SAUDI NATIONAL AIR NAVIGATION PLAN (SNAP)

PRESENTED BY SAUDI ARABIA

Agenda Item 3

RANP/NANP TF/2

(Cairo, Egypt, 17-19 February 2025)

International Civil Aviation Organization

The second meeting of the RANP/NANP Task Force

(RANP/NANP TF/2)
(Cairo, Egypt, 17 – 19 February 2025)

Agenda Item 3: Progress achieved by States in the implementation of Performance Based Approach (PBA) and development of National Air Navigation Plan (NANP)

Saudi National Air Navigation Plan (SNAP)

(Presented by Saudi Arabi)

International Civil Aviation Organization

The second meeting of the RANP/NANP Task Force

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SUMMARY

This PPT presents a progress report to **ICAO-Mid states, Secretariate, and other intl' Organizations** under the Agenda items (3) And highlights **the MIDANPIRG CONCLUSION 21/3** regarding the NATIONAL AIR NAVIGATION PLAN (NANP) *"the MID States with support of ICAO MID Office develop their National Air Navigation Plan (NANP) by end of December 2024".* Therefore, GACA in collaboration with the industry, has developed the Saudi National Air Navigation Plan (SNAP), the SNAP was endorsed by GACA BoD in July 2024 after (12) months of consultation, assessment, validation and drafting process.

The Action by meeting meeting is at the end of the PPT.

CONTENT

This Content will be presented orally during the meeting

- OVERVIEW
- WHAT IS the SNAP?
- SNAP METHODOLOGY
- SNAP INITIATIVES
- RELATION BETWEEN SNAP & NASP

➢ **ACTION BY MEETING**

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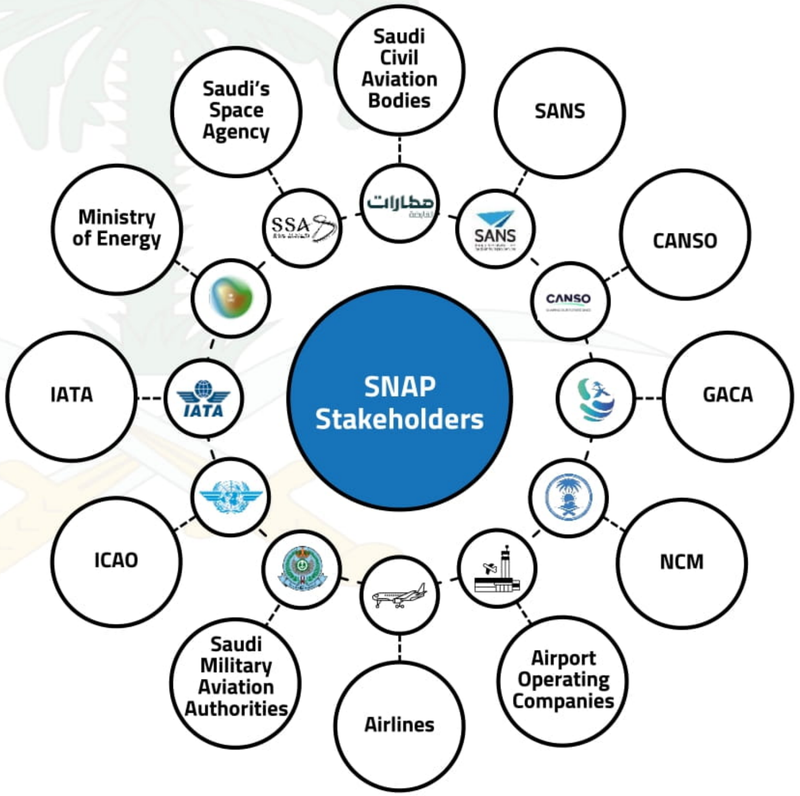
General Authority of Civil Aviation

This Content will be presented orally during the meeting

OVERVIEW

The SNAP journey started with the creation of a **comprehensive team-mix of professionals** with international expertise and technical know-how in the field of ANS. Moreover, a **large base of stakeholders** was identified.

20+
Professionals & SME
involved in the SNAP Development



38+
Stakeholders
contribute to the development of the SNAP

29+
Meetings & Workshops
with national, regional and international stakeholders

STAKEHOLDERS MAPPING

After being mapped, **Stakeholders** were **grouped** according to their levels of **engagement** and **influence** on the SNAP, and then consulted with the intent of capturing and including their feedback into the process.

INFLUENCE

ENGAGEMENT

ENGAGEMENT		INTERNAL	EXTERNAL	CONSULTANTS
		GACA	National, Regional and International organizations	Firms/Organizations
HIGH	Contribute directly to SNAP	Human Capital Project SSP & NASP Projects	SANS, DACO, مطارات الرياض riyadh airports, Tibah Airports, NEOM Airport, matarat مطارات, Cluster 2 تجمع مطارات الثاني, jedco Jeddah Airports, Red Sea Global	Contracted companies enav BLUE HORIZON ICT JERAISY GROUP
MEDIUM	Contribute indirectly to SNAP	Cyber-security Department AAM Project IT Department Seamless Operations	Public Investment Fund, المركز الوطني للأرصاد National Center for Meteorology, السعودية Saudia, flynas طيران ناس, طيران الرياض RIYADH AIR, طيران أديل flyadeal, SSA	Review & Validation support ALG
LOW	Informed about SNAP	CAESP Data Protection Officer	NEOM نيوم NEOM UTM WG, SANS SANS UTM, BOEING BOEING UTM, aramco, الأكاديمية السعودية للطيران المدني Saudi Academy of Civil Aviation, وزارة النقل والخدمات اللوجستية Ministry of Transport and Logistic Services, وزارة الطاقة MINISTRY OF ENERGY, THC THE HELICOPTER COMPANY, GEOSA General Authority for Survey and Geospatial Information	International Organizations ICAO CANSO SHAPING OUR FUTURE SKIES IATA

The SNAP journey continued with the **study of a set of strategic and technical documentation** and with the execution of a **SWOT analysis on the current Air Navigation System in KSA**.

OVERVIEW

100+

Analysed documents

The Statute of the General Authority, the GACA Civil Aviation Strategy, the State Safety Programme (SSP), The KSA Space Agency Strategy, the MID Regional Air Navigation Strategy, ICAO MID Air Navigation Plans Documents, Advanced Air Mobility Road Map…etc

8

Domains tackled by the SWOT analysis

CNS & Technologies; ATFM & Flexible Use of Airspace; Human Resources, Search & Rescue Operations; Air Navigation Services Operations; Airspace & Instrument Flight Procedure Design Assessment; AIM and MET services; Regulatory Framework.

Present & Future Challenges

Management of the Airspace Capacity

Airspace concept redefinition & introduction of solutions to increase capacity and accommodate the growing traffic demand

Infrastructure modernization & scale-up

Rationalization of ground infrastructure & conventional NAVAIDs to cut maintenance costs while maintaining adequate levels of efficiency and safety.

Integration of new airspace users

Lower Airspace: VTOLs; UAS, etc.
Higher Airspace: Supersonic flights, Balloons, etc.

Given the ambitions set by the KSA Vision 2030, the SWOT analysis showed that the **actual ANS will face Challenges in the efficiency while handling the expected increase in air traffic.** This was eventually confirmed by the outcome of the **Fast Time Simulations**.

NATIONAL AVIATION SECTOR STRATEGIC AMBITIONS

330 M Pax

4.5 million of tons in cargo

2.7M movements/year per APT

FAST-TIME SIMULATION EVIDENCE

OVERVIEW

	N Flights	JEDDAH WEST 37						
Hours	flights/h	2024	2025	2026	2027	2028	2029	2030
0	28	32.76	35.56	38.36	41.72	45.36	49.84	55.44
1	24	28.08	30.48	32.88	35.76	38.88	42.72	47.52
2	22	25.74	27.94	30.14	32.78	35.64	39.16	43.56
3	18	21.06	22.86	24.66	26.82	29.16	32.04	35.64
4	24	28.08	30.48	32.88	35.76	38.88	42.72	47.52
5	23	26.91	29.21	31.51	34.27	37.26	40.94	45.54
6	22	25.74	27.94	30.14	32.78	35.64	39.16	43.56
7	34	39.78	43.18	46.58	50.66	55.08	60.52	67.32
8	29	33.93	36.83	39.73	43.21	46.98	51.62	57.42
9	28	32.76	35.56	38.36	41.72	45.36	49.84	55.44
10	33	38.61	41.91	45.21	49.17	53.46	58.74	65.34
11	28	32.76	35.56	38.36	41.72	45.36	49.84	55.44
12	35	40.95	44.45	47.95	52.15	56.7	62.3	69.3
13	25	29.25	31.75	34.25	37.25	40.5	44.5	49.5
14	28	32.76	35.56	38.36	41.72	45.36	49.84	55.44
15	29	33.93	36.83	39.73	43.21	46.98	51.62	57.42
16	25	29.25	31.75	34.25	37.25	40.5	44.5	49.5
17	30	35.1	38.1	41.1	44.7			
18	30	35.1	38.1	41.1	44.7			
19	31	36.27	39.37	42.47	46.19			
20	21	24.57	26.67	28.77	31.29			
21	21	24.57	26.67	28.77	31.29			
22	29	33.93	36.83	39.73	43.21	46.98	51.62	57.42
23	28	32.76	35.56	38.36	41.72	45.36	49.84	55.44

Legenda
- 37 - 40
- 41 - 45
- 46 - 50
- > 51

JEDDAH WEST sector is expected to reach the Capacity by the **end of 2025**

JEDDAH TMA 34			
Hours	2024	2025	2026
0	37.44	40.64	43.84
1	26.91	29.21	31.51
2	46.8	50.8	54.8
3	46.8	50.8	54.8
4	40.95	44.45	47.95
5	49.14	53.34	57.54
6	37.44	40.64	43.84
7	51.48	55.88	60.28
8	54.99	59.69	64.39
9	42.12	45.72	49.32
10	53.82	58.42	63.02
11	49.14	53.34	57.54
12	43.29	46.99	50.69
13	45.63	49.53	53.43
14	54.99	59.69	64.39
15	58.5	63.5	68.5
16	53.82	58.42	63.02
22	45.63	49.53	53.43
23	42.12	45.72	49.32

Legenda
- 34 - 37
- 38 - 41
- 42 - 46
- > 47

JEDDAH TMA sector is expected to reach the Capacity **as early as 2024**

Hence, we must act now to make sure the ANS is ready to manage the change!

RIYADH TMA 37				
Hours	flights/h	2024	2025	2026
0	21	24.57	26.67	28.77
1	19	22.23	24.13	26.03
2	24	28.08	30.48	32.88
3	30	35.1	38.1	41.1
4	26	30.42	33.02	35.62
5	28	32.76	35.56	38.36
6	24	28.08	30.48	32.88
7	33	38.61	41.91	45.21
8	37	43.29	46.99	50.69
9	24	28.08	30.48	32.88
10	38	44.46	48.26	52.06
11	40	46.8	50.8	54.8
12	32	37.44	40.64	43.84
13	38	44.46	48.26	52.06
14	35	40.95	44.45	47.95
15	43	50.31	54.61	58.91
16	39	45.63	49.53	53.43
17	38	44.46	48.26	52.06
18	28	32.76	35.56	38.36
19	34	39.78	43.18	46.58
20	42	49.14	53.34	57.54
21	26	30.42	33.02	35.62
22	28	32.76	35.56	38.36
23	26	30.42	33.02	35.62

Legenda
- 34 - 37
- 38 - 41
- 42 - 46
- > 47

RIYADH TMA sector is expected to reach the Capacity **as of 2025**

In addition to addressing the airspace capacity issue, the SNAP will provide the Aviation Sector with additional benefits in different **Key Performance Areas (KPA).**

OVERVIEW

KPA	Indicator	Baseline (2023)	Benchmark
TRAFFIC VOLUME	KPI 06 IFR Mov./Y	850,000	N/A (KSA Target is 2.7 Million flights by 2030)
OPS EFFICIENCY	KPI 02 Additional Taxi-out time KPI 13 Additional Taxi-in time	+ 6 minutes/flight* + 14 minutes/flight*	State 1: + 1.2 Minutes** / + 2.6 minutes** State 2: + 10.3 Minutes / +1.2 Minutes EU: + 4.1 Minutes / +1.2 Minutes State 3: + 5,3 Minutes / + 4,2 Minutes
PREDICTABILITY	KPI 01 Departure Punctuality KPI 14 Arrival Punctuality	81% (of flights)* 25% (of flights)*	State 1: 68% (of flights) / 51% (of flights) State 2: 60% (of flights) / 50% (of flights) EU: + 65% (of flights) / + 71% (of flights) State 3: + 69% (of flights) / + 60% (of flights)
ENVIRON. SUSTAINABILITY	FUEL BURNT Avg. Co2 Emission Tons/flight (gate to gate)	13	5 to 10% reduction

Above, the baselines were calculated for an exemplificative sample of KPAs and then benchmarked against some middle East states and Europe.

