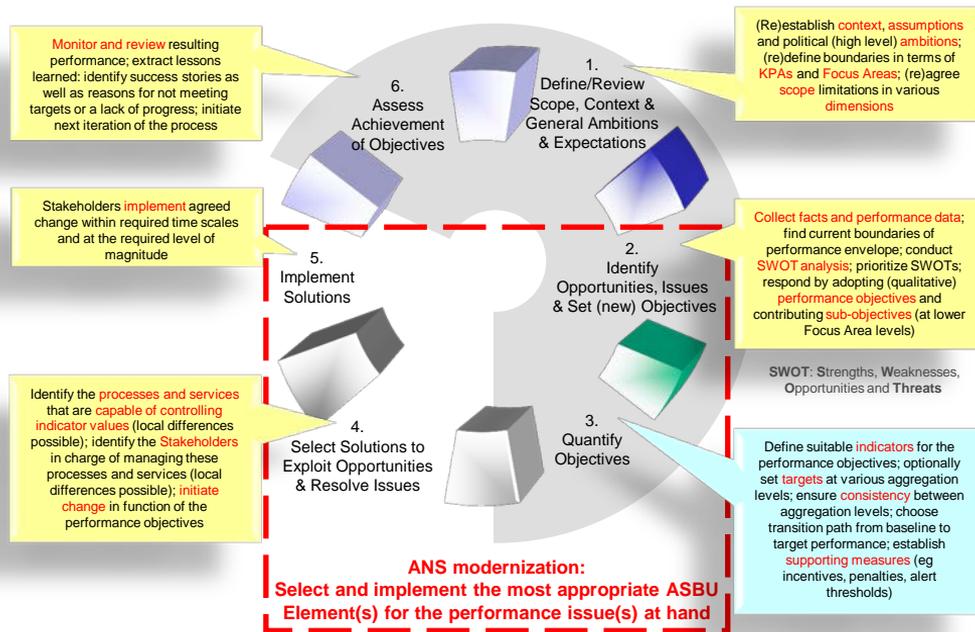


Six steps Method

- STEP 1: Scope, Context & General Ambitions and expectations
- STEP 2: SWOT Analysis/ set objectives
- STEP 3: Set of targets/ Calculation of needs
- STEP 4: Optimum solution identification
- STEP 5: Optimum solution deployment
- STEP 6: Results assessment

Definition of the performance the Six Step ICAO Performance Process

Doc 9883 Manual on Global Performance of the Air Navigation System (MGPANS)



