



## 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



Information related to the GANP  
is available in the following languages:

# Overview

- Background information
- Six-steps method
- Resources
- Conclusion

# GLOBAL AIR NAVIGATION PLAN (7<sup>th</sup> Ed)

## MULTILAYER STRUCTURE OF THE GANP

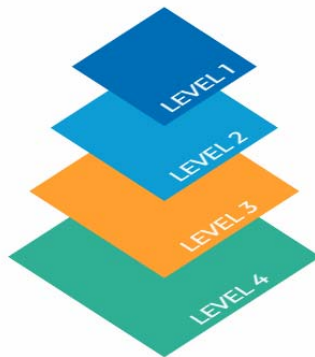
Click a level to navigate

GLOBAL STRATEGIC

GLOBAL TECHNICAL

REGIONAL

NATIONAL



GLOBAL STRATEGIC <span>×</span>	GLOBAL TECHNICAL <span>×</span>	REGIONAL <span>×</span>	NATIONAL <span>×</span>
<p>Provides high-level strategic directions for decision makers to drive the evolution of the global air navigation system towards a common agreed vision.</p>  <p><b>GANP DOCUMENT</b></p>	<p>Supports technical managers in planning the implementation of basic air navigation services and new operational improvements in a cost-effective manner.</p>  <p><b>ASBUs &amp; PF</b>   <b>AN-SPA</b>   <b>BBBs</b></p>	<p>Addresses regional and sub-regional needs aligned with the global objectives.</p> <ul style="list-style-type: none"> <li> AFI ANP    APAC ANP</li> <li> EUR ANP    MID ANP</li> <li> NAM ANP    NAT ANP</li> <li> CARSAM ANP</li> </ul>	<p>Development by States, in coordination with relevant stakeholders, of air navigation plans aligned with regional and global plans.</p>  <p><b>NANP TEMPLATE</b></p>  <p><b>CBA CHECKLIST</b></p>

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







# REGIONAL & NATIONAL LEVELS

- eANP tool
  - Under development
  - Available for the Eighth edition
- National template
  - Under development
  - Available for the Eighth edition

## REGIONAL ×

Addresses regional and sub-regional needs aligned with the global objectives.