NOTE:
(*) Such data represent the average outcome considering what is detectable at the 4 main Saudi airports (Riyadh, Jeddah, Dammam and Madina)
(**) Only some busy Regional airports are considered for benchmarking purposes

After the baselines' calculations and the benchmark activity's completion**, performance ambitions were set for the selected KPAs.**

KPA	Indicator	Baseline (2023)	Ambition/Target (2030)
TRAFFIC VOLUME	KPI 06 IFR Mov./Y	850,000	**3-fold increase** 2.7 M Mov./Y
OPS EFFICIENCY	KPI 02 Additional Taxi-out time KPI 13 Additional Taxi-in time	+ 6 minutes/flight* + 14 minutes/flight*	**+66%** +2 minutes/flight + 5 minutes/flight
PREDICTABILITY	KPI 01 Departure Punctuality KPI 14 Arrival Punctuality	81% (of flights)* 25% (of flights)*	**+55%** 90% of departing flights 50% of arriving flights
ENVIRON. SUSTAINABILITY	FUEL BURNT Avg. Co2 Emission Tons/flight (gate to gate)	13	**+5% to 10%** 12,49 (5%) 11,83 (10%)

NOTE:
(*) Such data represent the average outcome considering what is detectable at the 4 main Saudi airports (Riyadh, Jeddah, Dammam and Madina)

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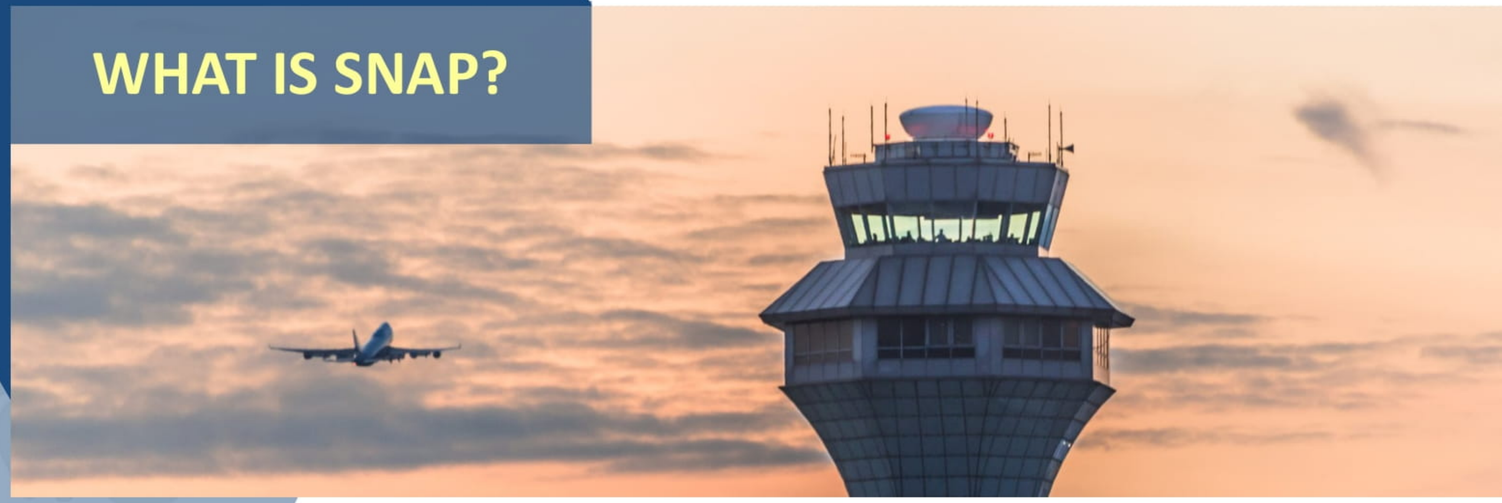
WHAT IS SNAP?

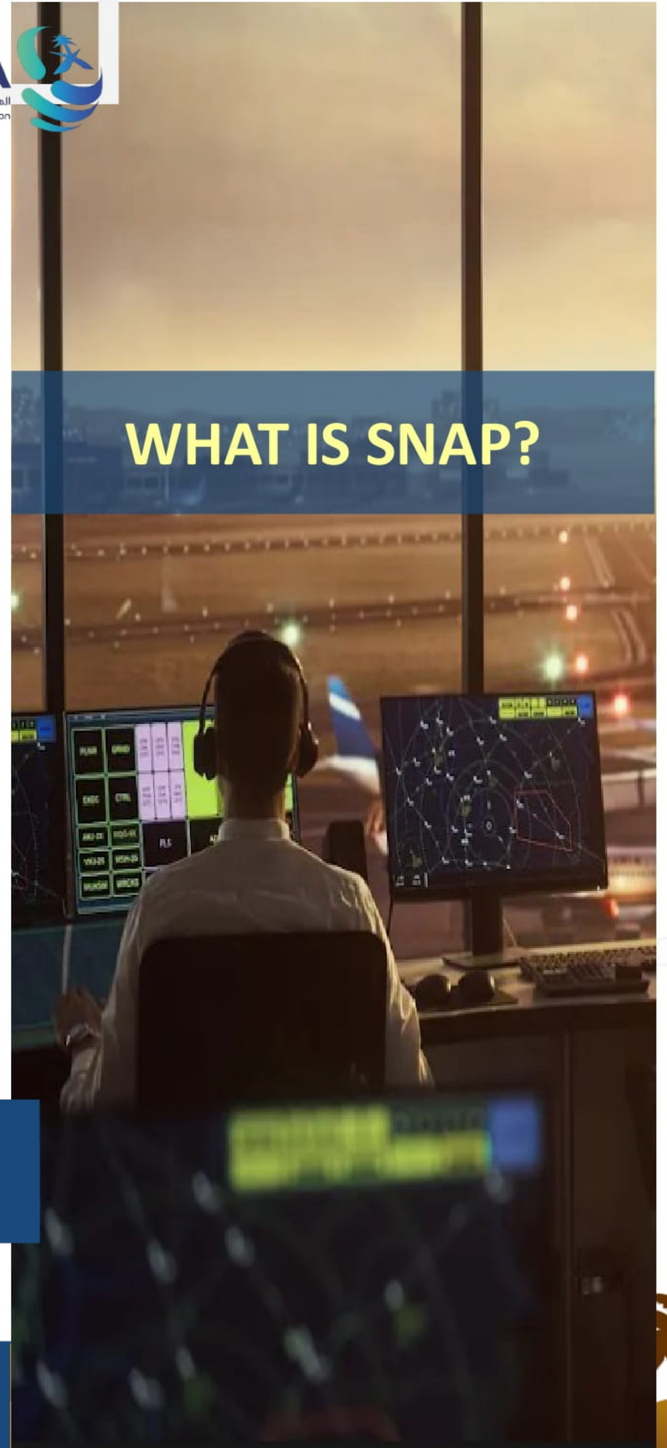
This Content will be presented orally during the meeting

WHAT IS SNAP?



The **Saudi National Air Navigation Plan (SNAP)** is a strategic initiative launched by GACA to meet the **objectives of the Vision 2030** and address the **challenges in KSA's Air Navigation System (ANS)** in the next 15 years.

- SNAP aims to raise the level of **capacity**, **operational efficiency**, **safety**, **flexibility**, and **environmental sustainability** in Saudi Arabia air navigation, aligning with the nation's vision for sustainable growth and modernization.
- Structured into **five layers**, SNAP encompasses comprehensive **data collection, stakeholder consultations, selection and prioritization of strategic initiatives and projects** to upscale the airspace and air navigation infrastructure/services.



WHAT IS SNAP?

The SNAP is a strategic “living” plan that emerges as a crucial endeavour to **address and bridge gaps** in the KSA's aviation infrastructure and management systems and **tackle the upcoming aviation challenges**.

What SNAP will be used for?

- To serve as the **primary forum for stakeholders’ collaboration and interaction**
- To position the KSA at the **forefront of advanced operations and technologies’ adoption**
- To ensure **ICAO global obligations compliance** fostering international cooperation and secure operations
- To support the **capacity building process** in the KSA by reskilling and upskilling ANS personnel
- To accommodate the **operating and regulatory environment for new airspace entrants**

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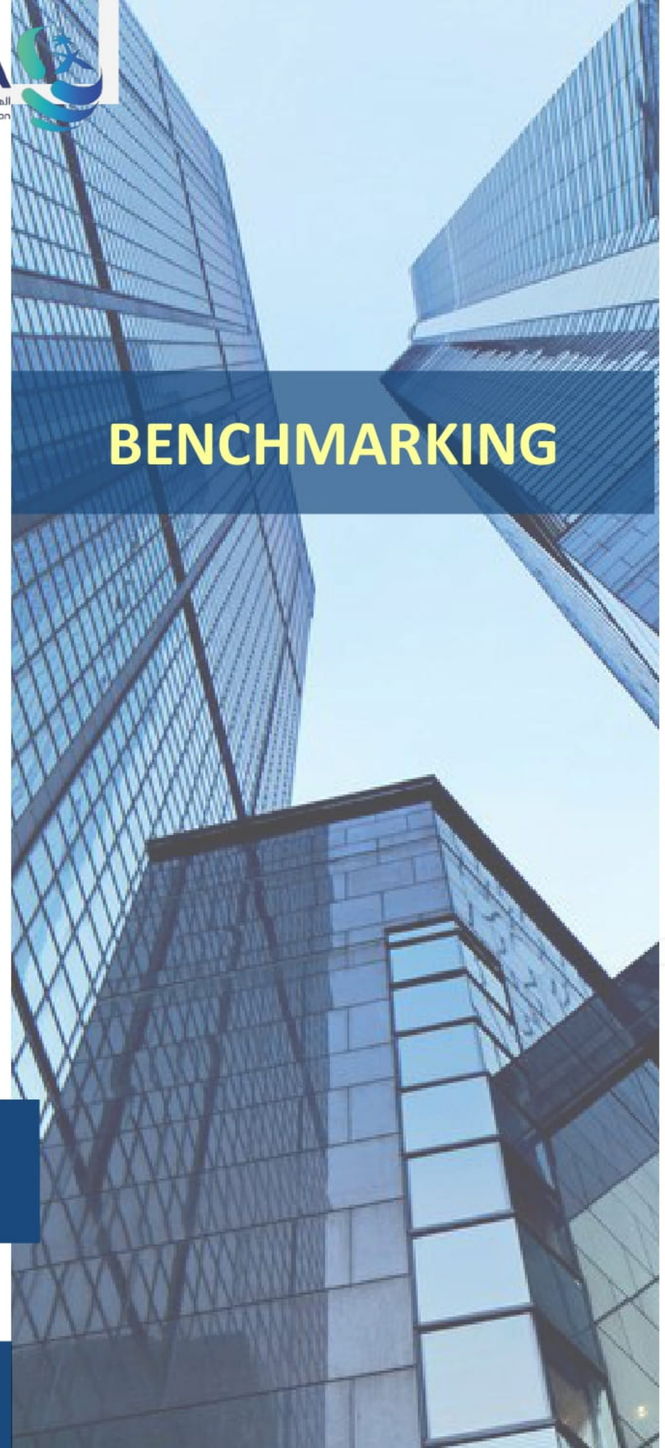
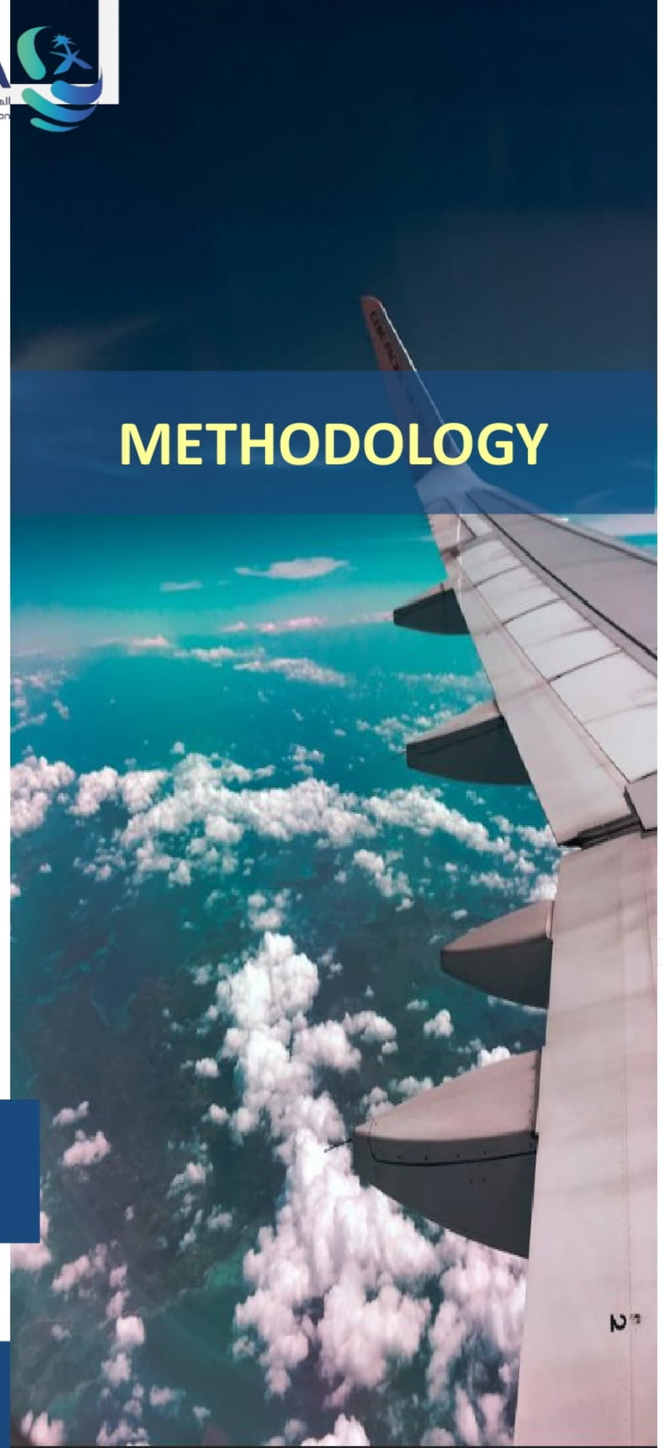
SNAP METHODOLOGY