ICAO Doc 9883 Figure I-2-4



GLOBAL FRAMEWORK

REGIONAL FRAMEWORK

LOCAL FRAMEWORK

STEP 1:
SCOPE,
CONTEXT
AND
AMBITIONS

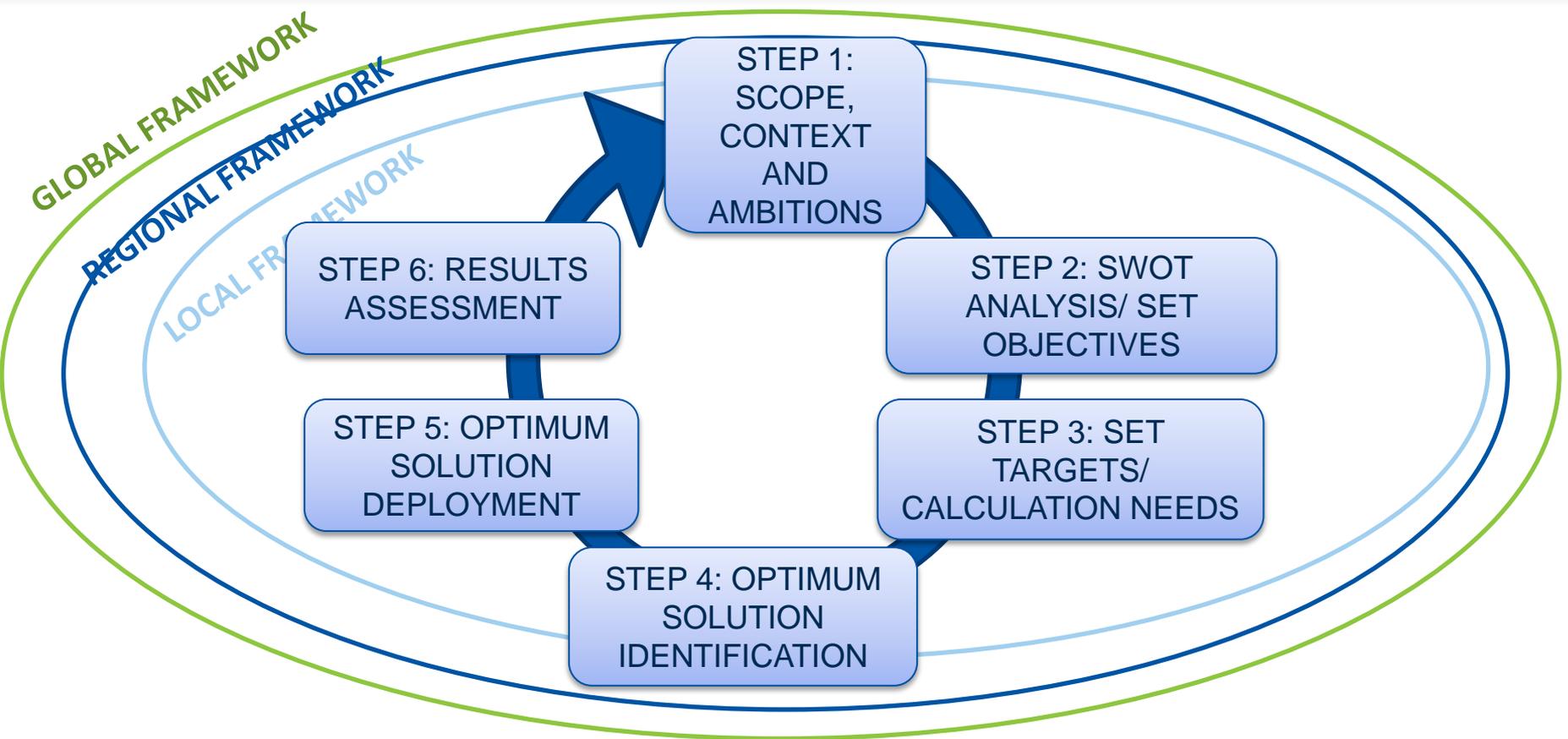
STEP 2: SWOT
ANALYSIS/ SET
OBJECTIVES

STEP 3: SET
TARGETS/
CALCULATION NEEDS

STEP 4: OPTIMUM
SOLUTION
IDENTIFICATION

STEP 5: OPTIMUM
SOLUTION
DEPLOYMENT

STEP 6: RESULTS
ASSESSMENT





STEP 1: SCOPE, CONTEXT & AMBITIONS

- Context

- 2019 Global Air Navigation Plan

- Global Strategic Level: Performance Ambitions

- Objective

- ICAO KPAs

- Design criteria

- Global Technical Level: Performance Objectives

- Regional Air Navigation Plan

- ANP Vol III

- Specific Performance Objectives based on regional requirements



STEP 1: SCOPE, CONTEXT & AMBITIONS

- Scope
 - National Air Navigation Plan
 - Performance Targets: who, when and where
 - Make clear assumptions on what is “surrounding” it
 - National Development Plan



STEP 2: SWOT Analysis/ set objectives

- Operational analysis (baseline performance)
 - Data collection, process and analyze
 - Monitor current operations
 - KPIs (GANP 2016)
 - Traffic forecast
- SWOT Analysis
 - Strengths, Weaknesses, Opportunities and Threats
 - Performance objectives



STEP 2: SWOT Analysis/ set objectives

- National level
 - National Performance Framework
 - Performance Objective
 - High level SWOT analysis
- Local Level
 - KPIs
 - National Performance Framework
 - Specific
 - Detailed SWOT analysis



STEP 3: TARGETS & NEEDS

- Agree & Prioritize performance objectives
 - Focus area within KPAs
 - Performance objectives
 - Prioritization



STEP 3: TARGETS & NEEDS

- **SMART** Objectives
 - **S**pecific
 - **M**easurable
 - **A**chievable
 - **R**elevant
 - **T**ime-bounded



STEP 3: TARGETS & NEEDS

- **SMART** Objectives

- **S**pecific
 - **M**easurable
 - **A**chievable
 - **R**elevant
 - **T**ime-bounded
- } PERFORMANCE
INDICATORS → *ICAO KPIs Catalogue*