 AFI ANP	 APAC ANP
 EUR ANP	 MID ANP
 NAM ANP	 NAT ANP
 CARSAM ANP	

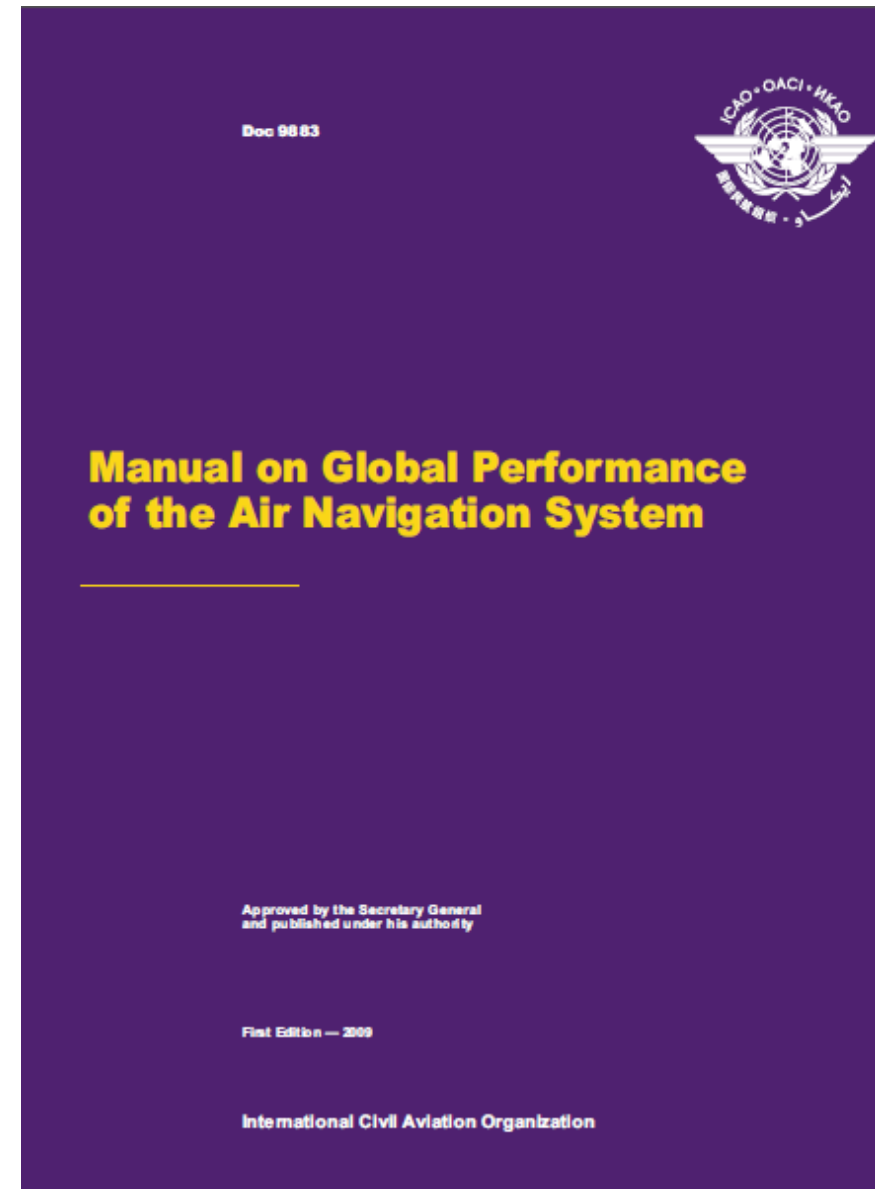
## NATIONAL ×

Development by States, in coordination with relevant stakeholders, of air navigation plans aligned with regional and global plans.

 NANP TEMPLATE	 CBA CHECKLIST
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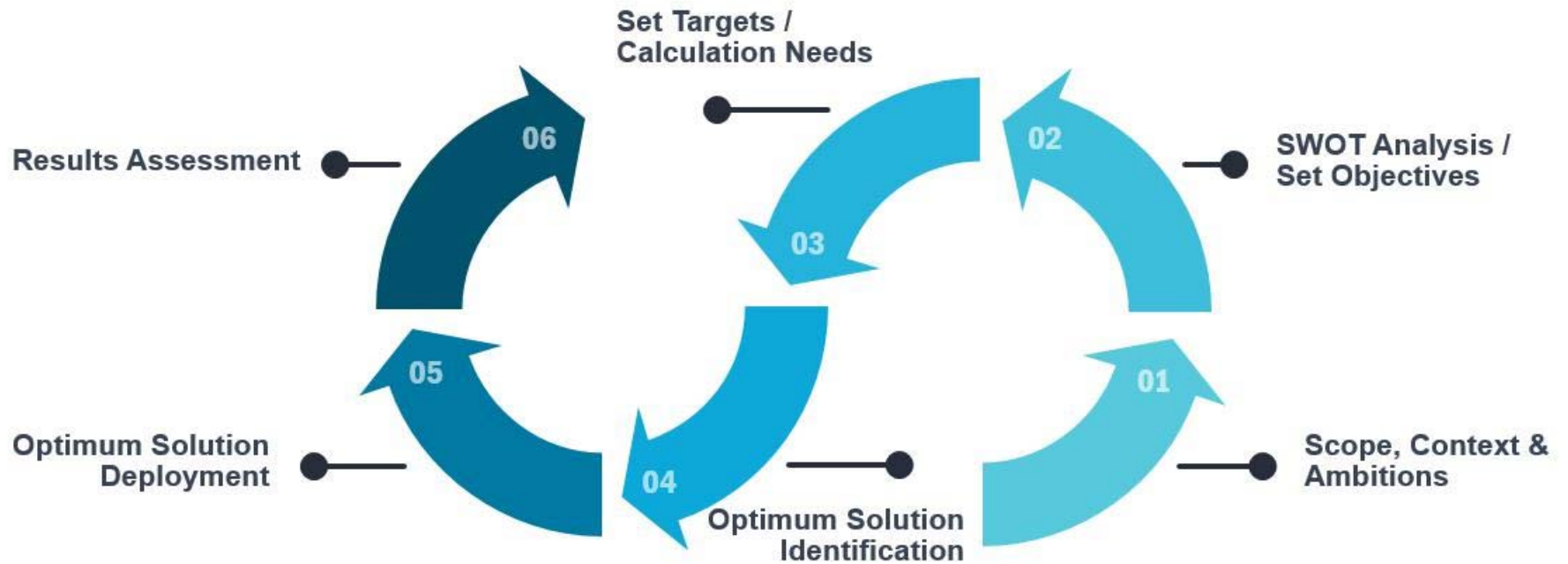
# PERFORMANCE MANAGEMENT PROCESS

