ICAO GANP PORTAL

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WELCOME TO THE GLOBAL AIR NAVIGATION PLAN PORTAL

The GANP Portal is a web portal where all aviation stakeholders will be able to find the most relevant information related to the GANP

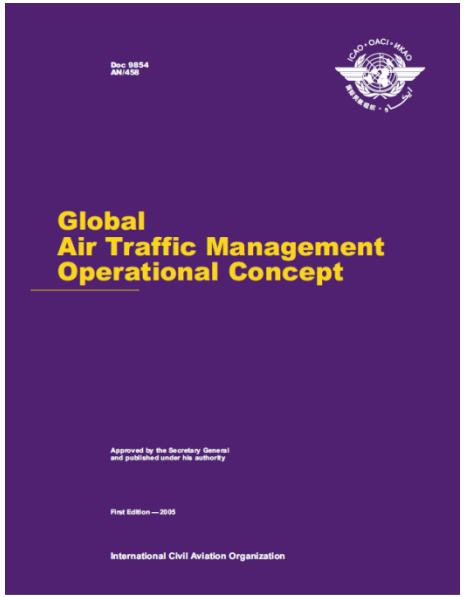
Flight Plan

- GLOBAL PLANNING
  - Inside view
    - High level guidance
    - GANP Background
    - Sixth edition GANP → GANP Portal
  - Outside/end user view
    - PBA
- REGIONAL PLANNING
  - ICAO Regional Air Navigation Plans
- NATIONAL PLANNING

GLOBAL PLANNING

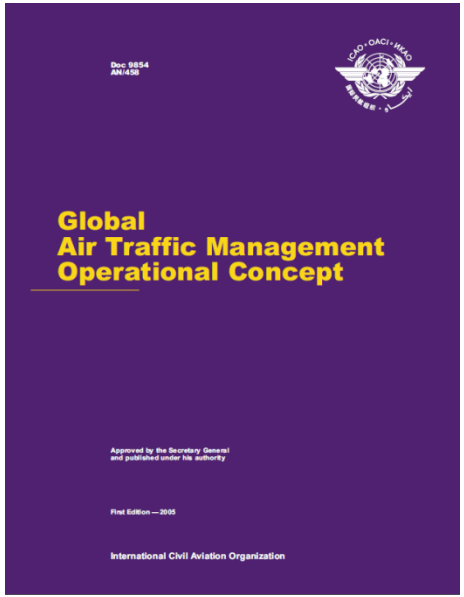
INSIDE VIEW

HIGH LEVEL GUIDANCE



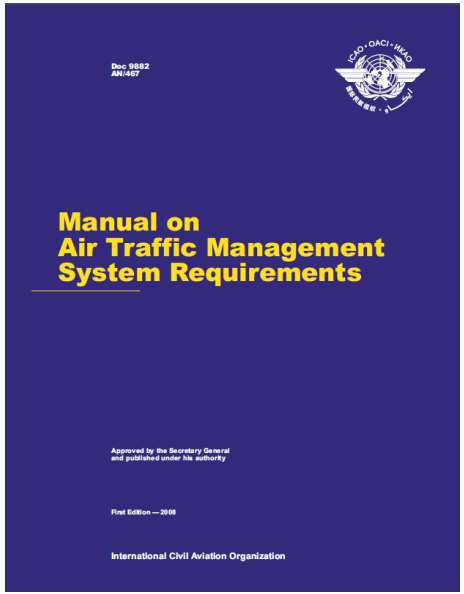
- Vision Statement
  - To achieve an interoperable global air traffic management system, for all users during all phases of flight, that meets agreed levels of safety, provides for optimum economic operations, is environmentally sustainable and meets national security requirements
- Guiding Principles
  - Safety
  - Human
  - Technology
  - Collaboration
  - Continuity
  - Information

HIGH LEVEL GUIDANCE



- Concept components
  - AOM — Airspace organization and management
  - DCB — Demand/capacity balancing
  - AO — Aerodrome operations
  - TS — Traffic synchronization
  - CM — Conflict management
  - AUO — Airspace user operations
  - ATM SDM — ATM service delivery management

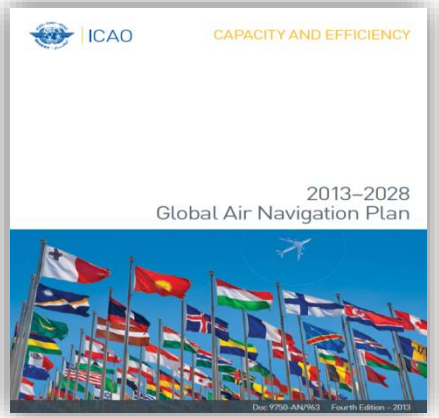
HIGH LEVEL GUIDANCE

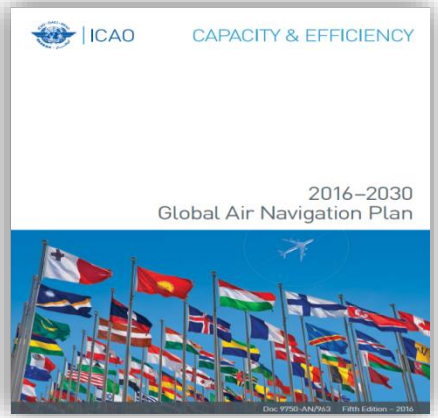


- Performance and expectations
- Information management and services
- System design and engineering
- ATM system components

Global Air Navigation Plan

2002 2007 2013 2016





GANP 2013

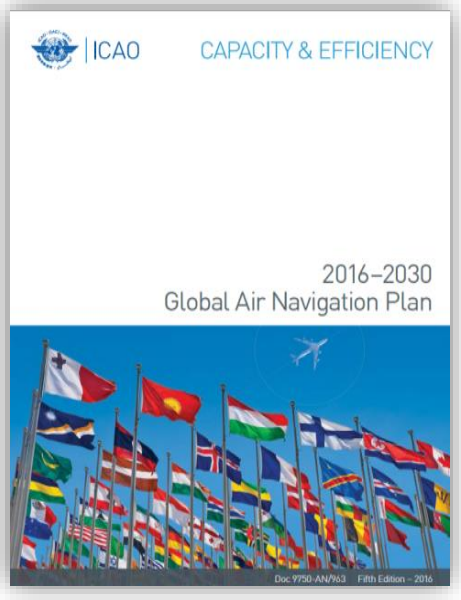
"Increase the capacity and improve the efficiency of the global civil aviation system"

- 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

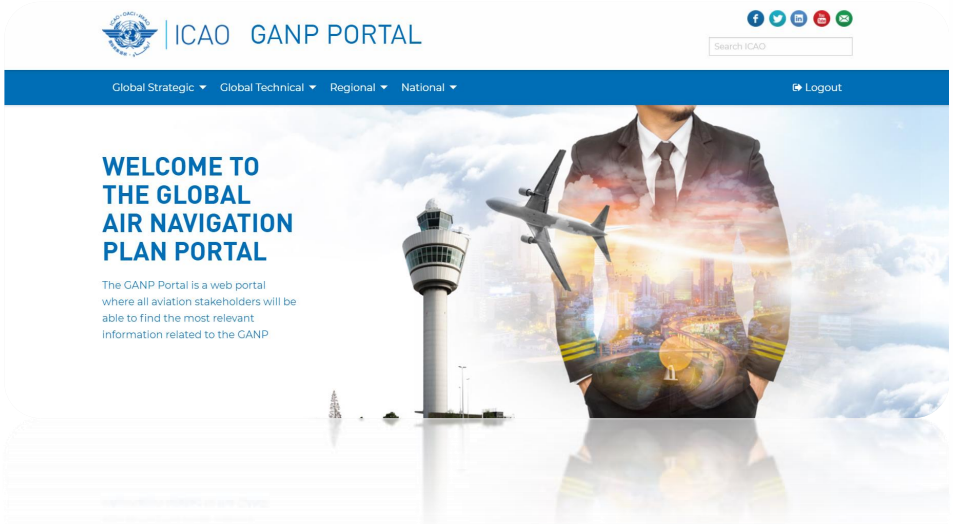
MODULE CAPABILITY		REALIZED OPERATIONAL CONCEPT	TARGET PERFORMANCE BENEFIT
APTA	Airport accessibility	FULL AMAN/DMAN/SMAN	AIRPORT OPERATIONS
WAKE	Wake turbulence separation		
RSEQ	Runway sequencing		
SURF	Surface operations		
ACDM	Airport collaborative decision-making		
RATS	Remote ATS		
FICE	FF-ICE	FULL FF-ICE	INTEROPERABLE SYSTEMS & DATA
DATM	Digital ATM information		
SWIM	System-wide information management		
AMET	Advanced MET information		
FRTO	Free-route operations	COMPLEXITY MANAGEMENT	GLOBALLY COLLABORATIVE ATM
NOPS	Network operations		
ASUR	Alternative surveillance		
ASEP	Airborne separation		
OPFL	Optimum flight levels		
ACAS	Airborne collision avoidance systems		
SNET	Safety nets		
CDO	Continuous descent operations	FULL TRAJECTORY-BASED OPERATIONS	EFFICIENT FLIGHT PATHS
TBO	Trajectory-based operations		
CCO	Continuous climb operations		
RPAS	Remotely piloted aircraft systems		