STEP 3: TARGETS & NEEDS

- **SMART Objectives**

- **S**pecific
- **M**easurable
- **A**chievable
- **R**elevant
- **T**ime-bounded

PERFORMANCE
INDICATORS



VALUE = f(baseline)
SPEED PROGRESS

PERFORMANCE
TARGETS

PERFORMANCE
BASELINE

=
PERFORMANCE
NEEDS



STEP 4: IDENTIFICATION OPT. SOLUTION

- Make decisions
 - Information available
 - Scope
 - Performance objectives and targets
 - Assessment of SWOT analysis
 - List of solutions (ASBUs)

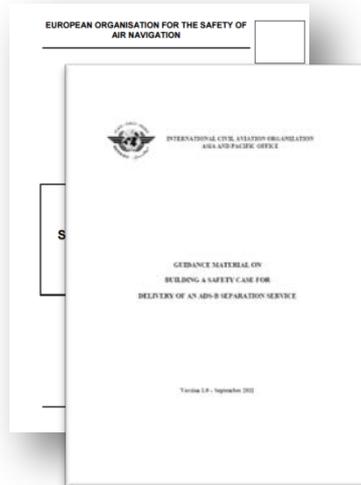


Plus...

- Associated Safety Assessment
- Associated Human Factors Assessment
- Associated Environmental Impact Assessment
- Associated Cost-benefits analysis