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



*“Fall in love with the **problem**, not with the solution”*

# Six steps Method



# STEP 1: SCOPE, CONTEXT & AMBITIONS

- Context

- Global Air Navigation Plan
  - Global Strategic Level: Performance Ambitions
    - ICAO KPAs
  - Global Technical Level:
    - Performance Objectives
    - ICAO KPIs
- 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
    - [KPI OVERVIEW - ICAO GANP Portal](#)
      - For MID:
        - KPI 01- Departure punctuality
        - KPI 02 - Taxi-out additional time
        - KPI 13 - Taxi-in additional time
        - KPI 14 - Arrival punctuality
  - Traffic forecast
- SWOT Analysis
  - Strengths, Weaknesses, Opportunities and Threats
  - Performance objectives

## STEP 2: SWOT Analysis/ set objectives

- **National level**
  - National Performance Framework
    - High level SWOT analysis
- **Local Level**
  - Detailed SWOT analysis
    - Specific
  - Performance objectives and KPIs
    - National Performance Framework



## STEP 3: TARGETS & NEEDS

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

## STEP 3: TARGETS & NEEDS

- **SMART Objectives**
  - Specific
  - Measurable
  - Achievable
  - Relevant
  - Time-bounded

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- **SMART Objectives**

- Specific
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  - Time-bounded
- PERFORMANCE  
INDICATORS → *ICAO KPIs Catalogue*