BENCHMARKING

Some main **international leading States and organizations** were taken as a **benchmark**

ORGANIZATION	REFERENCE	STATUS	CRITERIA		
			TIMEFRAME	SCOPE	TRAFFIC COMPLEXITY
GACA	**SNAP Saudi National Air Navigation Plan**	**Under Development**	**2025 - 2040**	**Align with ICAO GANP framework & national needs**	**High**
ICAO	ICAO GANP PORTAL Global Air Navigation Plan	(7th Edition)	2013 - 2033	Gate to gate ops. (GANP)	N.A.
Federal Aviation Administration	NextGEN Next Generation Transportation System (NextGen)	Issued	Recurring	Contribute to ICAO GANP framework.	High
sesar JOINT UNDERTAKING	EUROPEAN ATM MASTER PLAN SESAR European ATM Master Plan	Issued	Until 2035	Contribute to ICAO GANP framework.	High
	Airspace Modernization Strategy 2023–2040	Issued	Until 2040	Align with ICAO GANP framework	High
	Air Traffic Management Transformation Development of an ATM Centre of Excellence	Under Development	Until 2025	Align with ICAO GANP framework	Medium
	OneSKY Australia program Transformation of ATM in Australia over 20 Years	Issued	Until 2038	Align with ICAO GANP framework	Medium
	Kuwait NANP presented at ICAO MID 2024 RANP/NANP TF	Issued	2023-2028	Align with ICAO GANP framework	Medium
	UAE's NANP Progress First Meeting of the RANP/NANP Task Force (RANP/NANP TF/1) UAE NANP presented at ICAO MID 2024 RANP/NANP TF	Under Development	Until 2033	Align with ICAO GANP framework	Medium
Other MID Region States		Not started	N.A.	ICAO MID (RANP)	N.A.



METHODOLOGY

The SNAP is developed leveraging on the **Performance Based Approach (PBA)**, a best practice identified in the **ICAO Doc 9883** and articulated in 6 logical steps.

ICAO PBA Approach

1 2 3 4 5 6

1 DEFINITION OF SCOPE, CONTEXT, AMBITIONS AND EXPECTATIONS

Definition of the SNAP scope and context and of the KSA ANS Strategy & Policy as well as preliminary identification of performance ambitions and expectations through input data analysis and first round of Stakeholder Consultation

2 IDENTIFICATION OF OPPORTUNITIES, ISSUES AND OBJECTIVES SETTING

Recognition of strengths, weaknesses, issues and opportunities for ANS modernization and initial identification of implementation objectives through a SWOT analysis

3 QUANTIFICATION OF OBJECTIVES

Analysis of the expected benefits to be delivered by through the identified implementation objectives taking into account ICAO KPAs and KPIs

SELECTION OF SOLUTIONS 4

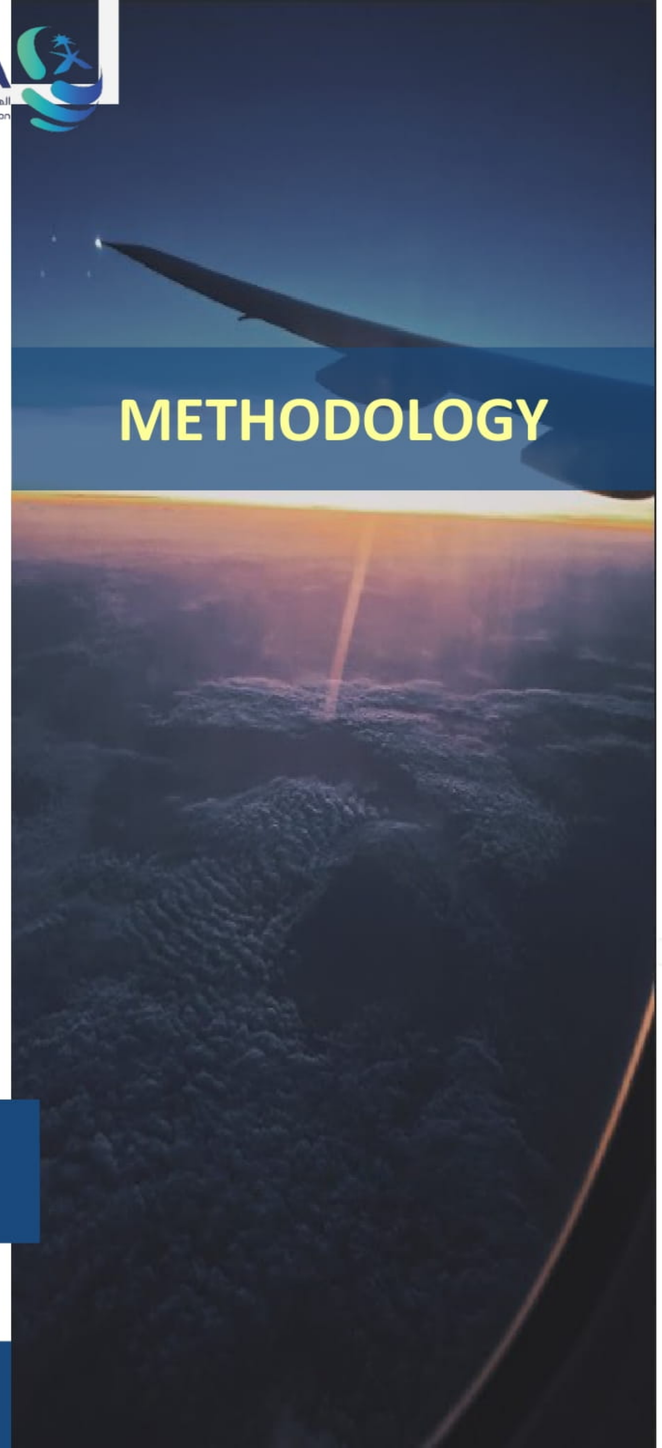
Identification of the most suitable deployment scenarios that ensure the achievement of the performance ambitions and expectations

IMPLEMENTATION OF SOLUTIONS 5

Definition of roadmaps by aggregating deployment scenarios for each Stakeholder category

REVIEW AND ASSESSMENT ON THE ACHIEVEMENT OF THE OBJECTIVES 6

Definition of methodology and process for monitoring and reporting on SNAP implementation and performance



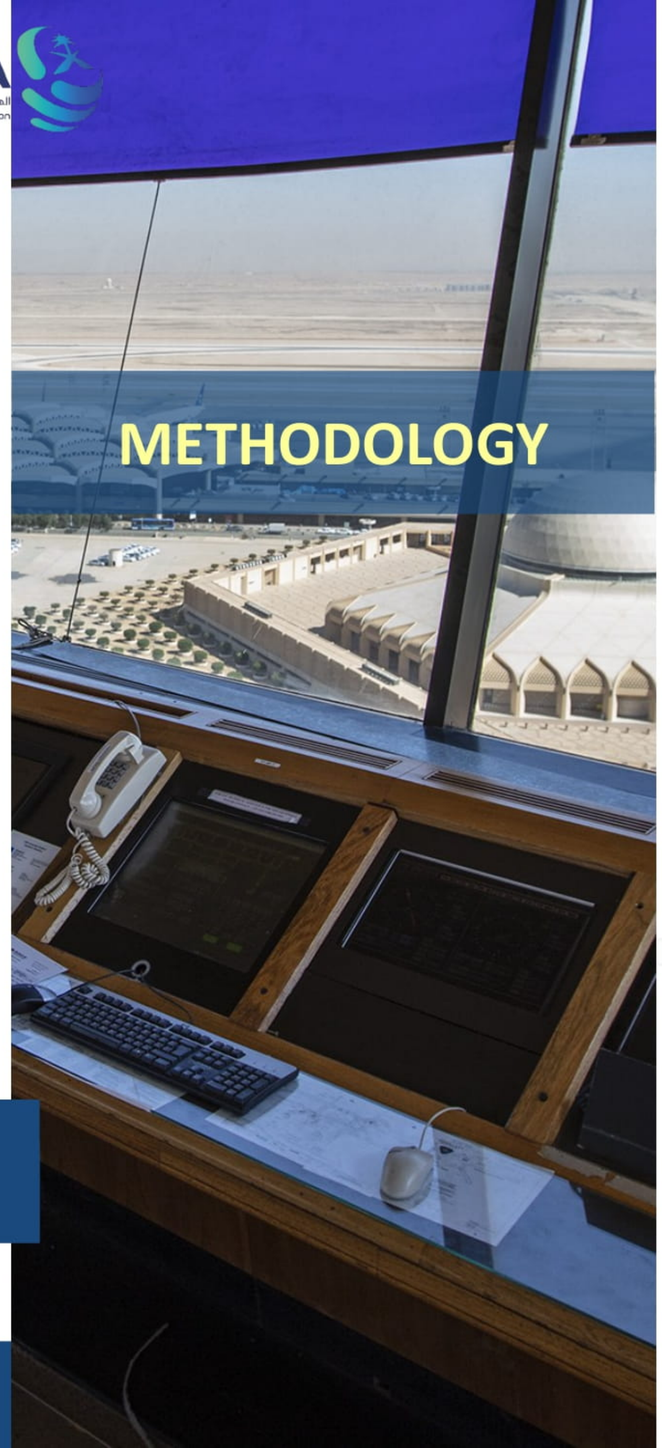
METHODOLOGY

The SNAP project is arranged into **3 phases and 8 stages.**

The delivery of the **first version of the SNAP and its adoption as the official Air Navigation Plan of Saudi Arabia** is expected **by end of July 2024**.