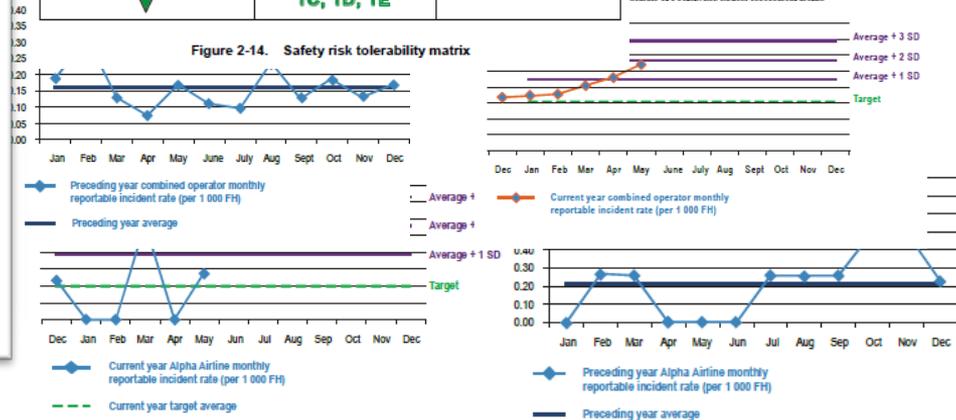
Safety assessment guidance



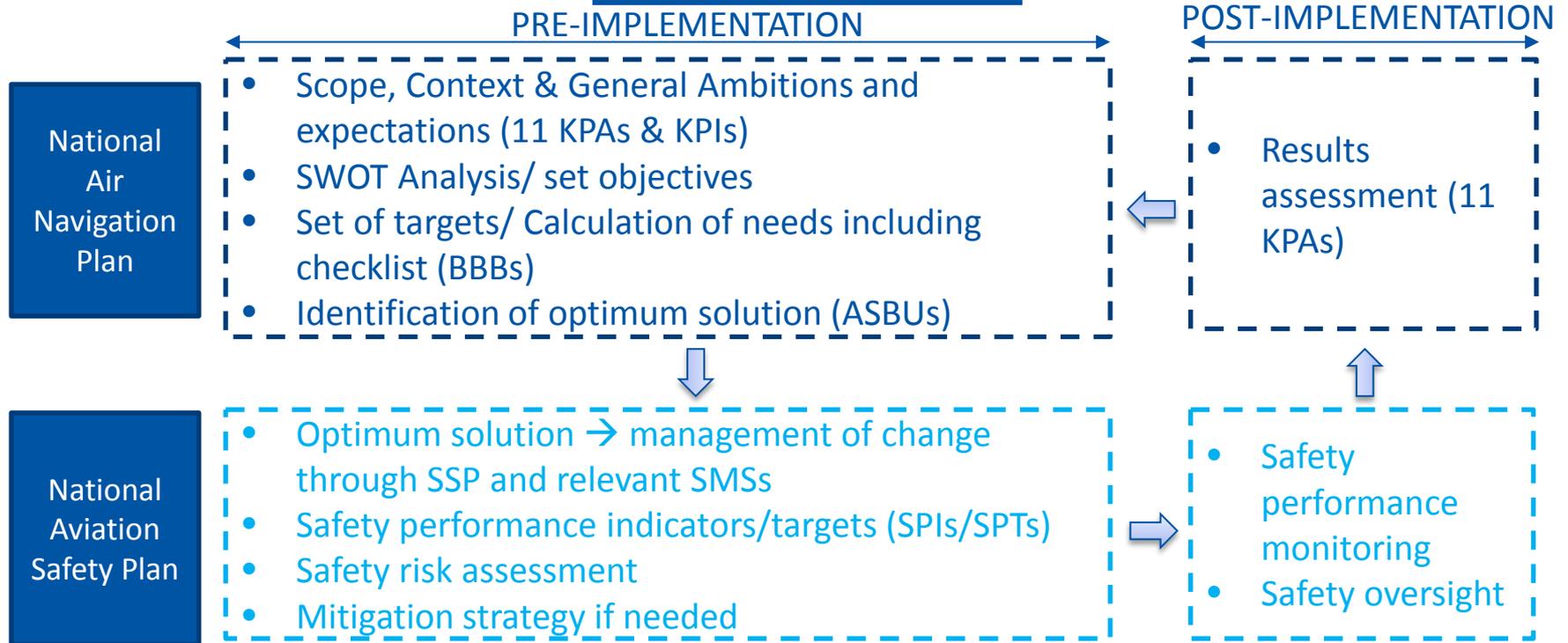
Tolerability description	Assessed risk index	Suggested criteria
Intolerable region	5A, 5B, 5C, 4A, 4B, 3A	Unacceptable under the existing circumstances
Tolerable region	5D, 5E, 4C, 4D, 4E, 3B, 3C, 3D, 2A, 2B, 2C, 1A	Acceptable based on risk mitigation. It may require management decision.
Acceptable region	3E, 2D, 2E, 1B, 1C, 1D, 1E	Acceptable

Risk severity				
atrophic A	Hazardous B	Major C	Minor D	Negligible E
5A	5B	5C	5D	5E
4A	4B	4C	4D	4E
3A	3B	3C	3D	3E
2A	2B	2C	2D	2E
1A	1B	1C	1D	1E

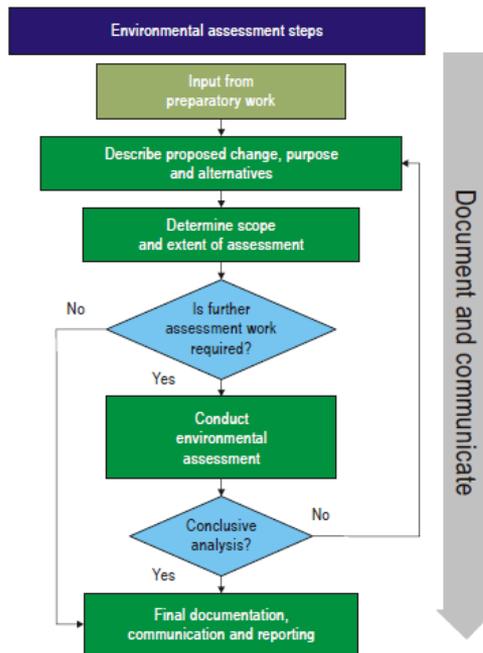
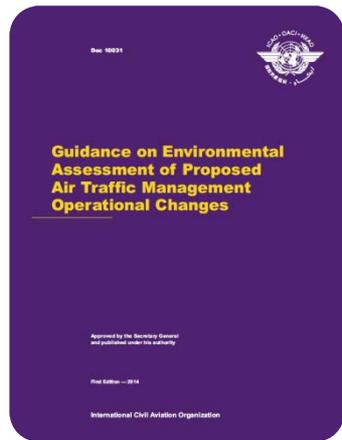
Figure 2-14. Safety risk tolerability matrix



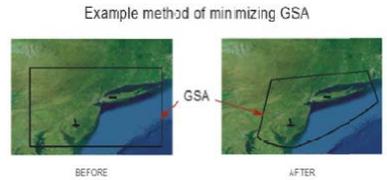
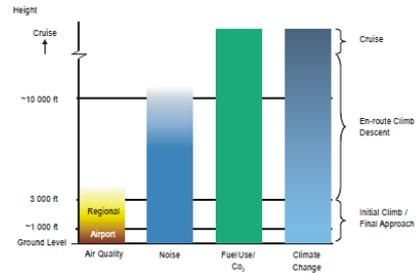
GANP & GASP TECHNICAL ALIGNMENT