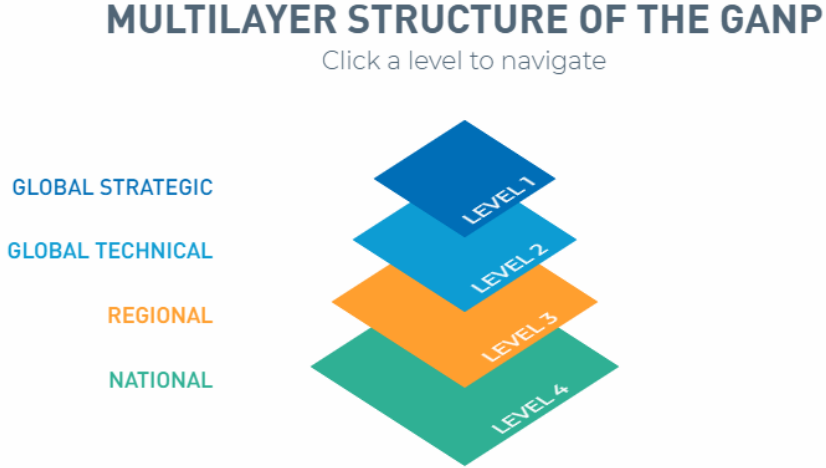
GANP 2016

- **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 serve as a comprehensive planning tool to **support the development and implementation** of a harmonized global air navigation system



Sixth Edition of the GANP- 2019





Click: Home - ICAO GANP Portal

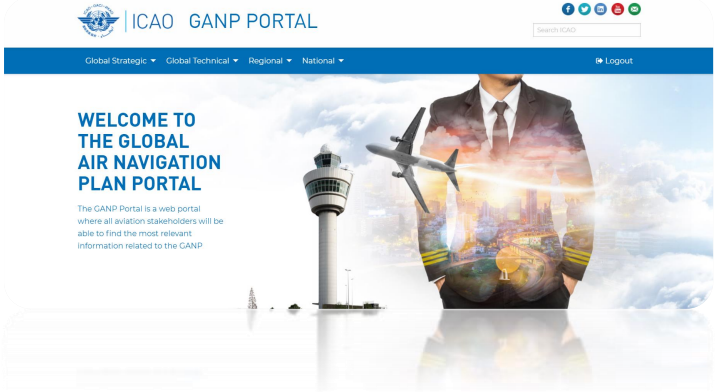
- **6th Edition of the GANP**
  - Multilayer structure
  - GANP Portal

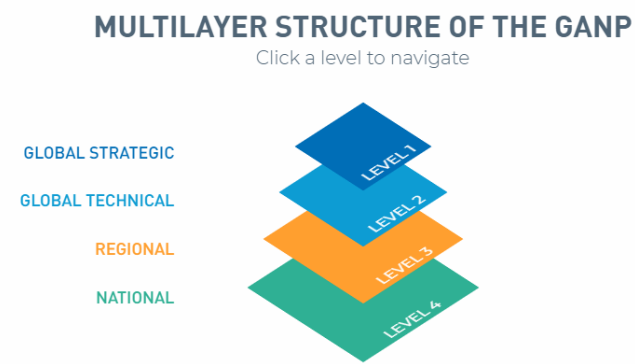
https://www4.icao.int/ganpportal/

- **Included improvements**:
  - Communication: Tailored to different audiences
  - Accessibility: Publically available
  - Global, Regional and national

air navigation planning alignment

  - Digital:
    - Consistent
    - Relevant
    - Tool development





- **Global Strategic Level**

(https://www4.icao.int/ganpportal/GanpDocument#/?_k=cjyevq)

  - High-level decision makers
  - Umbrella the other three layers
  - Challenges and opportunities
    - Continued support of social well-being worldwide
    - Accommodation of increasing demand and new types of demand
    - Use of advanced technologies
    - Human capability and capacity
    - Emerging, new and adapted business models
  - Vision
    - URGENT TRANSFORMATION: TURNING CHALLENGES INTO OPPORTUNITIES

GANP STRUCTURE

STRATEGIC APPROACH

DEMAND → PERFORMANCE AMBITIONS ↔ CHALLENGES

SOLUTIONS

- Political
- Economic
- Social
- Technical

GANP STRUCTURE

- **Global Strategic Level**
  - A Performance-driven strategy: Performance Ambitions

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

- **Global Strategic Level**
  - Working on common solutions: Conceptual Roadmap

Four evolutionary steps:

- EVOLUTIONARY STEP 1: FLIGHT OPERATIONS IN A DIGITAL RICH ENVIRONMENT
- EVOLUTIONARY STEP 2: TIME-BASED OPERATIONS ENABLED BY AN INFORMATION REVOLUTION
- EVOLUTIONARY STEP 3: TRAJECTORY-BASED OPERATIONS ENABLED BY FULL CONNECTIVITY THROUGH THE INTERNET OF AVIATION
- EVOLUTIONARY STEP 4: TOTAL PERFORMANCE MANAGEMENT SYSTEM FOCUS ON BUSINESS/MISSION NEEDS

  - Scalable transformation for the evolution of the air navigation system
    - Increase cooperation and support
    - Forefront of innovation
    - Modernization of the global air navigation system

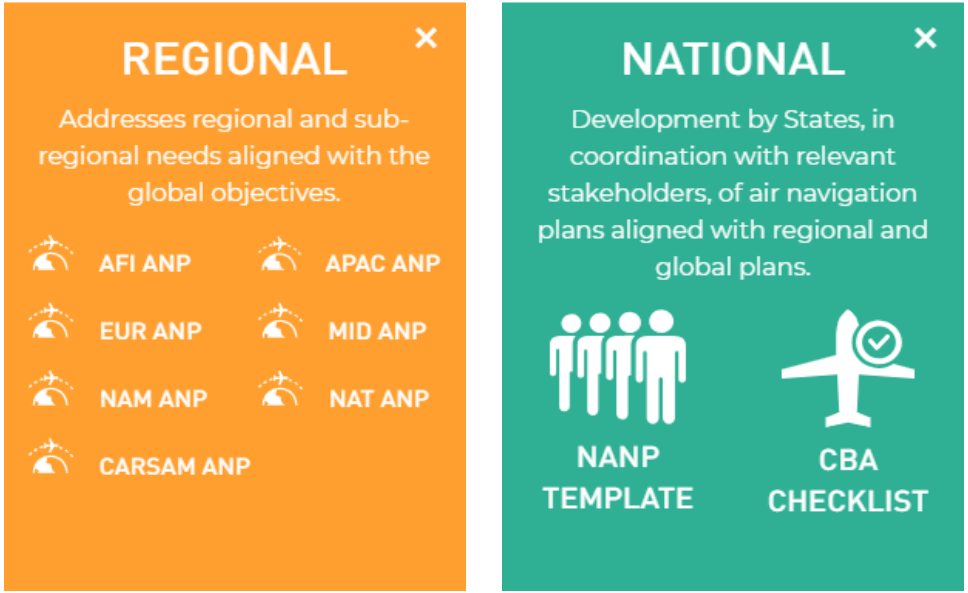
- **Global Technical Level**
  - Technical managers
  - Global technical frameworks
    - Basic Building Block (BBB)

    https://www4.icao.int/ganpportal/BBB
    - Aviation System Block Upgrade (ASBU)

    https://www4.icao.int/ganpportal/ASBU
  - Performance Framework

https://www4.icao.int/ganpportal/ASBU
    - Performance Objectives
    - List of KPIs