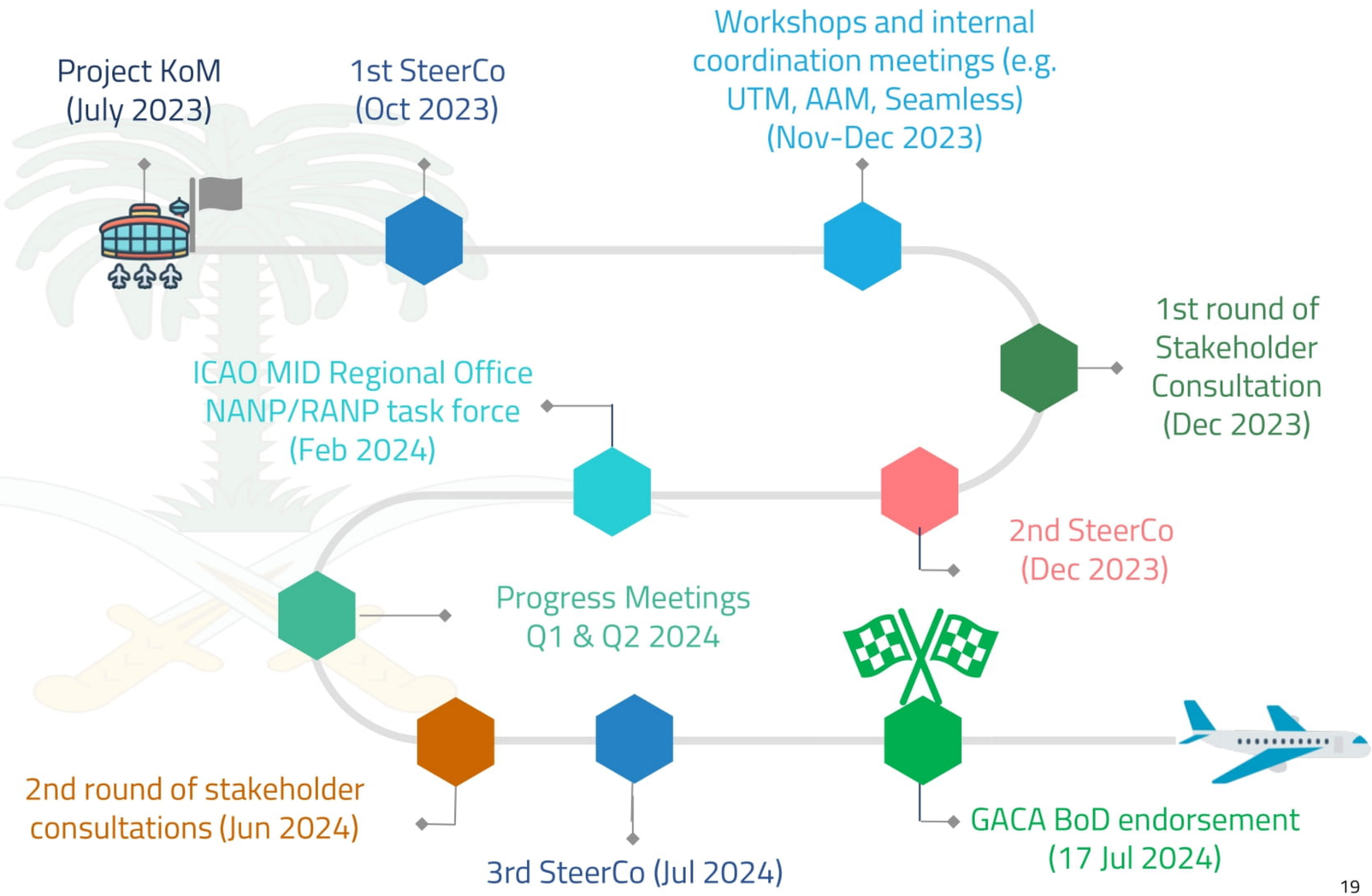
Assessment	*Stage 1*	Review of Q&A and Kick-off meeting	**Q2/23**
	Stage 2	Data collection & drafting of SNAP proposal	**Q3/23**
Development & Validation	*Stage 3*	Stakeholder consultation – Round 1.	**Q4/23**
	Stage 4	Validation & adoption of SNAP	**Q1/24**
Adoption	*Stage 5*	Definition of list of SNAP initiatives & business cases	**Q2/24**
	Stage 6	Stakeholder consultations Round 2.	**Q3/24**
	Stage 7	Endorsement of SNAP & Web Portal design	
	Stage 8	Lunch eSNAP portal	
Grace Period	***Institutional Relations, Communication & Promotion***		**Q4/24**

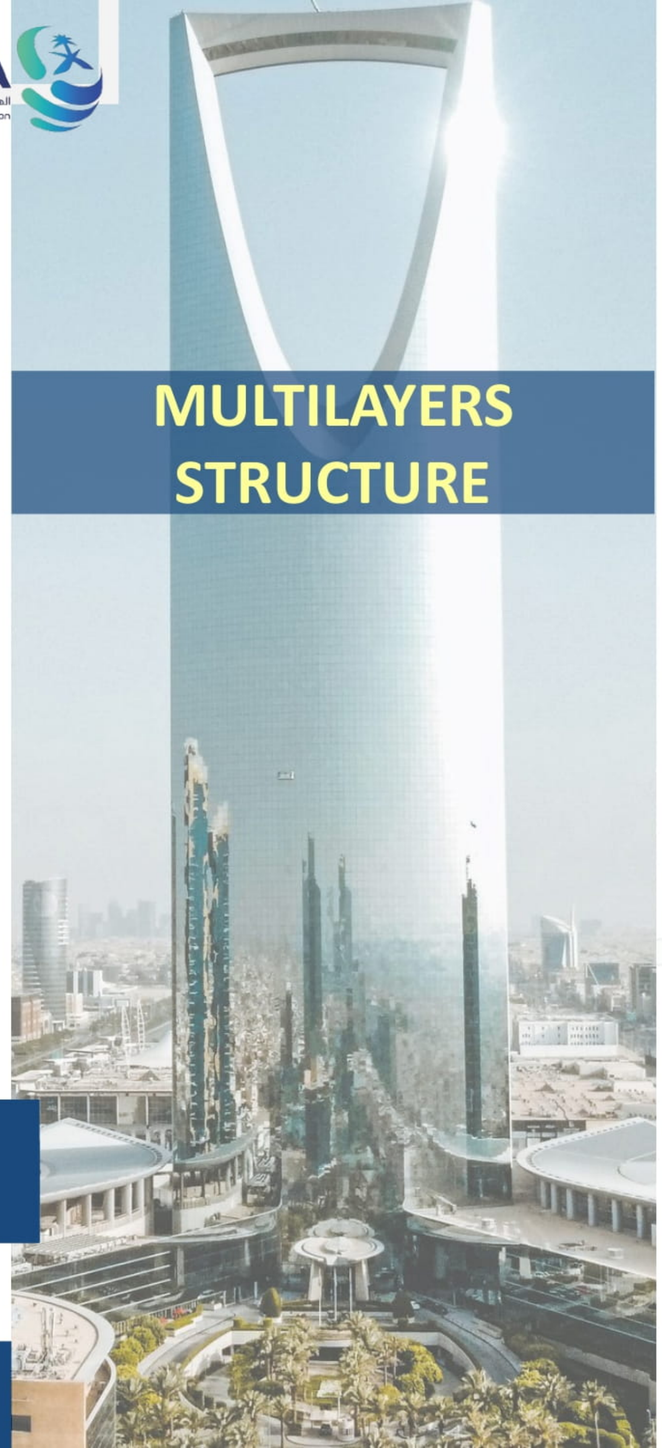
Planed Execution
2025



METHODOLOGY

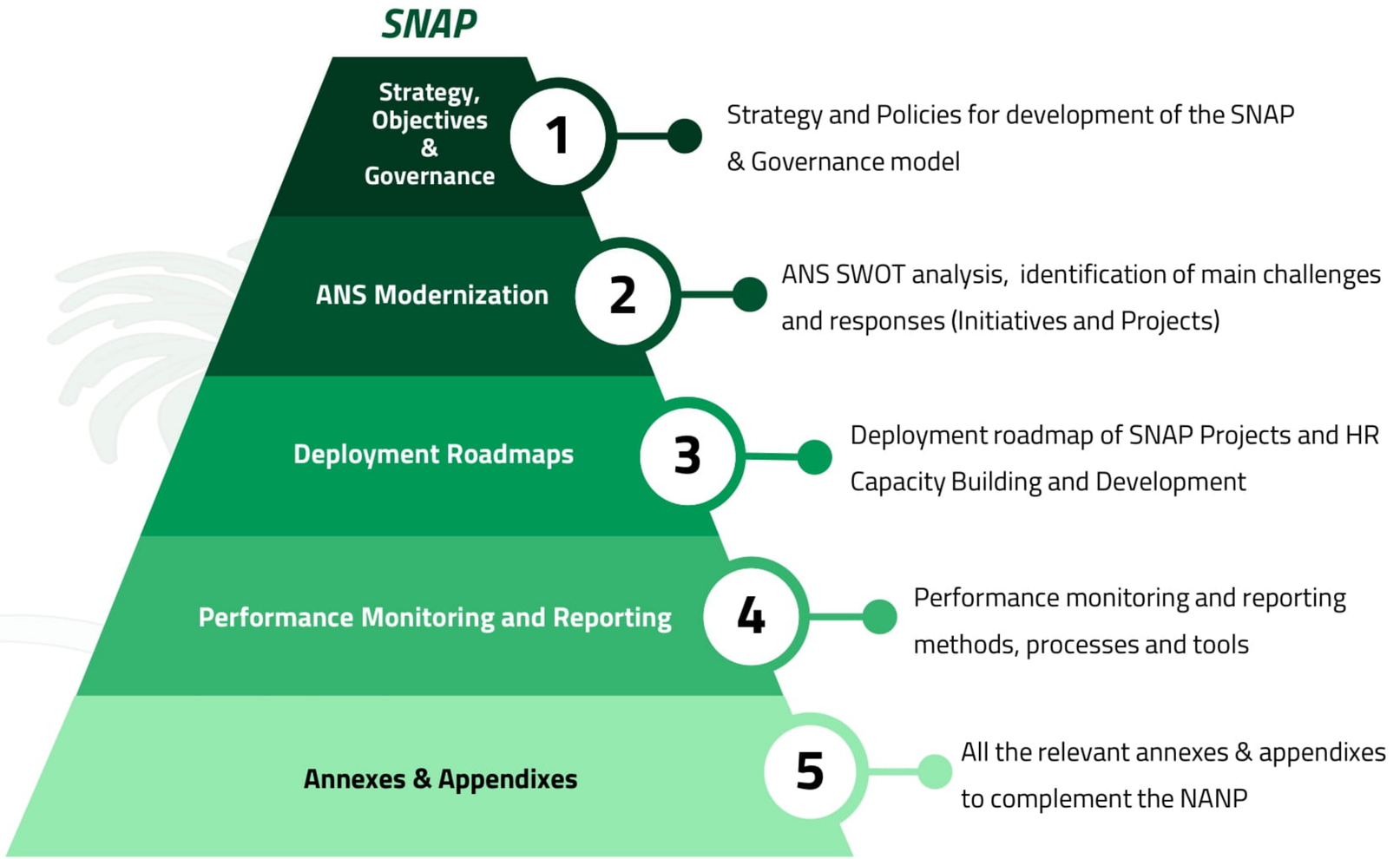
To get to where we are, the SNAP has gone trough a multitude of **workshops**, **stakeholders' consultation sessions** and **progress meetings** with the GACA management. Below, an overview on the main project's milestones is illustrated:





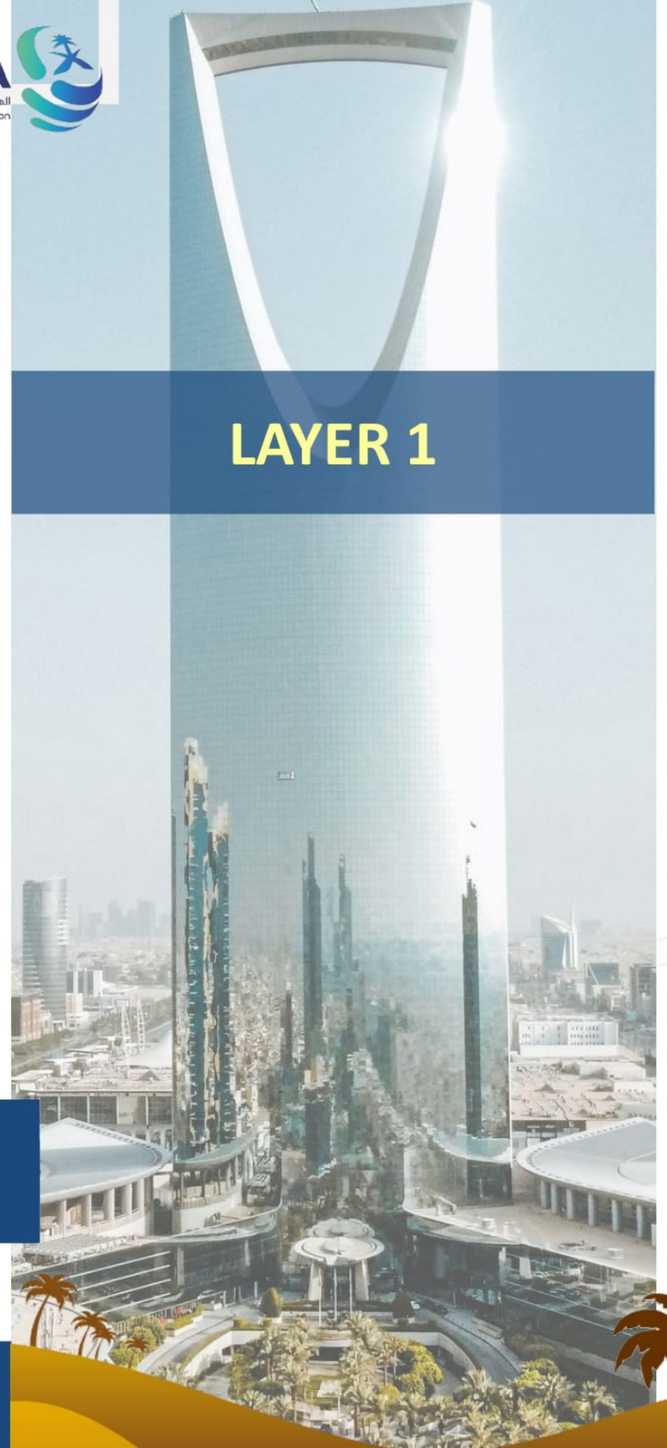
MULTILAYERS STRUCTURE

SNAP consists of a **5-layered structure** (ICAO compliant)



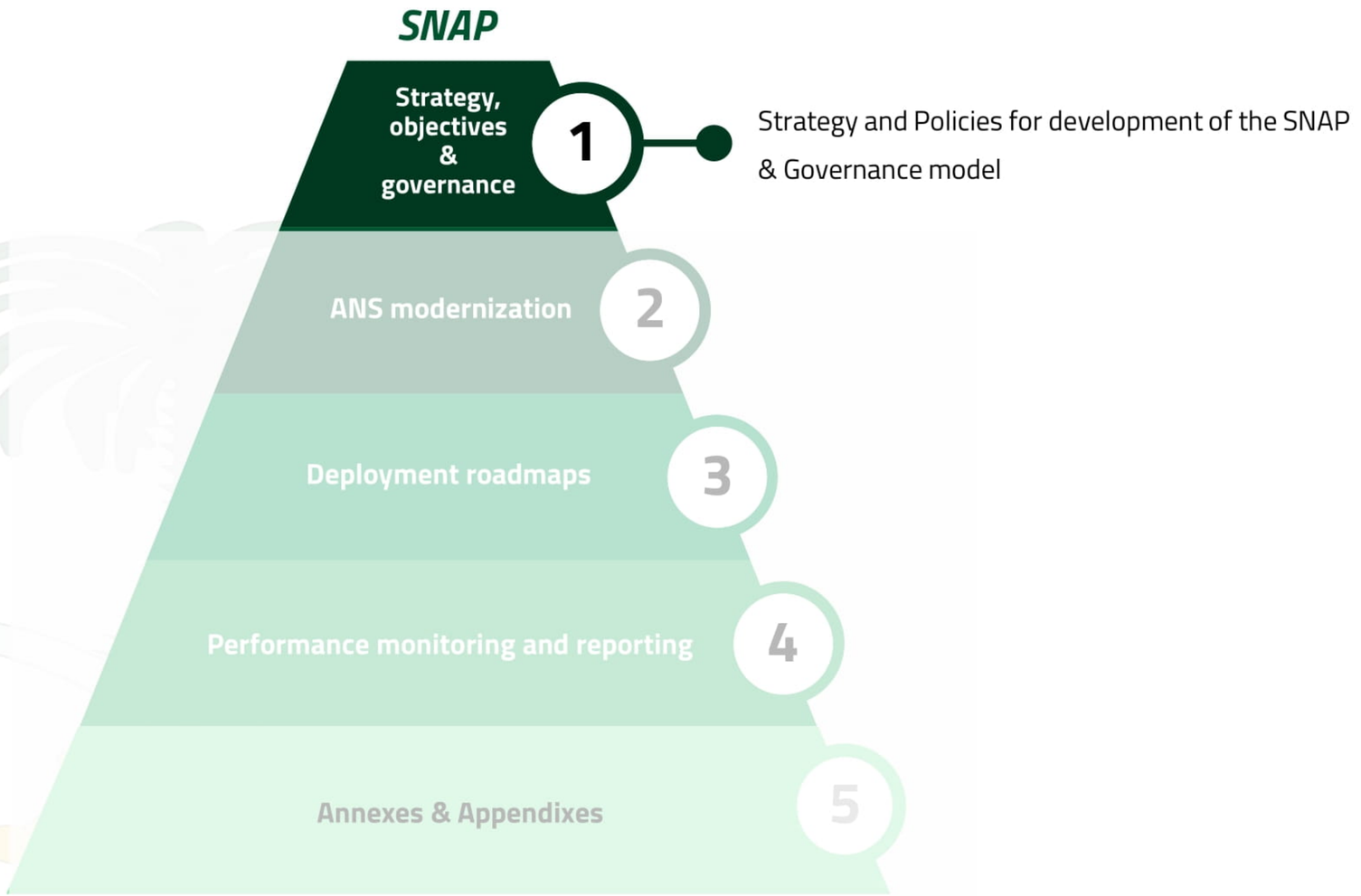
Accessible anytime, anywhere, by any device, through a collaborative Web-Portal

WEB PORTAL READINESS = 99%

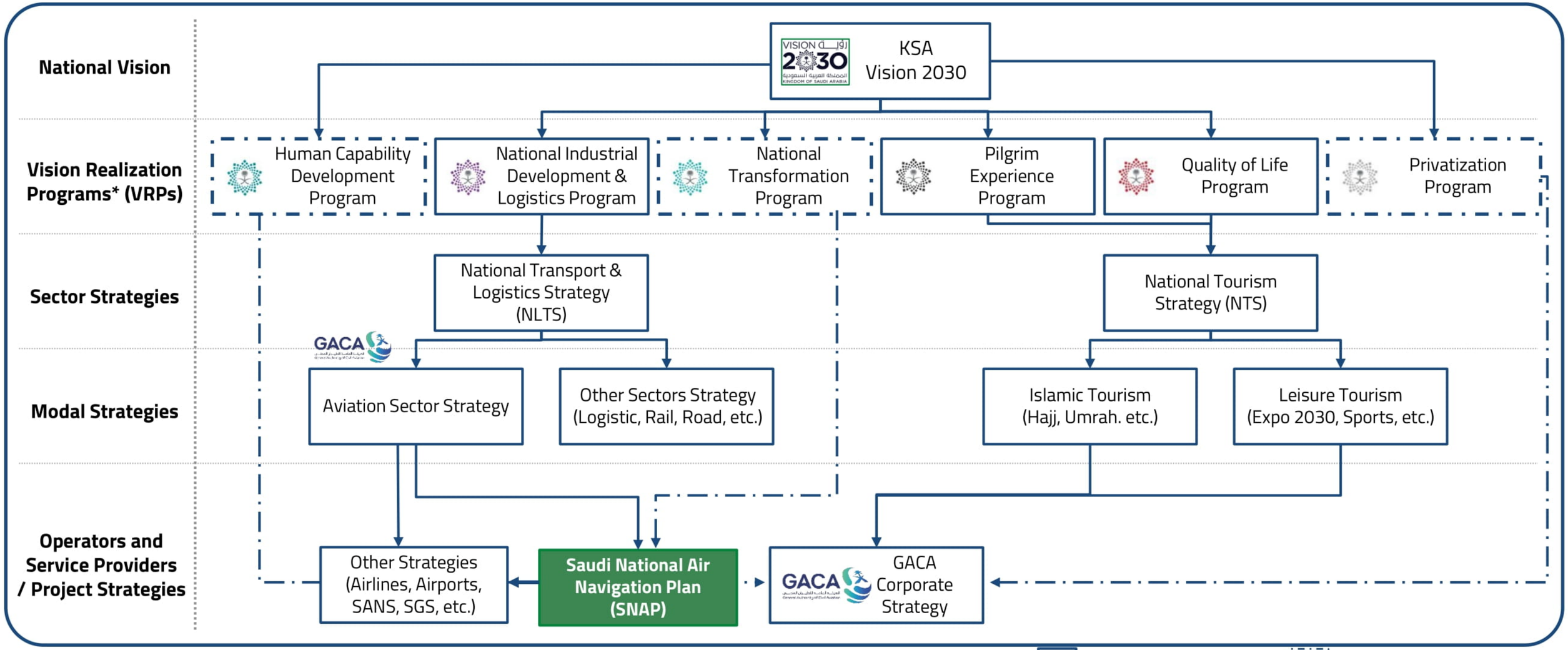


LAYER 1

SNAP consists of a **5-layered structure** (ICAO compliant)



The SNAP is framed within the National Vision embedded in the reference document **KSA Vision 2030**.



*not all the VRPs have been represented, but just the ones that have connection with GACA Strategy and SNAP

LEGENDA Major Link to SNAP Softer Link to SNAP

The **GACA Vision** & **Mission for ANS modernization** constitute the backbone of the SNAP strategy. Three alternative options were presented to the Steering Committee. Option 1 was eventually endorsed.