Environmental impact assessment guidance



Height AGL	Below 1 000 ft (300 m)	1 000-3 000 ft (300-900 m)	3 000-10 000 ft (900-3 000 m)	Above 10 000 ft (3 000 m)
Impact				
Air quality (e.g. NOx, PM, etc.)	Most relevant	Relevant (Note 1)	Less relevant	Less relevant
Noise	Potentially (Note 2)	Relevant	Relevant	Potentially (Note 3)
Fuel use / CO ₂	Relevant	Relevant	Most relevant (Note 4)	Most relevant (Note 4)
Climate change	Relevant	Relevant	Most relevant (Note 5)	Most relevant (Note 5)



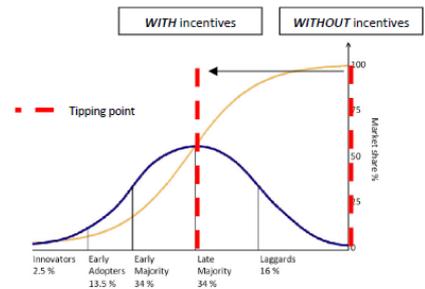
Cost-Benefits Analysis guidance

Parameters	Value	Values provided below
A. Average cost per hour of delay, based on local fees	\$500	
B. Percent of flights impacted by weather conditions below current minima ²	10%	→ apply to all users in
C. Percent of flights impacted by weather conditions below LPV minima ²	10%	→ apply to SIAAS equi
D. Average hours duration of low visibility	1.5	
E. Percent of arriving aircraft equipped with SIAAS	20%	
F. Discount rate for economic analysis	7%	

Costs	Year 0	Year 1	Year 2
- Procedure development (both runway ends)	\$250,000		
- Procedure maintenance		\$20,000	\$20,000
TOTAL COST	\$250,000	\$20,000	\$20,000
DISCOUNTED COST (PV)	\$264,927		

- G. Annual arrival¹
- H. Equipped¹
- I. Non-equipped
- J. Current arrival¹
- K. Equipped¹
- L. Non-equipped
- M. Estimated hours
- N. Equipped¹
- O. Non-equipped
- P. Estimated hours
- Q. Value of delay¹

Fig. 1: Typical technology adoption lifecycle and suggested tipping point



Source: Everett Rogers, Diffusion of Innovations (5th edition), WG1 analysis

Box 1 PPP Definitions

PPPs are aimed at increasing the efficiency of infrastructure projects by means of a long-term collaboration between the public sector and private business. A holistic approach which extends over the entire lifecycle is important here.

PPPs are long-term partnerships to deliver assets and services underpinning public services and community outcomes. Optimal structuring links private sector profitability to sustained performance over the long-term, yielding robust and attractive cash-flows for investors in return for delivering better value for money to the taxpayer.

The term public-private partnership ("PPP") is not defined at Community level. In general, the term refers to forms of

'Public-Private Partnership' is a generic term for the relationships formed between the



Fig. 2 Application of incentives

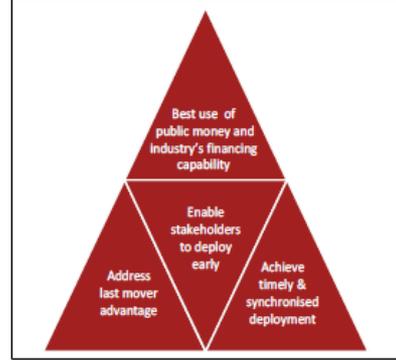


Figure 1 – Relationship between business case, CBA, CEA and EIA

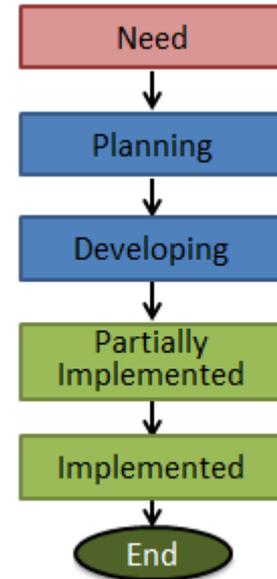


STEP 4: IDENTIFICATION OPT. SOLUTION

- Make decisions
 - Information available
 - Scope
 - Performance objectives and targets
 - Assessment of SWOT analysis
 - List of solutions (ASBUs)
 - Safety Assessment, HP Assessment, CBA and Environment Impact Assessment
 - Single optimum solution or a roadmap of optimum solutions