More info: tutorial: https://www4.icao.int/ganpportal/Tutorial



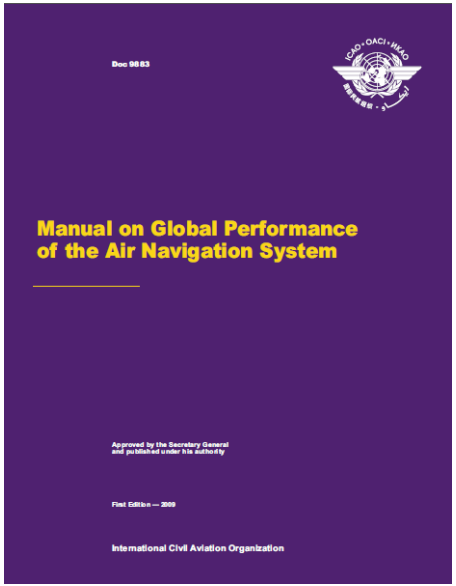
- **Regional Level**
  - ICAO Regional Air Navigation Plans (ANPs)
- **National Level**
  - National Air Navigation Plans

Let’s use the GANP Portal…

GLOBAL PLANNING

OUTSIDE/ENDUSER VIEW

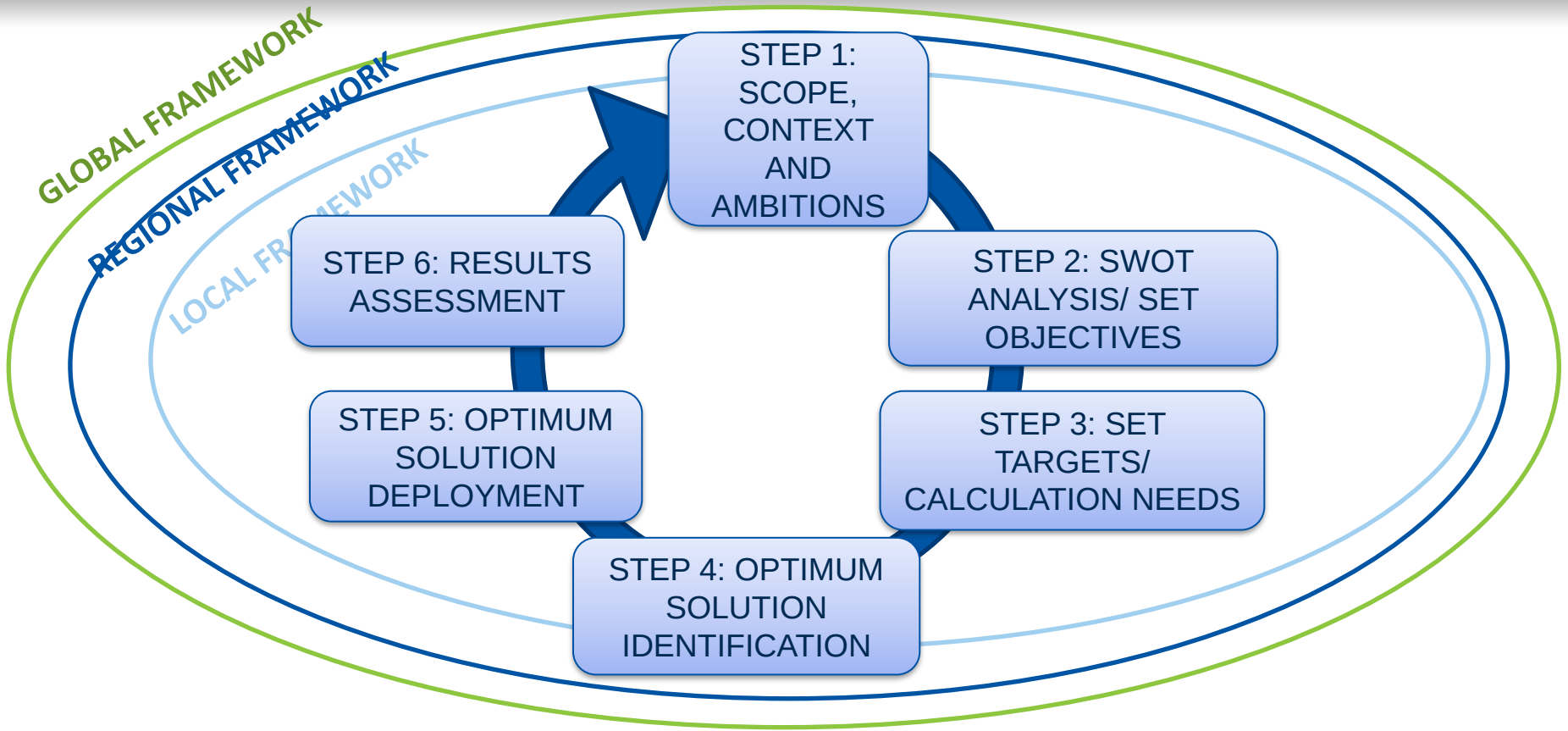
PERFORMANCE-BASED APPROACH



- Method for Air Navigation Planning
- 11 Key Performance Areas
- Collaboration
- Comprehensive and consistent planning

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


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
  - **Specific**
  - **Measurable**

  } PERFORMANCE INDICATORS → ***ICAO KPIs Catalogue***
  - Achievable
  - Relevant
  - Time-bounded

STEP 3: TARGETS & NEEDS

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

PERFORMANCE INDICATORS

VALUE= f(baseline)

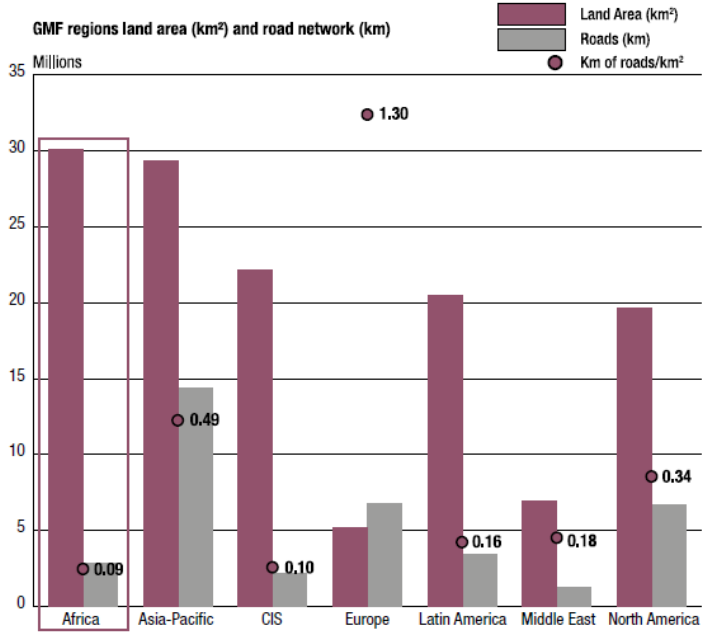
SPEED PROGRESS

PERFORMANCE TARGETS = **PERFORMANCE BASELINE** = **PERFORMANCE NEEDS**

Africa

- **Aviation essential for further development**

- **Challenges**
  - Nature: desserts, forest, ocean,…
  - Slow liberalization
  - Limited resources
  - Security



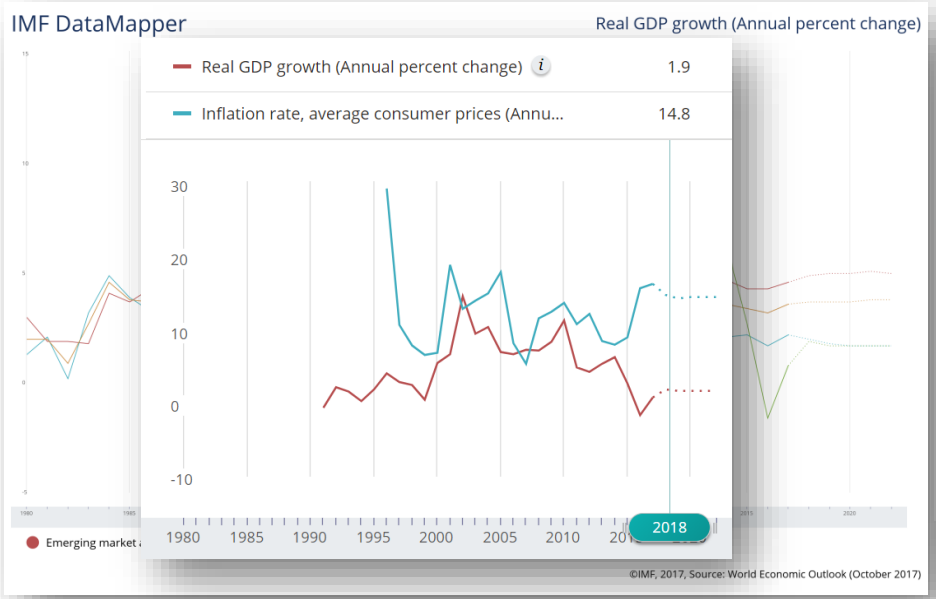
Source: IRF, The World Bank, Airbus GMF 2017