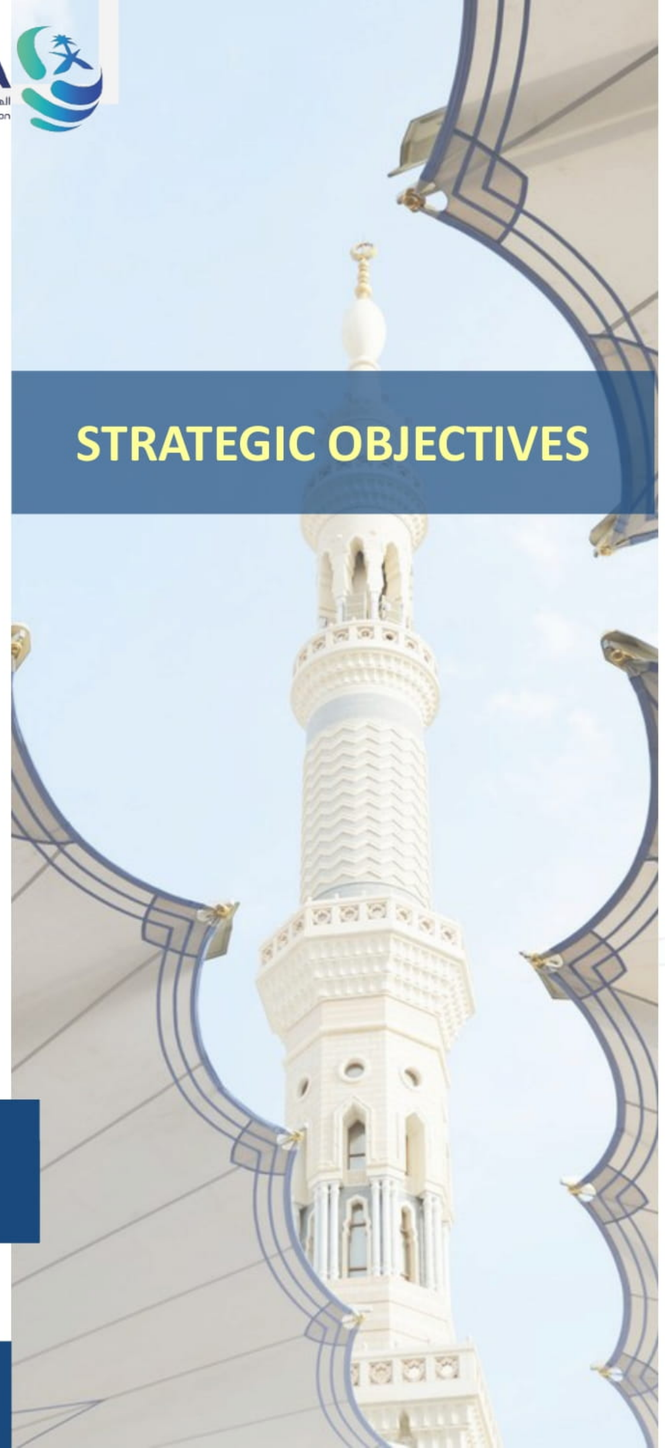
SNAP VISION

GACA Vision for ANS modernization: to contribute to make KSA the **leading aviation market in the Middle East**, through modernization, innovation and digitalization of Air Nav services that support the transformation of the Kingdom in a **regional hub for tourism, trade** and **logistics**.

A NATIONAL AIR NAVIGATION PLAN WILL ALLOW THE KSA TO
UNLEASH THE FULL POTENTIAL OF ITS AIRSPACE…
"AN INTANGIBLE ASSET TO FOSTER A TANGIBLE GROWTH"

SNAP MISSION

GACA Mission for ANS modernization: to provide Civil Aviation Stakeholders with guidelines and tools to focus efforts and investments towards a common target: **safe**, **efficient and sustainable Air Nav services** powered by **cutting-edge infrastructure.**



STRATEGIC OBJECTIVES

Based on the Vision and Mission set for the ANS sector, **4 pillars** with related **strategic objectives** have been defined, powered by **4 enablers.**

SNAP VISION
MISSION

PILLARS

Operations	Technology	Infrastructure	Regulation & Policy

STRATEGIC OBJECTIVES

Operations	Technology	Infrastructure	Regulation & Policy
• Implement the **most innovative Concept of Operations** to increase ANS performance • Integrate **Very-low-Level/Higher Operations** within the **ATM** • Reduce **environmental impact of operations**	• Deploy the **most innovative technological solution** as derived from global best practices • Enhance **integration** and **interoperability** of IT-based ANS systems • Increase **cyber-security** for IT-based ANS systems	• Optimize the **airspace** and **advanced CNS infrastructure**	• Develop a comprehensive **ANS regulatory framework** with a focus on the integration of new entrants • Guarantee compliance with ICAO GANP framework

ENABLERS

Governance	Human Capital	Digital Transformation	Funding
Coordination and **collaborations among Stakeholders** and promotion of SNAP at **regional** and **international scale**	**Roadmap for human capital development** and a **strategy for talents' attraction**	**A Digital Platform (eSNAP)** for the management of Stakeholders, the update and monitoring of SNAP	**Funding mechanisms** in coordination with other strategies and Stakeholders (e.h Human Resources Dept.)

SNAP Ref: 1.7 SNAP Objectives and ambitions

Based on the GACA Vision and Mission for ANS modernization, a total of **11 Main Objectives** and **5 ambitions** have been defined. Each objective is also divided in a set of sub-objectives that can be consulted in Layer 5 *(§ 5.3 SNAP sub-objectives)*

OBJECTIVES & AMBITIONS

SNAP OBJECTIVES IS TO ..

Capacity building and development — 11

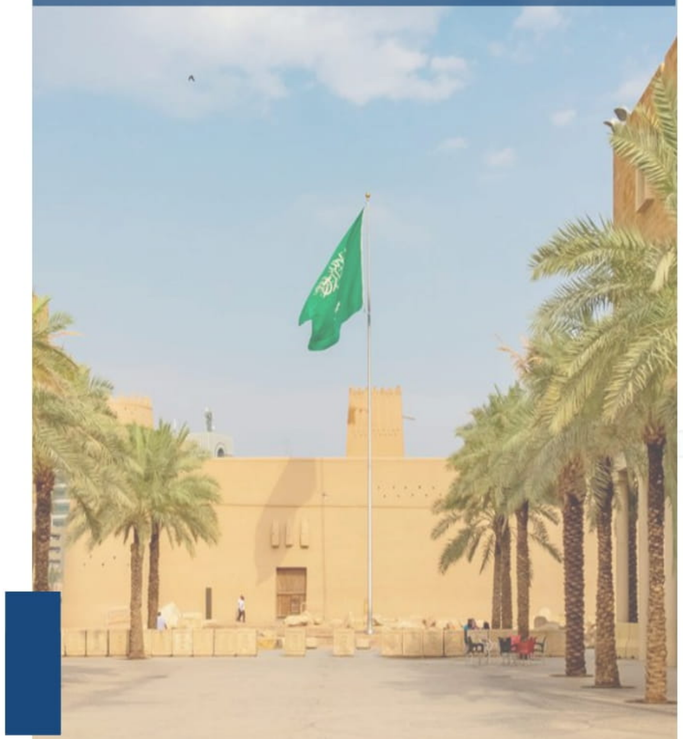
1. ***Enable*** *the achievement of KSA Aviation Sector Strategy Objectives*
2. ***Ensure*** *the respect of adequate standards of Safety*
3. ***Implement*** *a new generation of ATM Ops and Tech solutions to enable increase in Capacity, Efficiency, Predictability and Env. Sustainability*
4. ***Secure*** *progressive and smooth integration of new entrants (e.g. UAS, RPAS, and Space launches)*
5. ***Ease*** *Military and Civil cooperation in the management of the airspace and access to ANS services*
6. ***Improve*** *ANS network system resilience against disruption or threats (e.g. cyber-threats)*
7. ***Ensure*** *application of Environmental Sustainability principles*
8. ***Define*** *interoperable ANS, collaborative network and integrated CNS infrastructure for accurate operational information-sharing*
9. ***Develop*** *regulatory framework supporting innovation and ANS modernization aligning with regional and international standards*
10. ***Activate*** *digital transformation of ANS infrastructure systems, fostered by new technologies, automation and increased connectivity*

SNAP SUBSIDIARY OBJECTIVES (Refe to to the Master Doc)

SNAP AMBITIONS

- To serve as the **primary forum/arena for the Civil Aviation Stakeholders' collaboration and interaction** in KSA
- To represent the **strategic reference for other Stakeholders' strategies** (e.g. airport operators, airlines, etc.)
- To attract **new talents** to the ANS sector
- To promote **ANS global interoperability** at national, regional and international arenas.
- To contribute to **the reduction of the environmental footprint of the entire aviation sector** in line with the CAESP program.

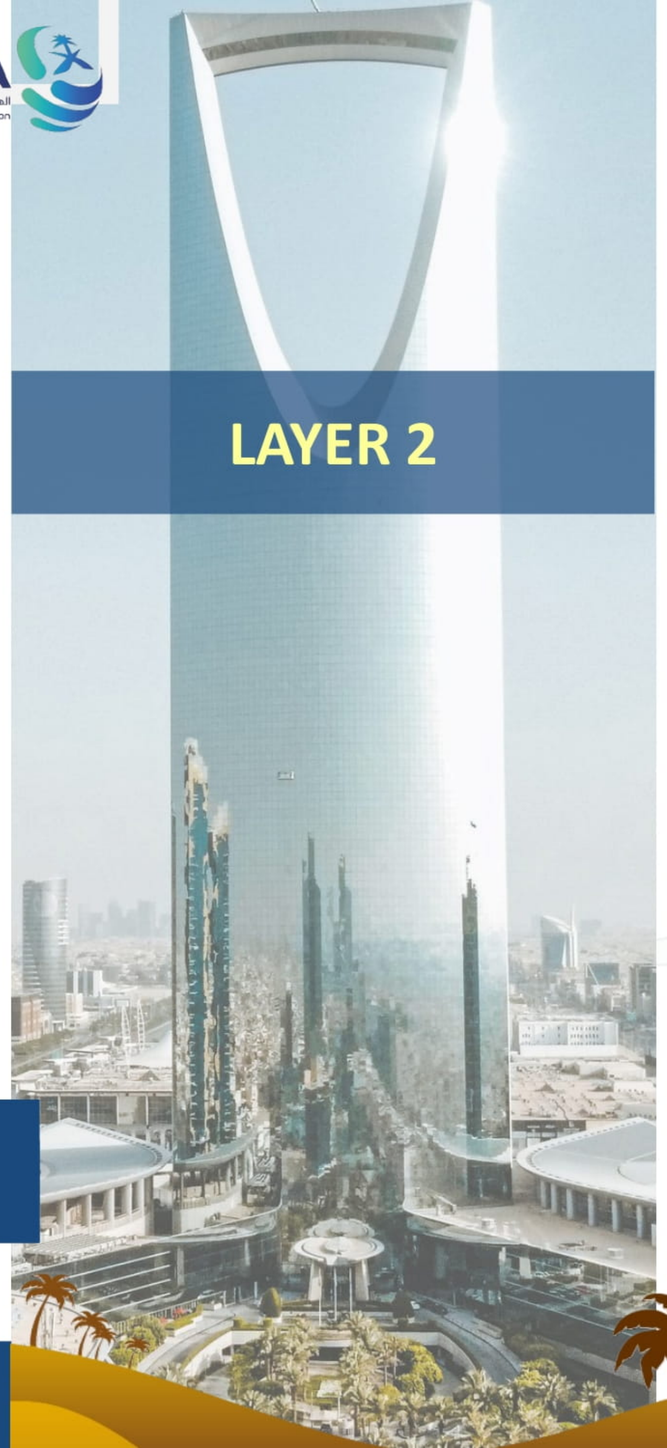
SNAP GOVERNANCE



To manage and maintain the SNAP, a **3-level governance structure** was defined to ensure **quality** and **consistency** of its contents and its **update** over time.