## STEP 3: TARGETS & NEEDS

- **SMART Objectives**

- Specific
- Measurable
- Achievable
- Relevant
- Time-bounded

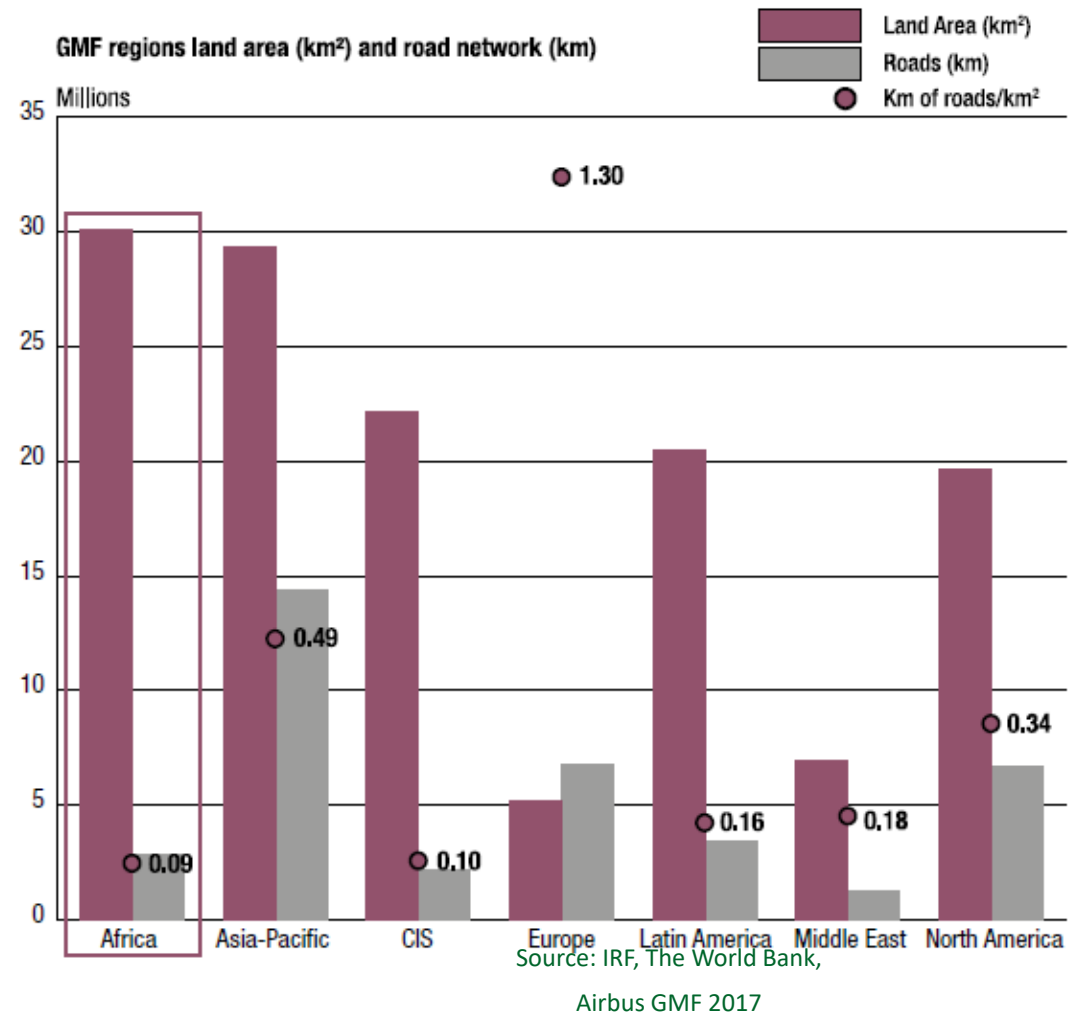
PERFORMANCE  
INDICATORS

VALUE= f(baseline)  
SPEED PROGRESS

PERFORMANCE TARGETS  
 —  
 PERFORMANCE BASELINE  
 =  
 PERFORMANCE NEEDS

# Africa

- Aviation essential for further development
- Challenges
  - Nature: deserts, forest, ocean,...
  - Slow liberalization
  - Limited resources
  - Security





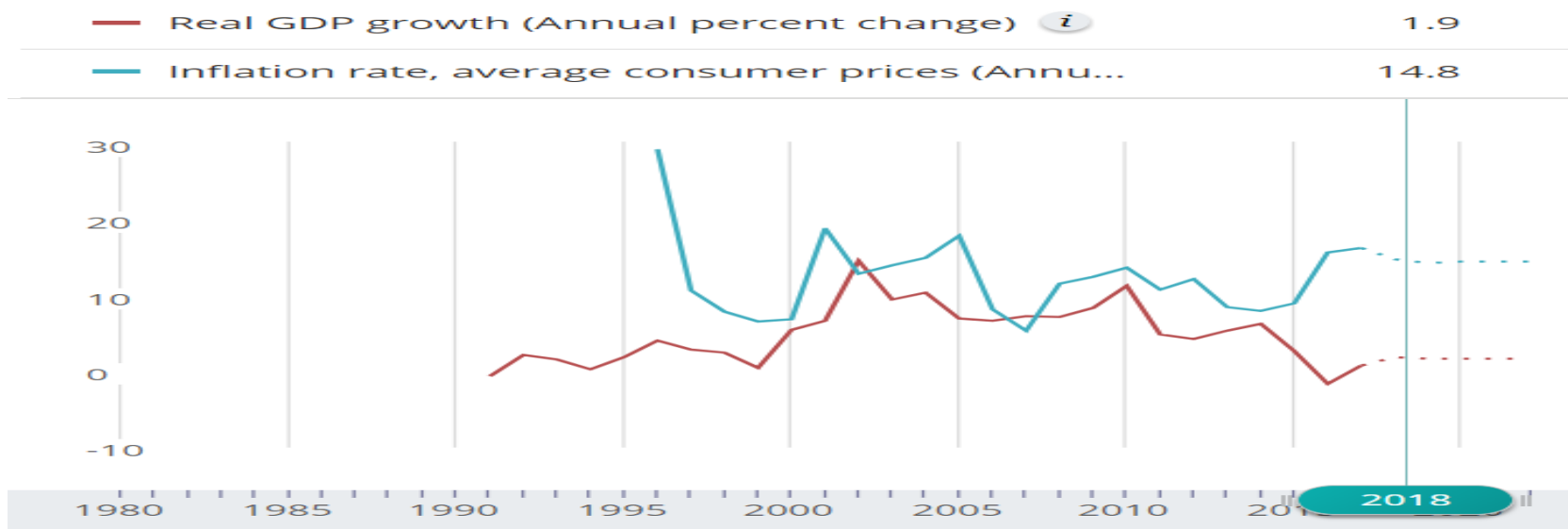
# Africa

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

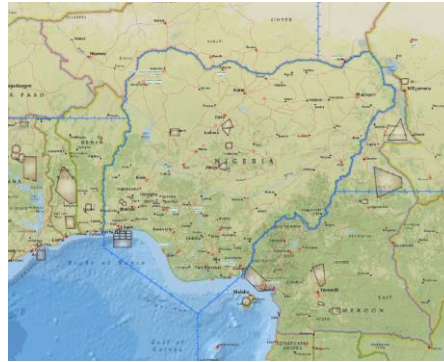
Segment	Boeing
Africa -Africa	6.5%
Africa - Europe	4.7%
Africa - Middle East	7.6%
Africa - North America	5.9%
Africa - Southeast Asia	5.7%