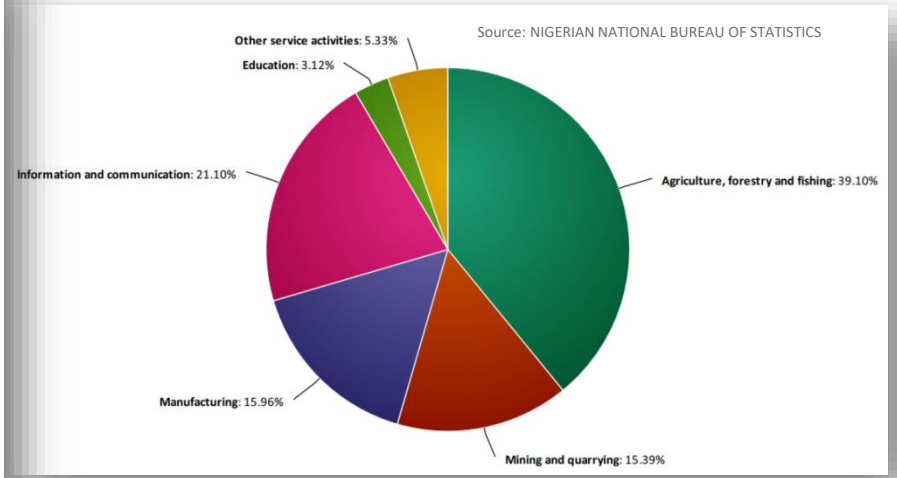
Africa

- **Traffic statistics: Average annual growth 2016-2036**

Segment	Boeing
Africa -Africa	6.5%
Africa - Europe	4.7%
Africa - Middle East	7.6%
Africa - North America	5.9%
Africa - Southeast Asia	5.7%

Nigeria


IMF DataMapper
Real GDP growth (Annual percent change)
Real GDP growth (Annual percent change)
1.9
Inflation rate, average consumer prices (Annu...
14.8
30
20
10
0
-10
1980
1985
1990
1995
2000
2005
2010
2018
Emerging market
©IMF, 2017, Source: World Economic Outlook (October 2017)


Source: NIGERIAN NATIONAL BUREAU OF STATISTICS
Other service activities: 5.33%
Education: 3.12%
Information and communication: 21.10%
Agriculture, forestry and fishing: 39.10%
Manufacturing: 15.96%
Mining and quarrying: 15.39%

Nigeria

- **FIR: Kano**
  - Sectors: Kano and Lagos
- **Several TMAs**
- **30 aerodromes, 9 international aerodromes**

YEAR 2016	Abuja	Calabar	Enugu	Kaduna	Kano	Lagos	Maiduguri	Port Harcourt	Sokoto
Passengers	936,814	199,880	353,972	129,804	413,906	2,984,829	10,0928	1,041,821	96,358
Cargo (kg)	3,313,209	2,587	-	-	6,930	175,740,101	-	5,532,259	-
Operations	12,730	3,129	5,394	2,407	4,666,520	28,307	4,411	19,848	1,966

Based on this data…

- How is the system performing?
- Do we have delays?
- Are we punctual?
- Are we accommodating our demand?

Nigeria

		Abuja	Kano	Lagos	Port Harcourt
KPI01	DEPARTURE PUNCTUALITY (10 MIN)	10%	63%	63%	7%
KPI02	TAXI-OUT ADDITIONAL TIME (MIN)	5 over 7min	3*	3*	6 over 6min
KPI 09	AIRPORT PEAK ARRIVAL CAPACITY (RADAR)	30	30	45	30
KPI 09	AIRPORT PEAK ARRIVAL CAPACITY (NO RADAR)	12	15		15
KPI 10	AIRPORT PEAK ARRIVAL THROUGHPUT	28	28	42	28
KPI 11	AIRPORT ARRIVAL CAPACITY UTILIZATION	75%	75%	67%	75%
KPI 13	TAXI-IN ADDITIONAL TIME (MIN)	3 over 7min	3	5	5 over 5min
KPI 14	ARRIVAL PUNCTUALITY	15%	7%	1%	15%

So let's me ask again, based on this data…

- How is the system performing?
- Do we have delays?
- Are we punctual?
- Are we accommodating our demand?

Moreover…

NATIONAL STRATEGY BASED ON RESULTS

- Are we doing all right???
- Is there room for improvement???
- Is there an opportunity to become the regional leader???
- And an international one???

STEP 4: IDENTIFICATION OPT. SOLUTION

- Assessment of the SWOT analysis
  - Dominant factors:

    main constraints/opportunities

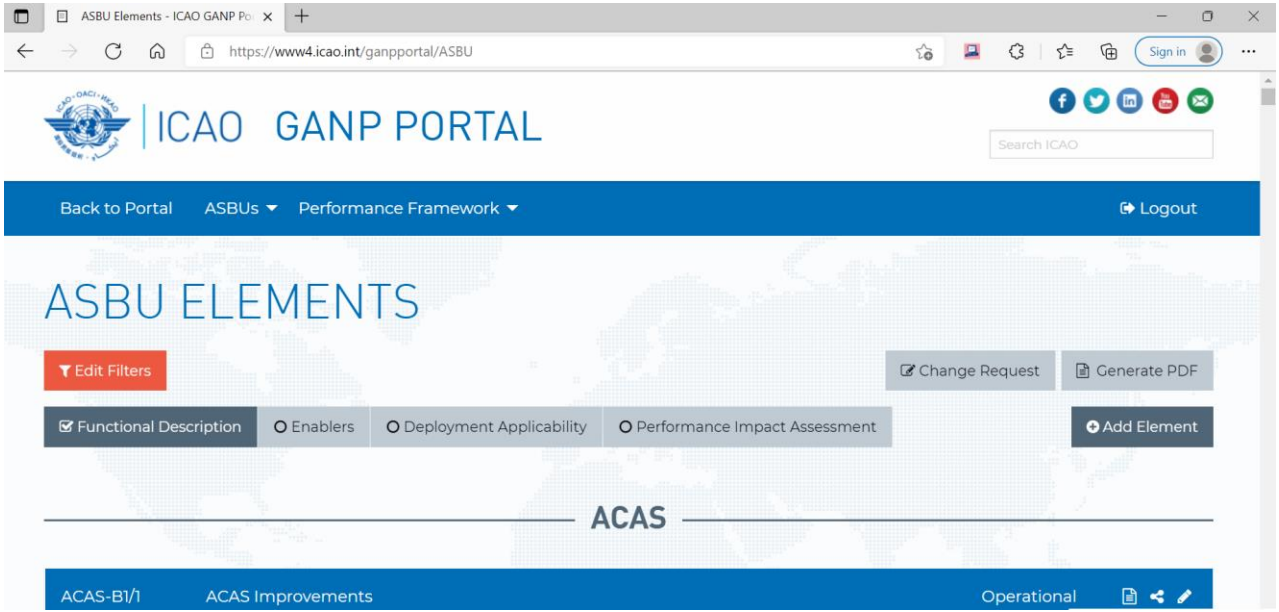
    → selection and prioritization of opportunities and issues

STEP 4: IDENTIFICATION OPT. SOLUTION

- List of options
  - High-level strategy
  - Operational concept
  - Technical enablers
  - Baseline
  - Availability
  - Safety Assessment
  - Human Factors Assessment
  - Assessment of expected performance