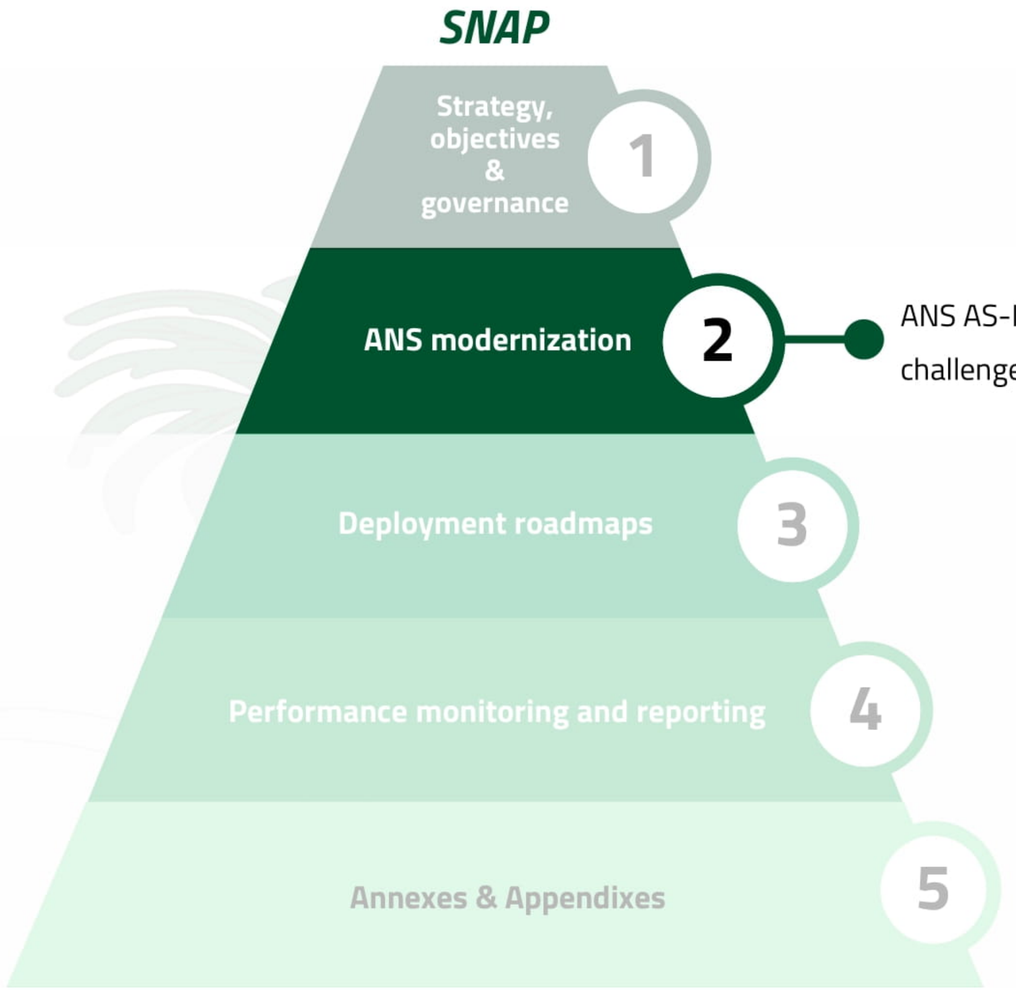
BoD	**GACA BoD Chairman** GACA BoD Members HHE GACA President	Approves and endorses the contents of the SNAP and its updates, promoting its adoption as National Air Navigation Plan for the KSA.
Steering Committee	**HHE GACA President** GACA VPs, Exec., GMs SANS CEO MATARAT CEO NCM CEO SMEs	Assesses and validates the contents of the SNAP and its updates, with specific focus on: ○ Strategy & Policy ○ Initiatives, Projects & Business Cases ○ Deployment Roadmaps
Operational Committee*	**SNAP ANS GM** SNAP Prj. Manager SNAP Project Team Stakeholders' Reps.	• Manages day-by-day project execution activities, targeting the development, delivery and evolution of the SNAP in all its sections/contents. • Participates in the ANS working group sessions dedicated to discuss safety risks / issues. • Managing coordination /liasing with Stakeholders

(*) A dedicated **SNAP Unit** within GACA is to be created and funded to manage the future relationship with stakeholders, run and update the SNAP Web Portal, coordinate the monitoring of the SNAP projects' progress and performance.

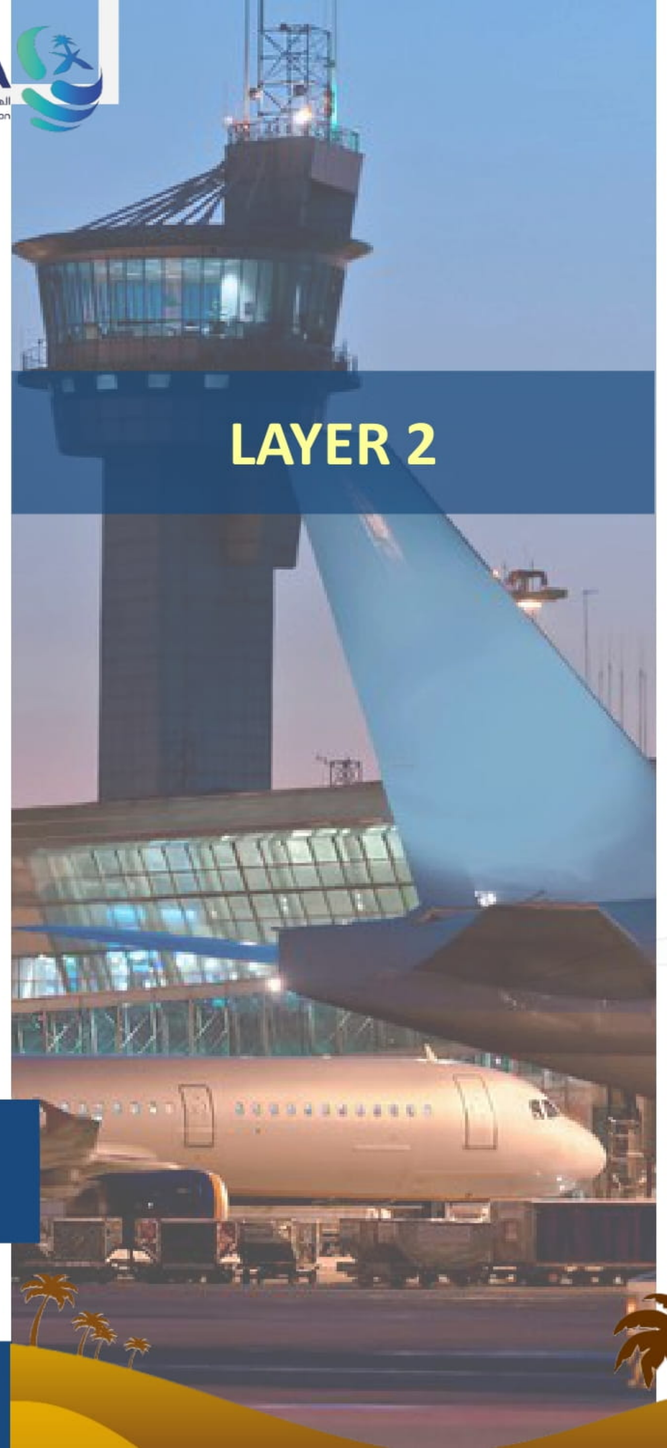


LAYER 2

SNAP consists of a **5-layered structure** (ICAO compliant)



ANS AS-IS in the KSA, identification of main challenges and responses (Initiatives and Projects)



LAYER 2

To respond to the identified challenges and modernize the actual ANS framework, the SNAP identified **6 Initiatives**, comprising **27 Projects.**

SNAP Initiatives & Projects

ENHANCE THE AIRPORT & TMA OPERATIONS

- *A-CDM**
- *A-SMGCS**
- *TBS*
- *RECAT*
- *AMAN/DMAN*
- *SIM OPS**

FLIGHT TRAJECTORY OPTIMIZATION

- *TIME-BASED OPS*
- *AIR TRAFFIC FLOW MNGMT**
- *PERFORMANCE-BASED NAV*

VIRTUALIZATION OF INFRASTRUCTURES

- *REMOTE TWRs**
- *REMOTE TOWER CENTRE**
- *VIRT. & REMOTE ATS FACILITIES**

AIRSPACE ORGANIZATION & MANAGEMENT

- *MULTI-SECTOR PLANNER*
- *DYNAMIC SECTORIZATION*
- *FREE ROUTE*
- *FLEXIBLE USE of AIRSPACE*
- *FLIGHT INFORMATION SERVICE*

NEW ENTRANTS' OPERATIONS AND INTEGRATION

- *VERY LOW-LEVEL OPS*
- *HIGHER AIRSPACE OPS*
- *RPAS*

DIGITALISATION OF SERVICES PROVISION

- *AI-BASED TOOLS*
- *CORA*
- *DATA LINK**
- *SWIM*
- *DIG. AIS & MET**
- *ENHANCED SURV. **
- *SATCOM*

Please note that not all Projects have the same level of priority and that for some Projects (*) implementations have already been funded and started on a local basis.

Further details on Initiatives and related Projects

Estimated costs, expected benefits and funding sources of the SNAP Initiatives are outlined:

SNAP Initiatives	Initiatives' expected costs	Initiatives' expected benefits
ENHANCE THE AIRPORT & TMA OPERATIONS	~120 M$	CAPACITY: 20% of the target OPS EFFICIENCY: 50% of the target PREDICTABILITY: 30% of the target ENVIRON SUSTAIN: 20% of the target
FLIGHT TRAJECTORY OPTIMIZATION	~60 M$	CAPACITY: 35% of the target OPS EFFICIENCY: 10% of the target PREDICTABILITY: 30% of the target ENVIRON SUSTAIN: 20% of the target
VIRTUALIZATION OF INFRASTRUCTURES	~50 M$	CAPACITY: 0% of the target OPS EFFICIENCY: 20% of the target PREDICTABILITY: 0% of the target ENVIRON SUSTAIN: 10% of the target
AIRSPACE ORGANIZATION & MANAGEMENT	~60 M$	CAPACITY: 35% of the target OPS EFFICIENCY: 10% of the target PREDICTABILITY: 30% of the target ENVIRON SUSTAIN: 20% of the target
NEW ENTRANTS' OPERATIONS AND INTEGRATION	~10 M$	CAPACITY: 0% of the target OPS EFFICIENCY: 0% of the target PREDICTABILITY: 0% of the target ENVIRON SUSTAIN: 20% of the target
DIGITALISATION OF SERVICES PROVISION	~200 M$	CAPACITY: 10% of the target OPS EFFICIENCY: 10% of the target PREDICTABILITY: 10% of the target ENVIRON SUSTAIN: 10% of the target