# Nigeria



Source: NIGERIAN NATIONAL BUREAU OF STATISTICS

# 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

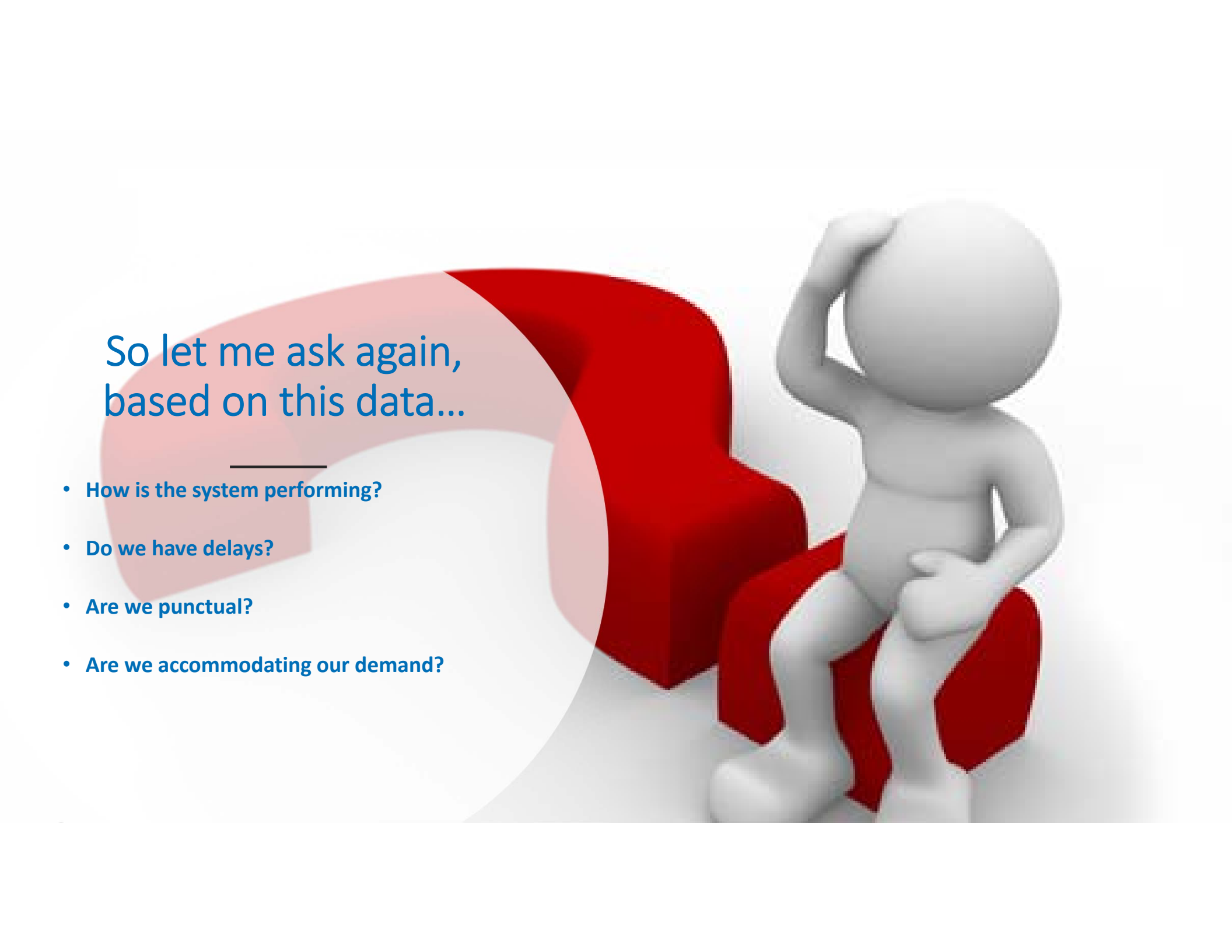
## Based on this data...

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



		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 me ask again,  
based on this data...

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

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## 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



ICAO GANP PORTAL



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## THE GLOBAL AIR NAVIGATION PLAN

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 (GATMOC, Doc 9854) and the Manual on Air Traffic Management System Requirements (Doc 9882). It also supports planning for local and regional implementation.