STEP 5: DEPLOYMENT OF THE SOLUTION

- Execution phase
 - Planning
 - Implementation
 - National mechanism for tracking the implementation of the elements
 - Benefits





STEP 6: ASSESSMENT OF RESULTS

- Continuously assess performance
- Monitor progress of implementation
- Review actually achieved performance
 - Update performance gaps

→ +(Step 1&2)=

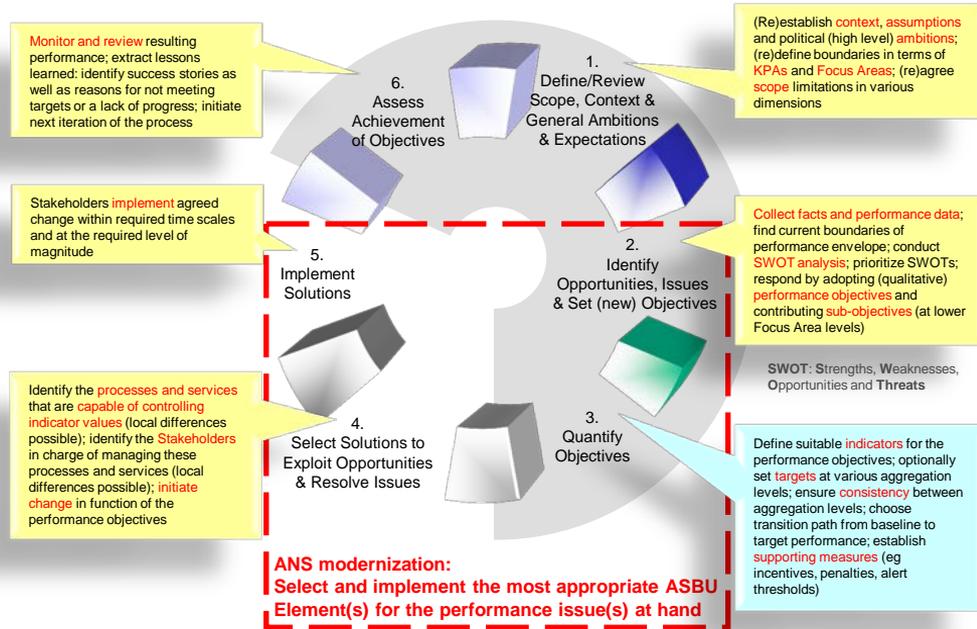
PERFORMANCE MONITORING AND REVIEW



STEP 6: ASSESSMENT OF RESULTS

- Tasks in the PMR:
 - Data collection
 - Data publication
 - Data analysis
 - Formulation of conclusions; and
 - Formulation of recommendations.