ASBU Framework

Digital ASBU framework



STEP 4: IDENTIFICATION OPT. SOLUTION

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

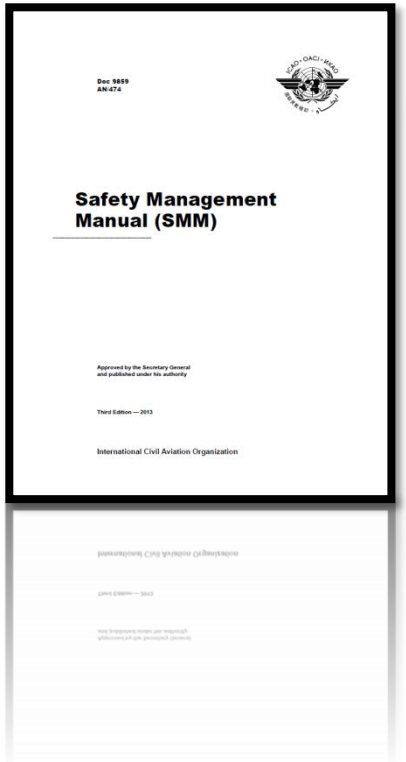
Applicable to our case

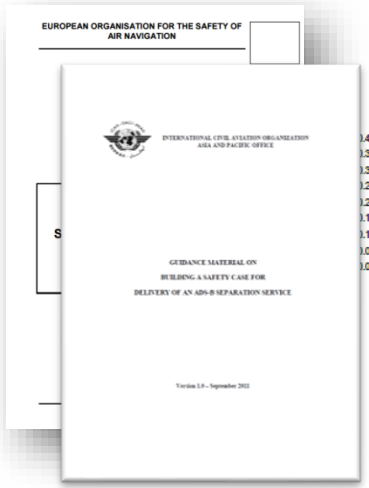
- Separation on final:
  - B0 WAKE:
    - RECAT
  - B0 ASEP
    - VSA
- Number of runways used simultaneously
  - B0 WAKE
    - WIDAO
- Aircraft sequencing
  - B0 RSEQ
    - AMAN

Plus…

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

Safety assessment guidance





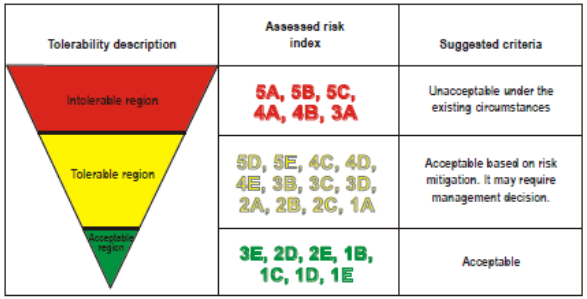
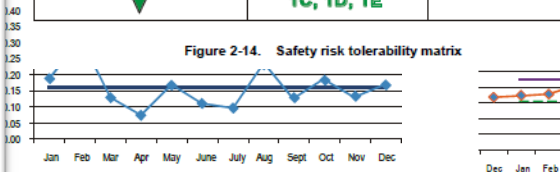
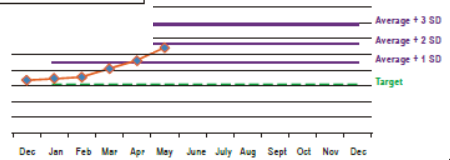
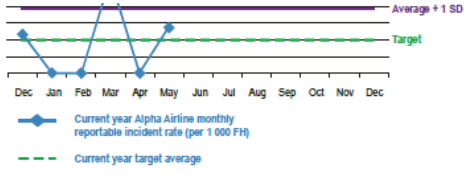


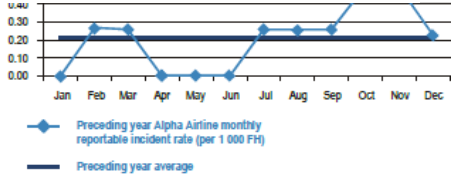
Figure 2-14. Safety risk tolerability matrix

Risk severity				
Catastrophic 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

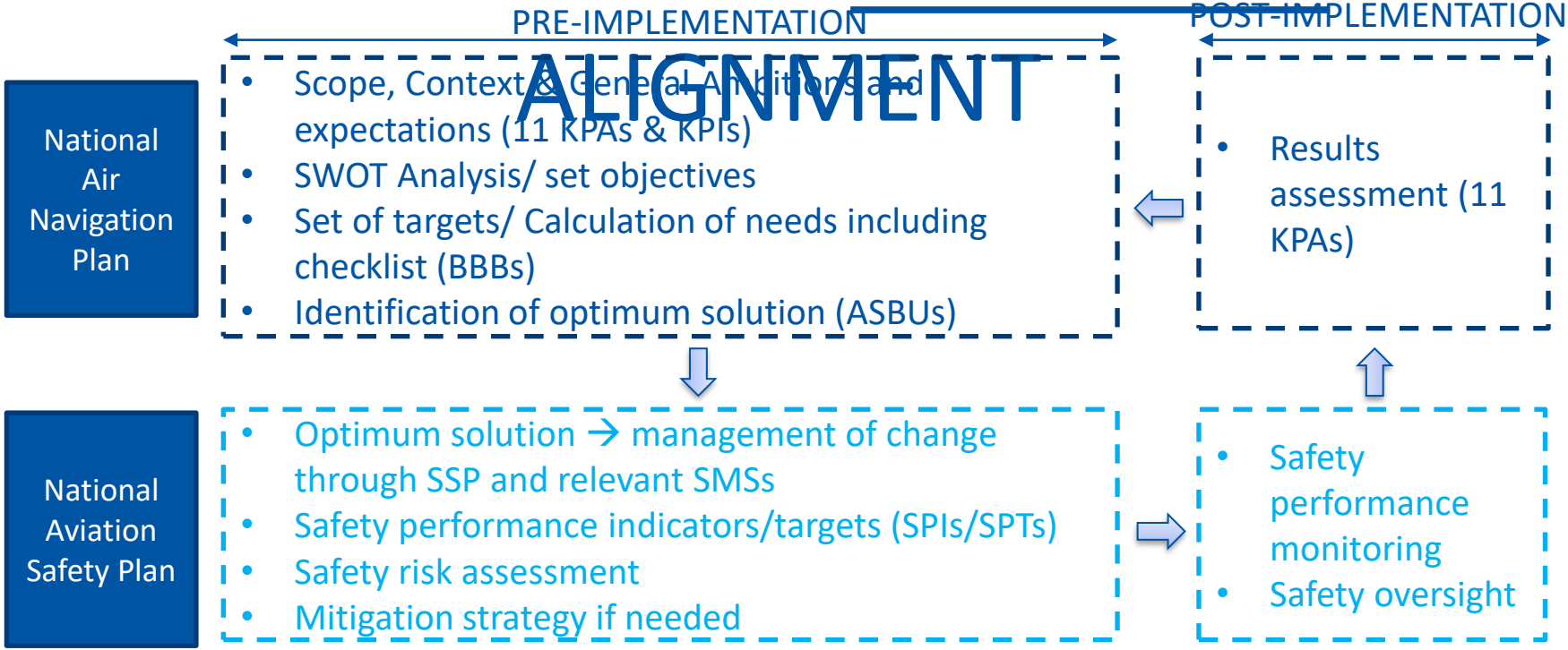




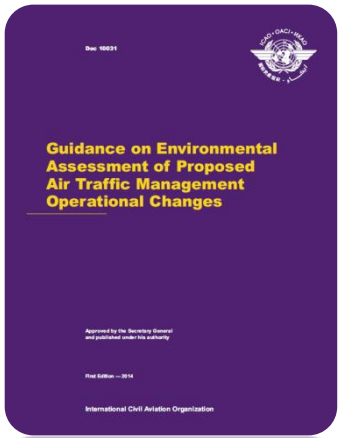


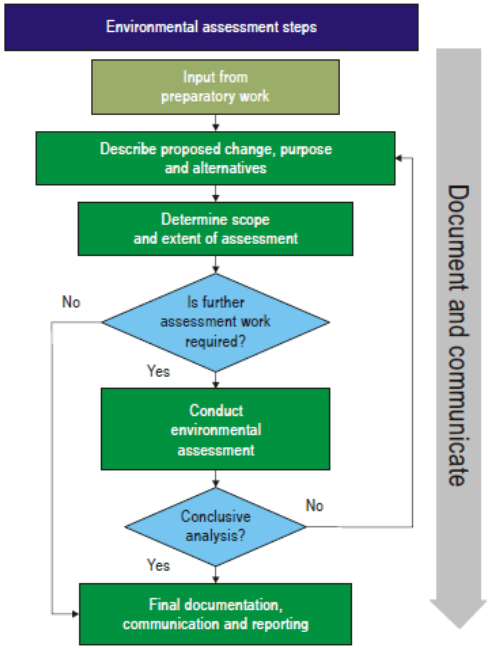


GANP & GASP TECHNICAL ALIGNMENT

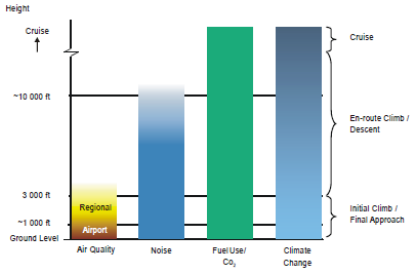


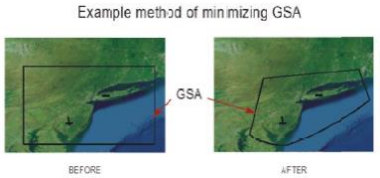
Environmental impact assessment guidance