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

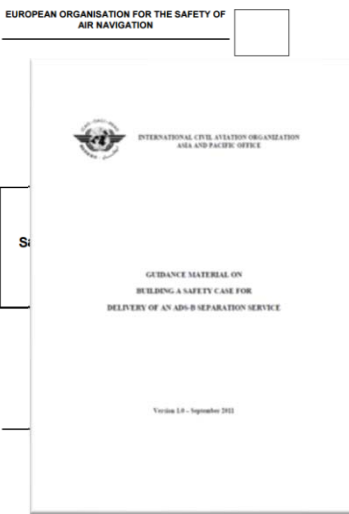
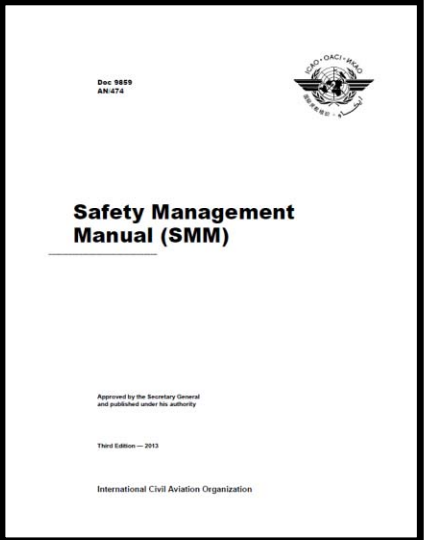
## STEP 4: IDENTIFICATION OPT. SOLUTION

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

Plus...

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

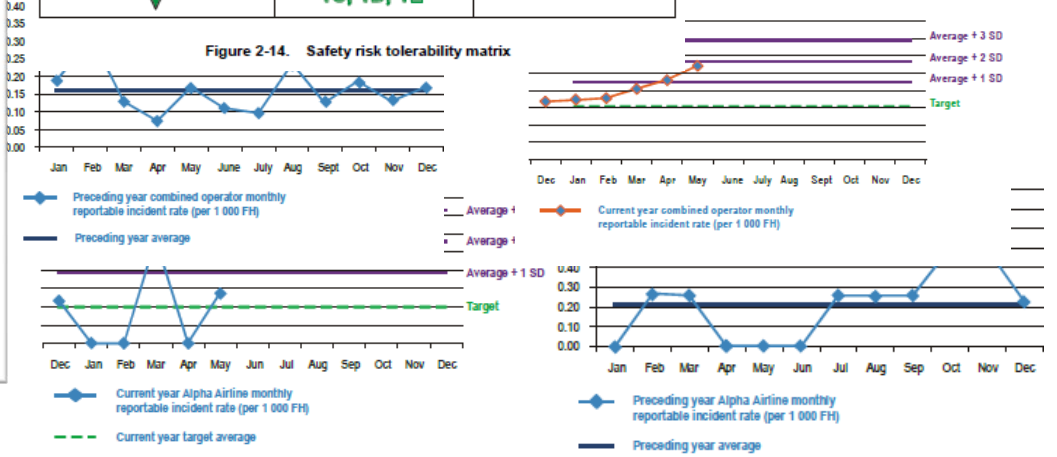
# Safety assessment guidance



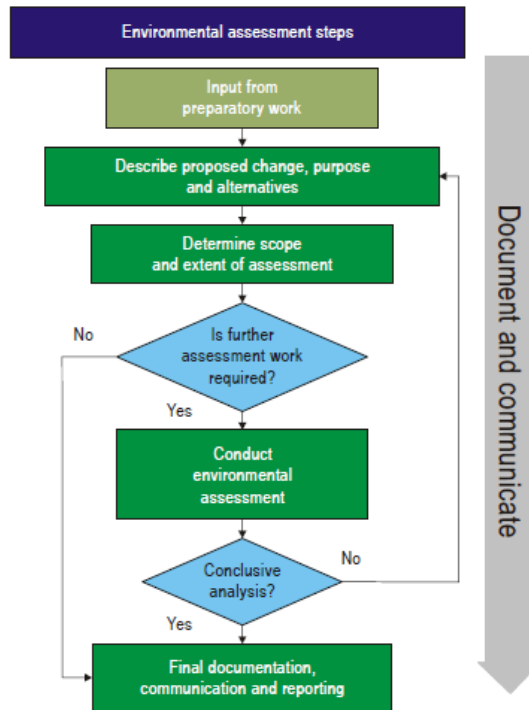
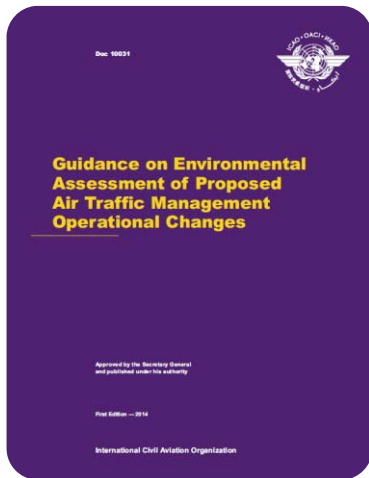
Tolerability description	Assessed risk index	Suggested criteria
Intolerable region	<b>5A, 5B, 5C, 4A, 4B, 3A</b>	Unacceptable under the existing circumstances
Tolerable region	<b>5D, 5E, 4C, 4D, 4E, 3B, 3C, 3D, 2A, 2B, 2C, 1A</b>	Acceptable based on risk mitigation. It may require management decision.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