Summary



ICAO Doc 9883 Figure I-2-4



ICAO UNITING AVIATION The big picture – 3 performance loops in the GANP context

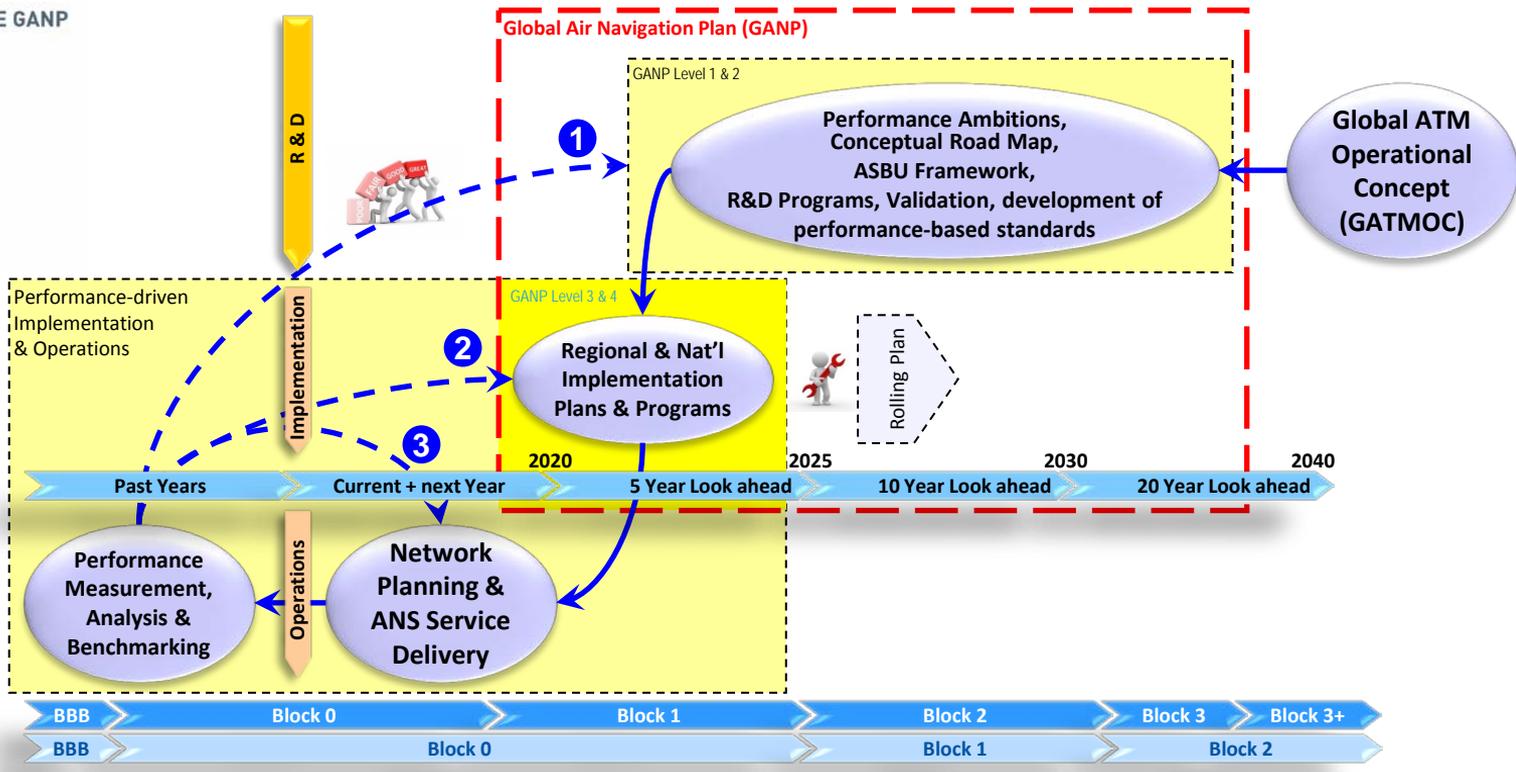
MULTILAYER STRUCTURE OF THE GANP

Click a level to navigate

- GLOBAL STRATEGIC
- GLOBAL TECHNICAL
- REGIONAL
- NATIONAL



A holistic approach from research and development to deployment and operations based on stakeholders operational needs and a global network approach to ensure harmonized and synchronized implementation delivering performance benefits





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ICAO'S support

The screenshot shows a web browser window with the URL <https://www4.icao.int/ganportal>. The page features a red banner with a notice: "Please note that this website is still under development. Improvements will continuously happen to the content as well as to the interface. Sorry for the inconveniences." Below this is the ICAO logo and the text "ICAO GANP PORTAL". A search bar is present with the placeholder text "Search ICAO". A navigation menu includes "Global Strategic", "Global Technical", "Regional", "National", and "Login". The main content area has a large image of a man in a suit with a globe and an airplane overlaid on his chest. The text reads: "WELCOME TO THE GLOBAL AIR NAVIGATION PLAN PORTAL". Below this, it states: "The GANP Portal is a web portal where all aviation stakeholders will be able to find the most relevant information related to the GANP". At the bottom, a blue section titled "THE GLOBAL AIR NAVIGATION PLAN" contains the following text: "The Global Air Navigation Plan (Doc 9750) is the ICAO's highest air navigation strategic document and the plan to drive the evolution of the global air navigation system, in line with the Global Air Traffic Management Operational Concept (CATMOC, Doc 9854) and the Manual on Air Traffic Management System Requirements (Doc 9802). It also supports planning for local and regional implementation." Below this, it says: "In order to better communicate with technical and high-level managers and to not leave any State or stakeholder behind, a multilayer structure, tailored for the various audiences, is proposed for the sixth edition of the GANP. This multilayer structure of four layers: two global levels, a regional



THANK YOU!