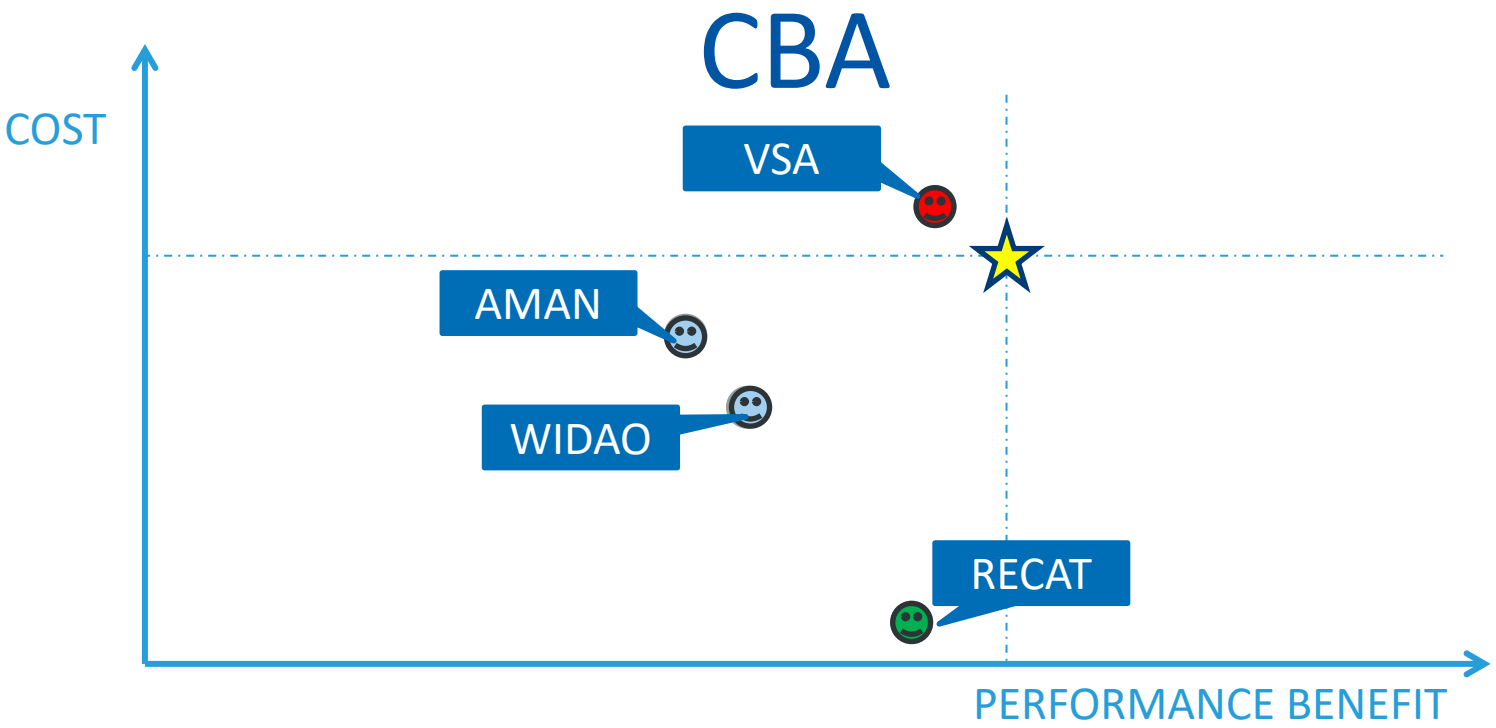




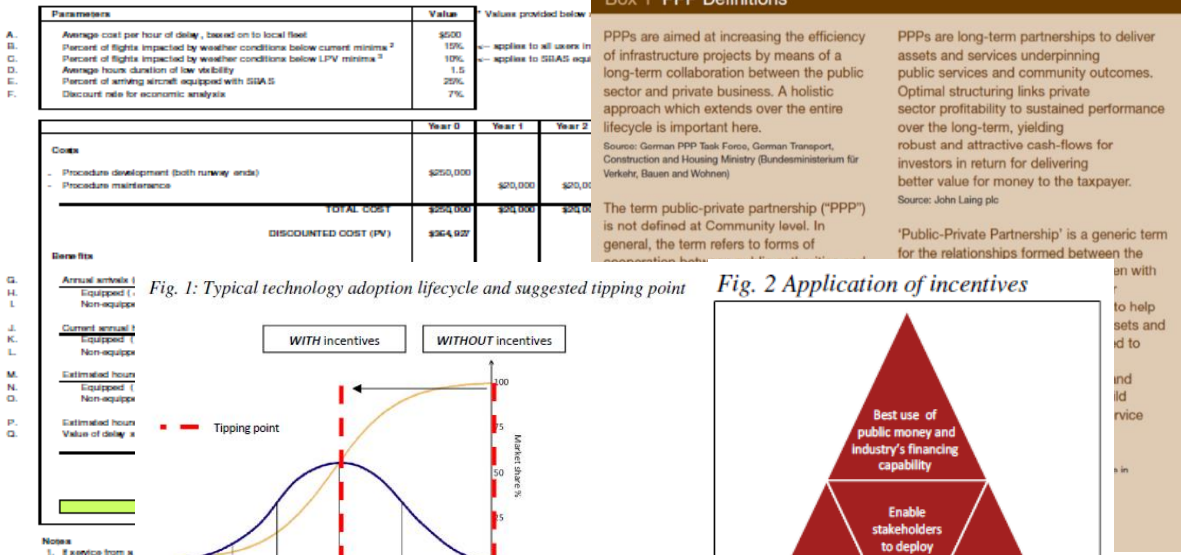
Impact \ Height AGL	Below 1 000 ft (300 m)	1 000-3 000 ft (300-900 m)	3 000-10 000 ft (900-3 000 m)	Above 10 000 ft (3 000 m)
Air quality (e.g. NOx, PM, etc.)	Most relevant	Relevant (Note 1)	Less relevant	Less relevant
Noise	Potentially (Note 2)	Relevant	Relevant	Potentially (Note 3)
Fuel use / CO_2	Relevant	Relevant	Most relevant (Note 4)	Most relevant (Note 4)
Climate change	Relevant	Relevant	Most relevant (Note 5)	Most relevant (Note 5)






CBA
COST
VSA
AMAN
WIDAO
RECAT
PERFORMANCE BENEFIT

Cost-Benefits Analysis guidance



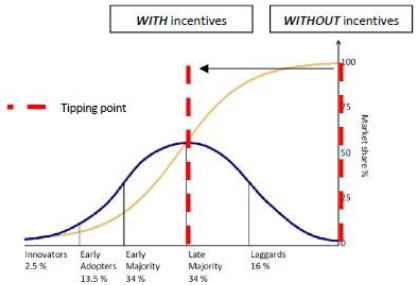
Parameters	Value
Average cost per hour of delay, based on to local fleet	$500
Percent of flights impacted by weather conditions below current minima [2]	15%
Percent of flights impacted by weather conditions below LPV minima [3]	10%
Average hours duration of low visibility	1.5
Percent of arriving aircraft equipped with SBAS	25%
Discount rate for economic analysis	7%

Costs	Year 0	Year 1	Year 2
- Procedure development (both runway ends)	$250,000		
- Procedure maintenance		$20,000	$20,00
TOTAL COST	$254,000	$24,000	$24,0
DISCOUNTED COST (PV)	$354,927		

Benefits

Notes
1. If service from a
This would not b
2. This information
3. One of the benef

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.