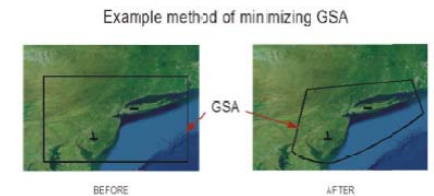
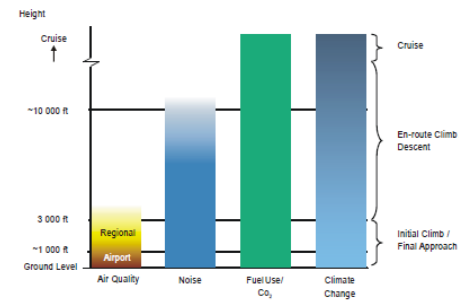
Risk severity				
Catastrophic	Hazardous	Major	Minor	Negligible
A	B	C	D	E
5A	5B	5C	5D	5E
4A	4B	4C	4D	4E
3A	3B	3C	3D	3E
2A	2B	2C	2D	2E
1A	1B	1C	1D	1E



# 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 <sub>2</sub>	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 fleet	\$500	
B. Percent of flights impacted by weather conditions below current minima <sup>2</sup>	15%	← apply to all users in
C. Percent of flights impacted by weather conditions below LPV minima <sup>2</sup>	10%	← apply to GATAS equi
D. Average hours duration of low visibility	1.5	
E. Percent of arriving aircraft equipped with GATAS	25%	
F. Discount rate for economic analysis	7%	

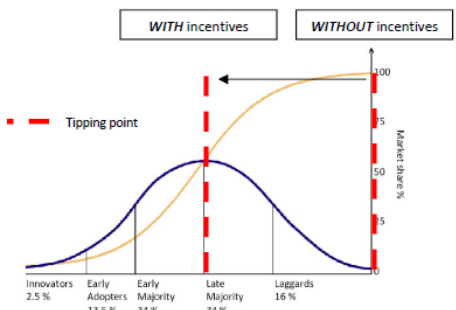
  

Costs	Year 0	Year 1	Year 2
- Procedure development (both runway ends)	\$250,000	\$20,000	\$20,000
- Procedure maintenance			
<b>TOTAL COST</b>	<b>\$250,000</b>	<b>\$20,000</b>	<b>\$20,000</b>
<b>DISCOUNTED COST (PV)</b>	<b>\$364,927</b>		

Benefits	Year 0	Year 1	Year 2
G. Annual arrivals equipped (Non-equip)			
H. Current annual equipped (Non-equip)			
I. Estimated hours equipped (Non-equip)			
J. Estimated hours value of delay			

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

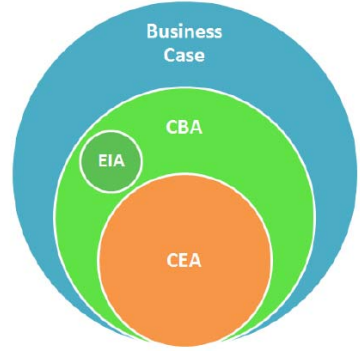
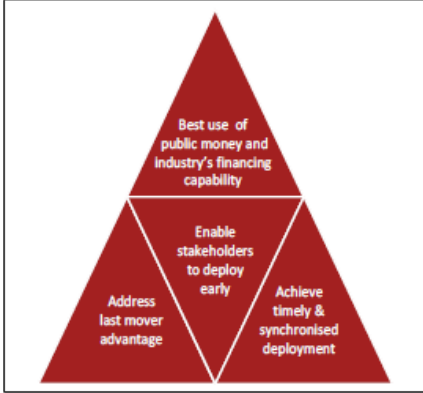