Source: German PPP Task Force, German Transport, Construction and Housing Ministry (Bundesministerium für Verkehr, Bauen und Wohnen)

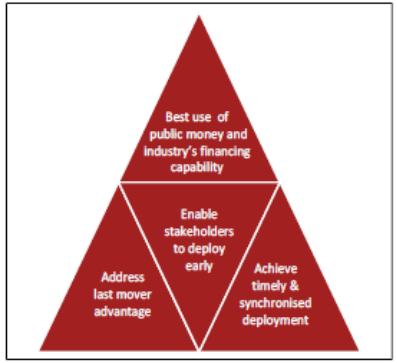
The term public-private partnership ("PPP") is not defined at Community level. In general, the term refers to forms of

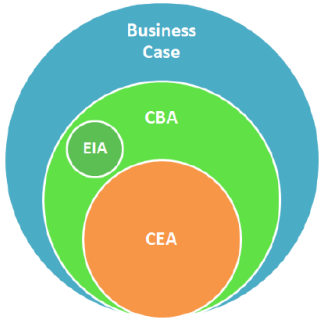
PPPs are long-term partnerships to deliver assets and services underpinning public services and community outcomes. Optimal structuring links private sector profitability to sustained performance over the long-term, yielding robust and attractive cash-flows for investors in return for delivering better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

Source: John Laing plc

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

Fig. 2 Application of incentives





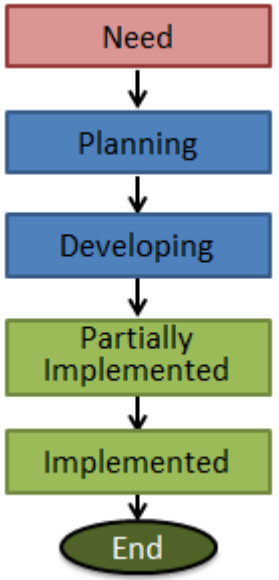
gure 1 – Relationship between business case, CBA, CEA and EIA

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

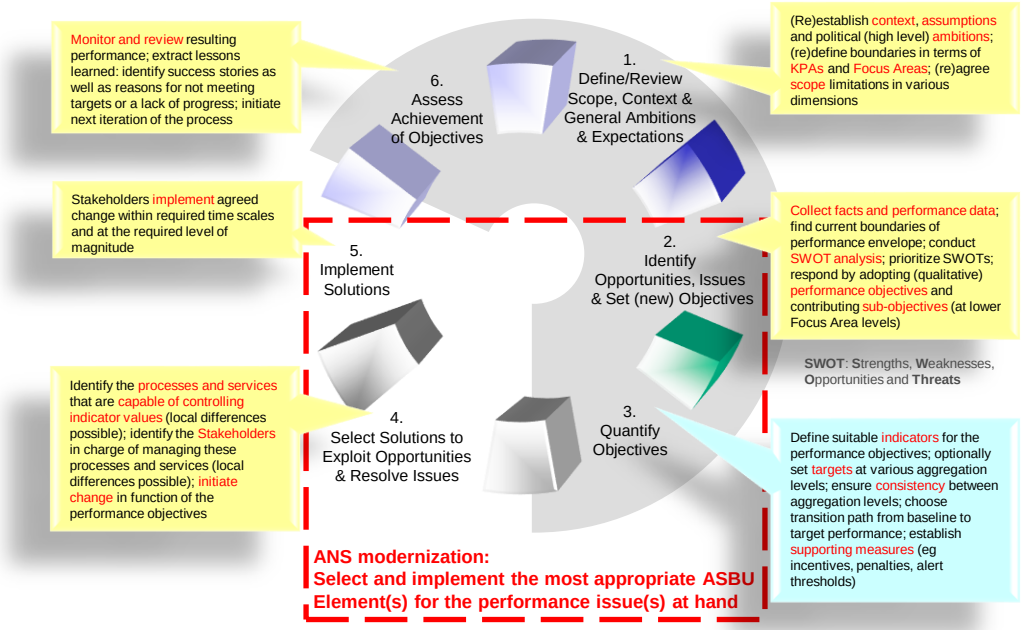
→ +(Step 1&2)=

PERFORMANCE MONITORING AND REVIEW

STEP 6: ASSESSMENT OF RESULTS

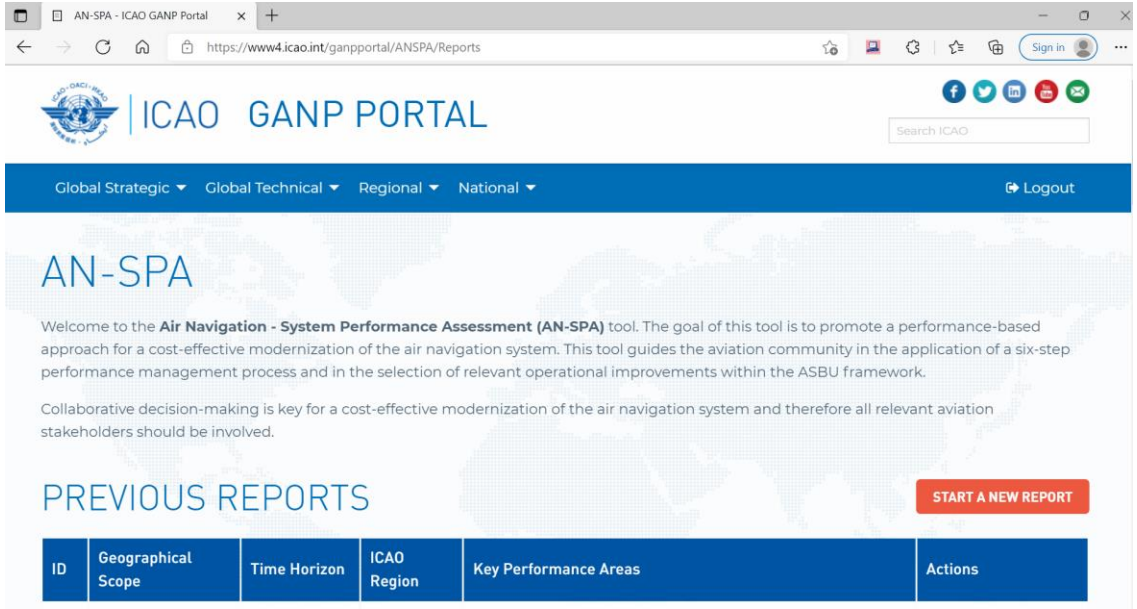
- Tasks in the PMR:
  - Data collection
  - Data publication
  - Data analysis
  - Formulation of conclusions; and
  - Formulation of recommendations.

Summary



ICAO Doc 9883 Figure I-2-4

ICAO'S support → AN-SPA



Let's go to the Portal…

REGIONAL PLANNING

ICAO REGIONAL AIR NAVIGATION PLAN

REGIONAL AIR NAVIGATION PLAN

- Till 2014→ Basic & FASID
- Council Approved template with Vol I, Vol II & Vol III → ALIGNEMENT AND FLEXIBILITY
- Vol I
  - Former Basic
  - Stable elements, approved by Council
    - FIR boundaries (requires Council approval)
- Vol II
  - Former FASID
  - Traditional Service and Facilities, approved based on regional agreement
    - Navigation aids
- Vol III
  - New
  - Performance-based modernization of the air navigation system, approved by the PIRGs
    - ASBUs

REGIONAL AIR NAVIGATION PLAN

- Structure Vol I & Vol II
  - Introduction
  - Generic aspects
    - Regional traffic flows
  - Aerodromes
    - General Regional Requirements
    - Specific Regional requirements
  - CNS
    - General Regional Requirements
    - Specific Regional requirements
  - ATM
    - General Regional Requirements
    - Specific Regional requirements
  - MET
    - General Regional Requirements
    - Specific Regional requirements
  - SAR
    - General Regional Requirements
    - Specific Regional requirements
  - AIM
    - General Regional Requirements
    - Specific Regional requirements

GANP: BBBs

REGIONAL AIR NAVIGATION PLAN

- Structure Vol III
  - Introduction
  - Generic aspects
  - Air Navigation Implementation

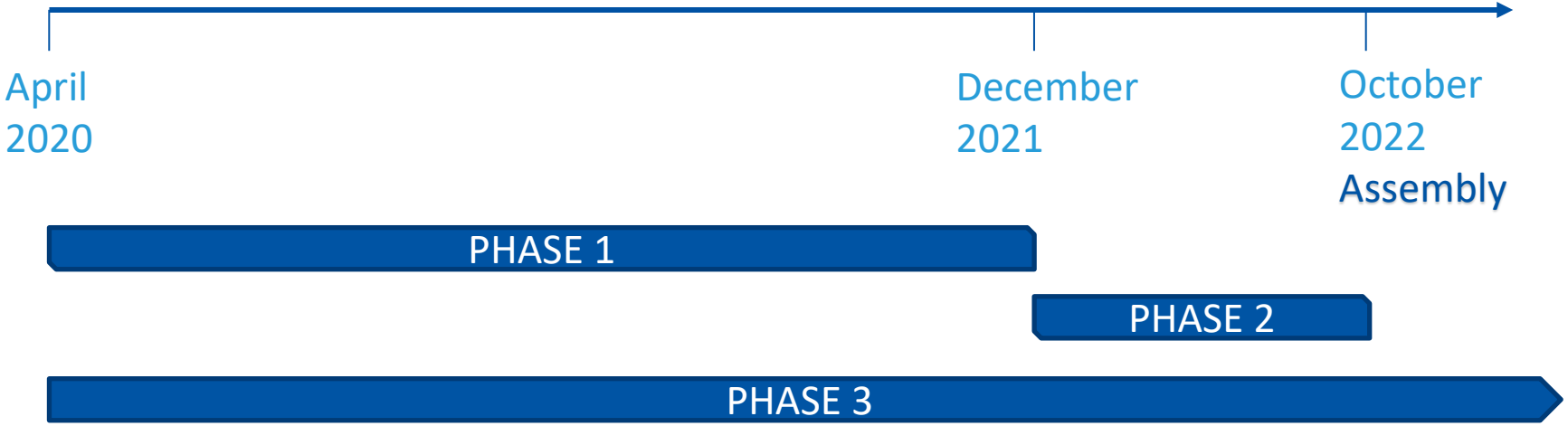
GANP: PF and ASBUs

→ Evolution to a performance-based planning

eANP Project

- Phase 1
  - Electronic Vol I and Vol II
- Phase 2
  - PfA flow
- Phase 3
  - Vol III

Project Phases



Status Phase 1

- Vol I
  - Databased model defined
  - Database created
  - Ongoing data population

Status Phase 1

– Ongoing data population

Step	Table	Dependencies	Status	Responsible
1	eANPRegion	-	RegionIds genertd	Completed
2	StateTerritory	-	StateTerritoryIds generated	Completed
3	eANPRegionNonContractState	StateTerritoryId	StateTerritoryIds sent	ANB to provide RegionNonContractState data
		RegionIds	RegionIds sent	
4	eANPCity	StateTerritoryId	Sent StateTerritoryIds	ANB
5	eANPFlightRegions	RegionIds	Olga is working on it	ANB
6	eANPStatesFIR	StateTerritoryId, FlightRegionsID	Pending FIRFlightRegionsIds	ANB
8	eANPVolcanoObservatory	StateTerritoryId	StateTerritoryIds sent	ANB
7	eANPAerodromes	CityID	Pending CityIds	Pending CityIds

Status Phase 1

- Vol I
  - Ongoing data population
    - Tables
      - eANP Regions → Completed
      - State/Territories → Completed
      - ATM → NACC input
      - AOP
        - » Cities → Completed
        - » Aerodromes → Completed
      - Volcanic Ash center → Completed
      - Text → Completed

Next steps Phase 1

- Text

TextID	ParentTextID	Ranking	Text	TextCategoryId	NumerationT
You will assign ID to each text.	This column is to keep bulleted lists in Take the ParentTextId from ColumA	Enter ranking in which order, bullets points will be displayed.	Enter The text	Please take TaxCatgID from the TextCatgeory Table.	Roman, Numer BulletPoint, Da line
1	NULL	1	(NAME) ANP, VOLUME I	1	
2	1	1	PART 0 – INTRODUCTION	2	
3	2	1	1. GENERAL	3	
4	3	1	1.1 On 18 June 2014, the ICAO Council decided that the regional air navigation plans (ANPs) should be published in three volumes.	4	Numeric
5	3	2	1.2 ANP Volume I contains stable plan elements whose amendment necessitates approval by the Council such as the assignment of responsibilities to States for the provision of aerodrome and air navigation facilities and services ...	4	Numeric
PageBreak					

VolumeHeading (TextId 1)(*NAME*) ANP, VOLUME I
PartHeaading (TextId 2)- PART 0 – INTRODUCTION

Section (textID3)
1. GENERAL
NumerationTypeNumeric(textid 4) (parentTerxtID 3) (Ranking 1)
1.1 On ***18 June 2014***, the ICAO Council decided that the regional air navigation plans (ANPs) should be published in three volumes.

NumerationTypeNumeric(textid 5) (parentTerxtID 3) (Ranking 2)
1.2 ANP Volume I contains stable plan elements whose amendment necessitates approval by the Council such as the assignment of responsibilities to States for the provision of aerodrome and air navigation facilities and services in accordance with Article 28 of the *Convention on International Civil Aviation* (Doc 7300); and the current to medium term mandatory regional requirements related to aerodrome and air navigation facilities and services to be implemented by States in accordance with regional air navigation agreements and requirements specific to the region which are not covered in the ICAO Standards and Recommended Practices (SARPs) and Procedures for Air Navigation Services (PANS). The material to be included in Volume I should minimise the requirement for frequent amendment. The following is a non-exhaustive list of such elements:

- Flight Information Regions (FIR) boundaries (Table and Charts);
- Search and Rescue Regions (SRR) boundaries (Table and Charts);
- Volcanic Ash Advisory Centres (VAAC);
- Tropical Cyclone Advisory Centres (TCAC); and
- Volcano Observatories (VO).

NumerationTypeNumeric(textid 5) (parentTerxtID 3) (Ranking 3)
1.3 ANP Volume II contains dynamic plan elements material related to the assignment of responsibilities to States for the provision of aerodrome and air navigation facilities and services and the current to medium term mandatory regional requirements related to aerodrome and air navigation facilities and services to be implemented by States in accordance with regional air navigation agreements involving the relevant PIRG. The amendment of these elements does not require approval by the Council. The following is a non-exhaustive list of such elements:

- Major traffic flows;
- ATS route network;
- Meteorological Watch Offices (MWO);
- Secondary Surveillance Radar (SSR) codes;
- Five-letter name-codes; and

Next steps Phase 1

- Vol I
  - Check PfAs approved since 17 March 2020
  - Update data
  - Publish

Next steps Phase 1

- Vol II
  - Define database model
  - Create database
  - Data population; Development of system interphases to input/manage data
  - Update data
  - Publication

Next steps Phase 2

- PfA
  - Definition PfA flow
    - Flow, roles and responsibilities, registry of PfAs, etc
  - Validation PfA flow
    - System running parallel to the current PfA system for a month
  - Complete migration eANP

Status & next steps Phase 3

- Agree Vol III template
- Consultation process
- Define database model
  - Link to Vol I and II and the ASBUs database
- Create database
- Development of interphases for inputting/managing data
- Input data
- PfA flow definition
- PfA flow validation
- Publication Vol III

NATIONAL PLANNING

NATIONAL AIR NAVIGATION PLAN

CONSIDERATIONS

- Two Complementary Approaches
  - APAC
    - Basic Plan Elements
  - CARSAM
    - Template
- Considerations

APAC Basic Plan Elements

1. BACKGROUND
   - General description of the Plan's benefits (BPE 1)
   - General description of the costs (BPE2)
   - Details of how the State Plan connects to global and regional planning hierarchy (BPE 3)
2. STAKEHOLDER CONSULTATION
   - Description of the process used to consult with stakeholders, including the military (BPE 4)
   - Endorsement of the plan by key stakeholders (BPE 5)
3. ANALYSIS
   - Priorities and ASBUs applicability (BPE 6)
   - Elements that are deemed to not be applicable and rational behind it (BPE 7)
4. PLANNING
   - Implementation process, design systems and provide implementation feedback (BPE 8)
   - Responsible for implementation and timelines (BPE 9)
5. PROGRESS
   - Monitoring of the implementation (BPE 10)

CARSAM

- STRUCTURE
  - Reflect the Regional Air Navigation Plans
    - Vol I, Vol II and Vol III
- Tailored to National context
  - Considerations

CONSIDERATIONS

- Global and Regional Context
  - GANP
    - Ensure global harmonization
  - ANPs
    - Ensure the provision of minimum services for international civil aviation, agreed levels of performance and global interoperability

CONSIDERATIONS

- National context
  - Link to National Development Plans
    - Enable access to funding of sustainable aviation development topics
  - Link to other deliverables
    - Maintenance plans (for instance of systems), investment plans, training plans, SSP, SMS, budget control, etc.

CONSIDERATIONS

- Collaboration
  - Identification of all stakeholders
    - CBA
    - Deliverables synchronization
  - Committee with roles and responsibilities
    - Process for maintenance and approval of the plan

CONSIDERATIONS

- Multilayer structure
  - Strategy vs. technical content
- Scope
  - Table of content
- Know your system: analyze, do not jump into solutions
- Drive the plan by performance
  - GANP Performance framework
  - AN-SPA
    (https://www4.icao.int/ganpportal/ANSPA/Reports)

CONSIDERATIONS

- Choose the optimum solution
  - Consider feasibility
    - Safety assessment, environmental assessment, HF assessment, CBA
  - Consider dependencies
    - Maximize benefits
- Deployment plans

IMPORTANT

Don't wait for perfection before you start. Start somewhere so you can have something tangible you can work to perfect.

Simon Sinek

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