Figure 1 – Relationship between business case, CBA, CEA and EIA

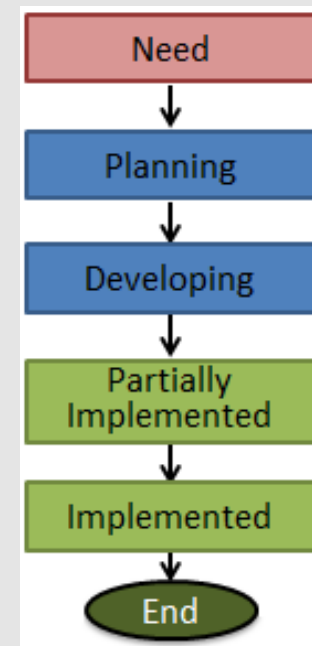
## STEP 4: IDENTIFICATION OPT. SOLUTION

- **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

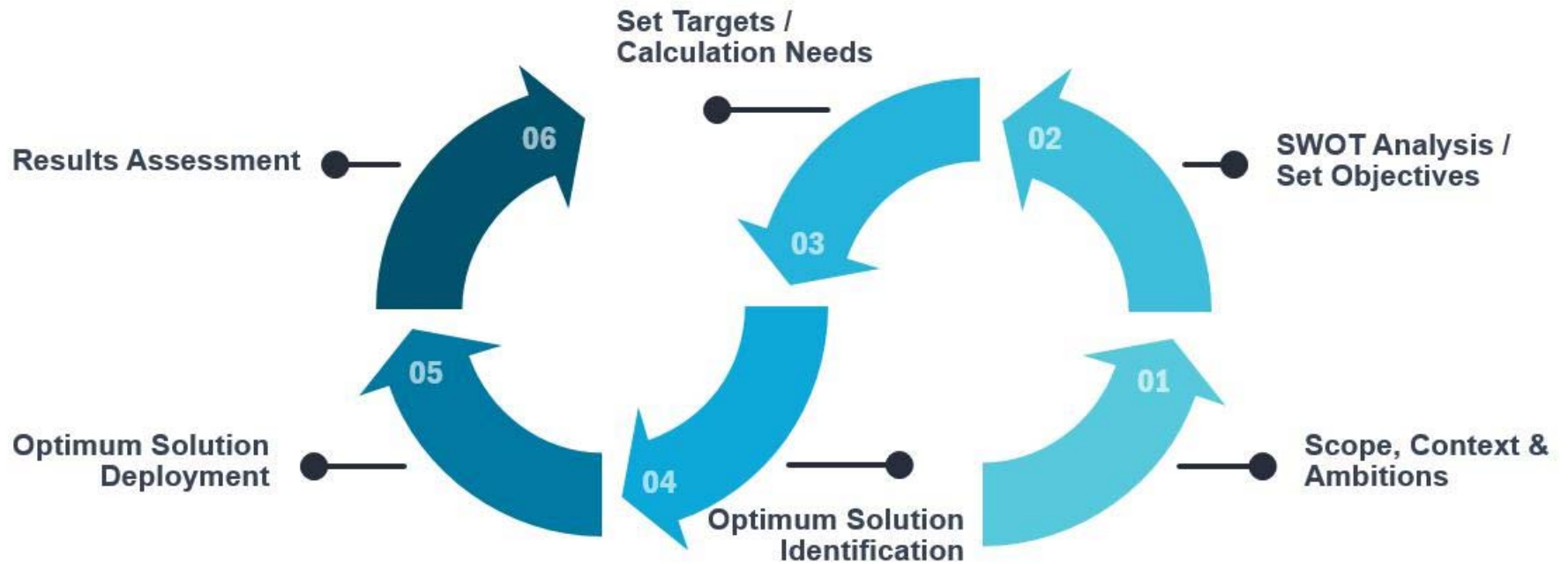
→ +(Step 1&2)=

**PERFORMANCE MONITORING AND REVIEW (PRM)**

## STEP 6: ASSESSMENT OF RESULTS

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

# Six steps Method



# Resources

- Skytalk

[#AirNavConf Skytalk: ICAO Global Air Navigation Plan \(GANP\) & Aviation System Block Upgrades \(ASBUs\) - YouTube](#)

- AN-SPA

[AN-SPA - ICAO GANP Portal](#)

# CONCLUSION

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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Thank You!