Funding sources

Industry / Private companies

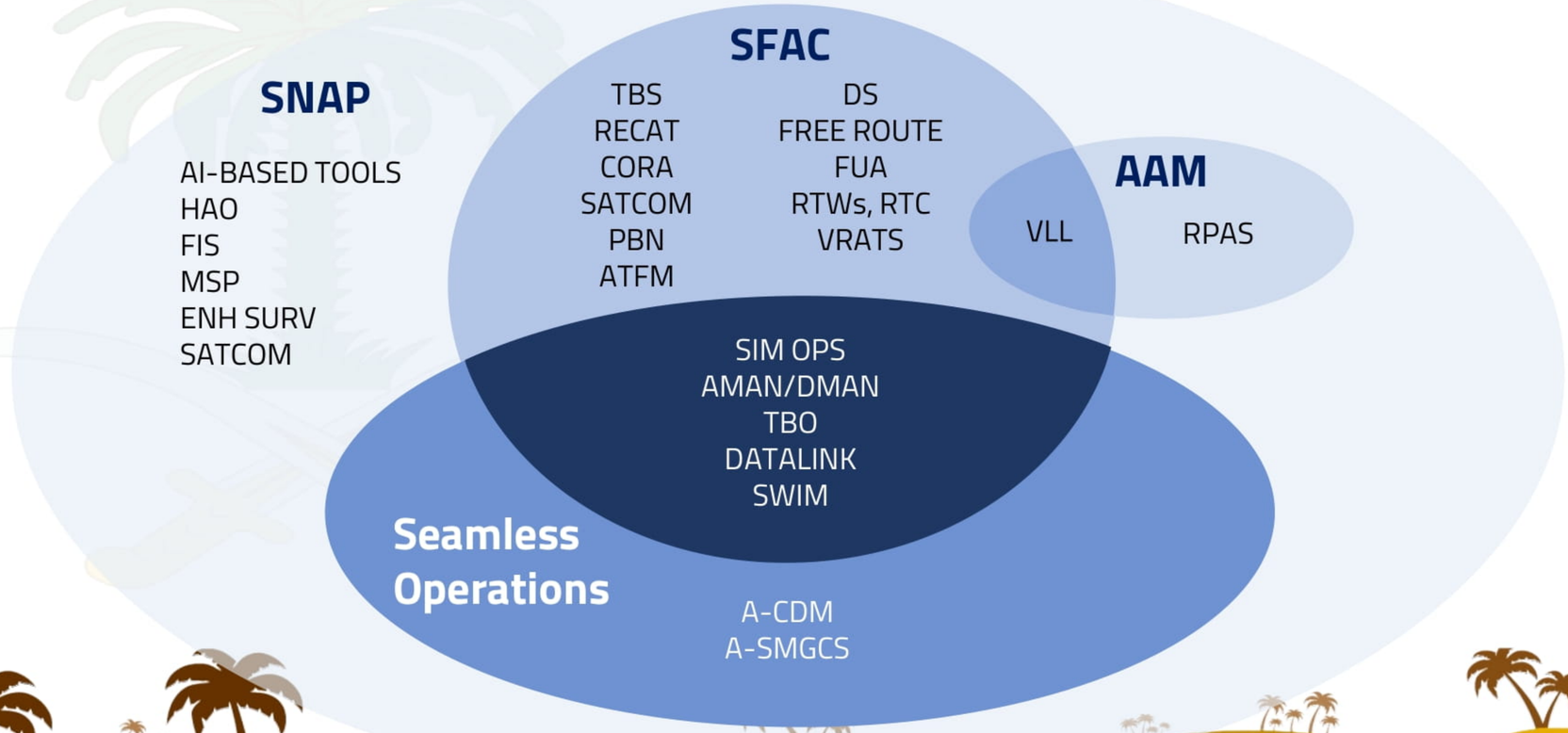
Government Funds

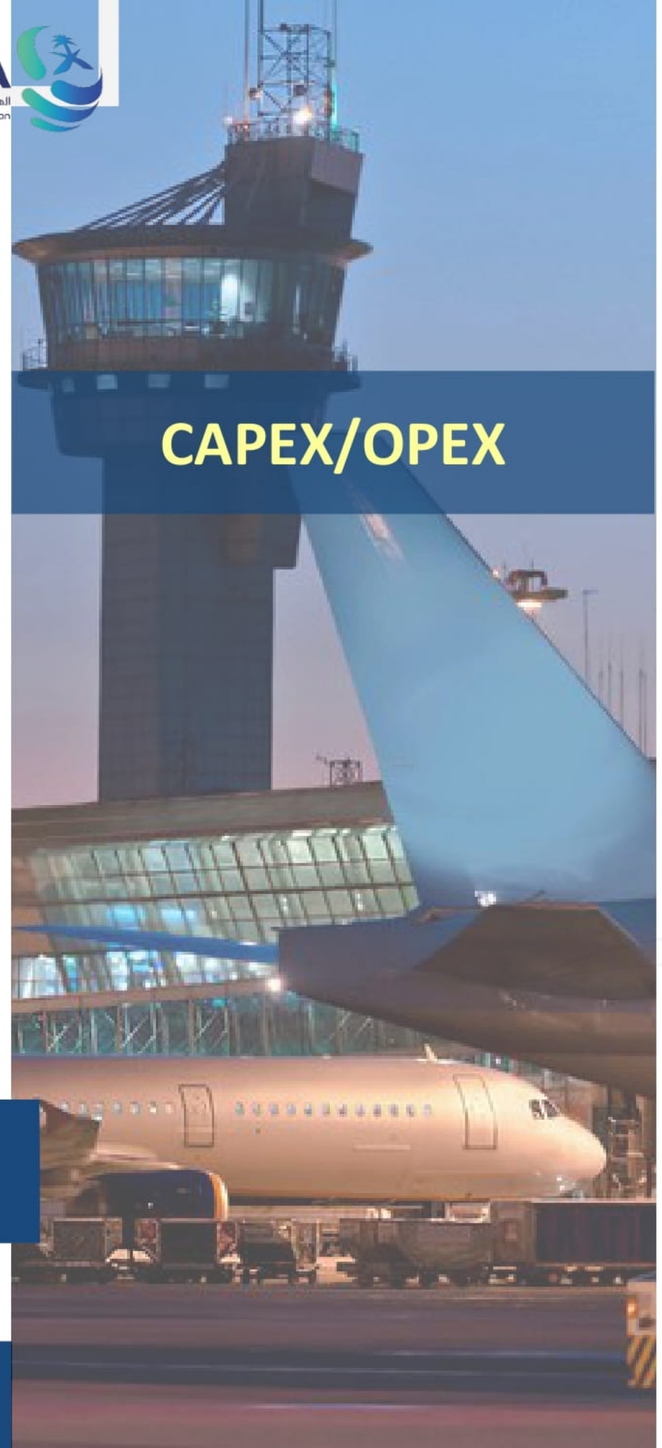
~500 M$ (this amount must be deducted of the costs of the already funded, on-going implementations)

SNAP PROJECTS

Since the SNAP is promoting what is necessary to deal with the increased demand in air traffic, and considering the increase in revenues that will be generated through the SNAP, **the industry should sustain the necessary investments**.

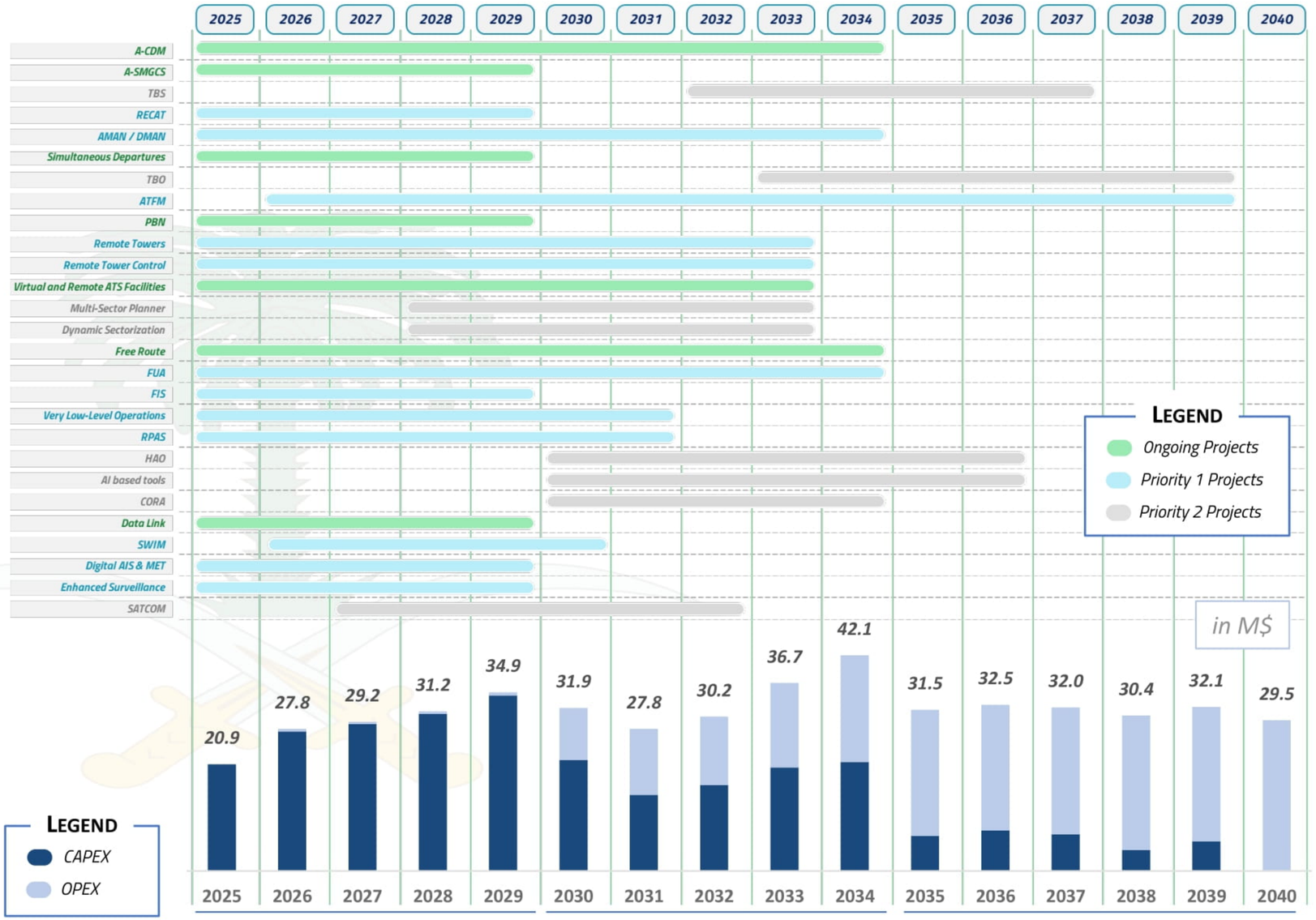
Moreover, many projects identified under SNAP already fall within the scope of other initiatives, for which a source of public funding has already been identified in the **National Industrial Development and Logistic Program**.

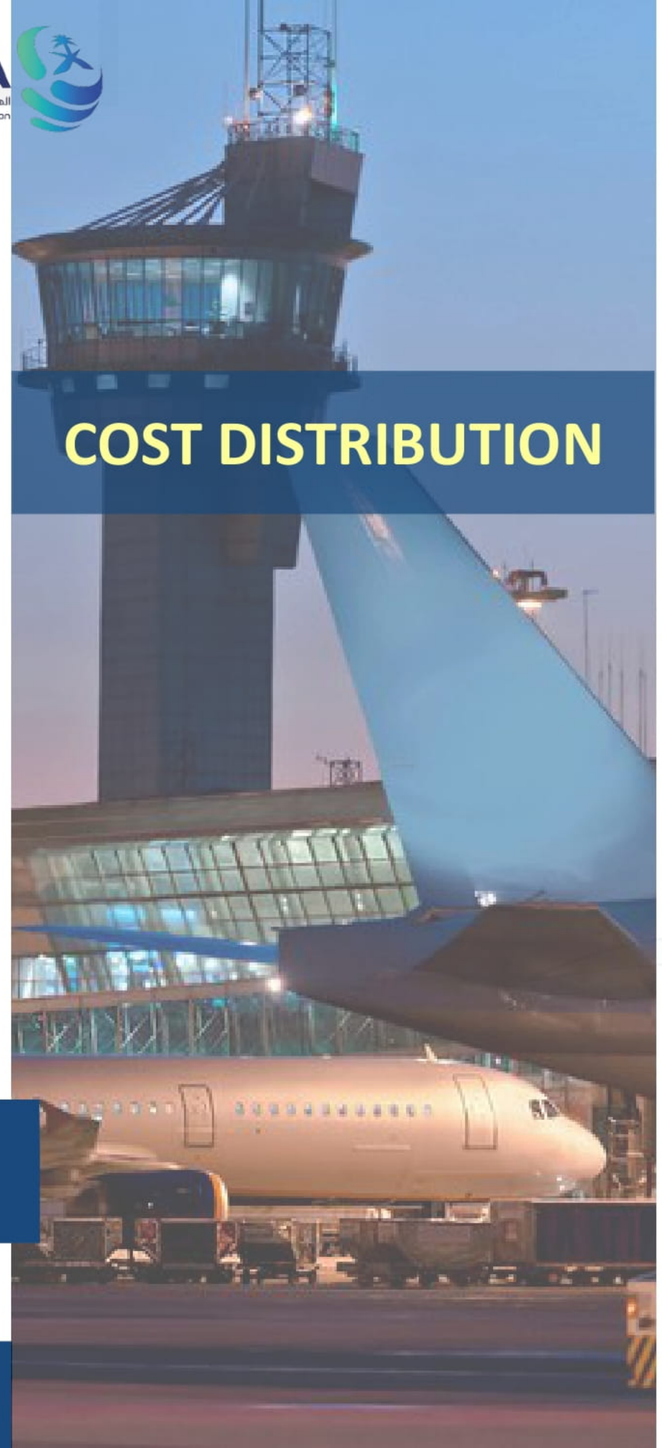




CAPEX/OPEX

In the tables below, the SNAP Projects timelines and the distribution of the costs (CAPEX/OPEX) during the SNAP timeframe are reported.





COST DISTRIBUTION

In the chart below, the distribution of the yearly costs for each stakeholder category is reported.

SNAP PROJECT JOB CARD

Each Project is detailed in the SNAP with a **dedicated "Project Card"** containing the **following key information:**

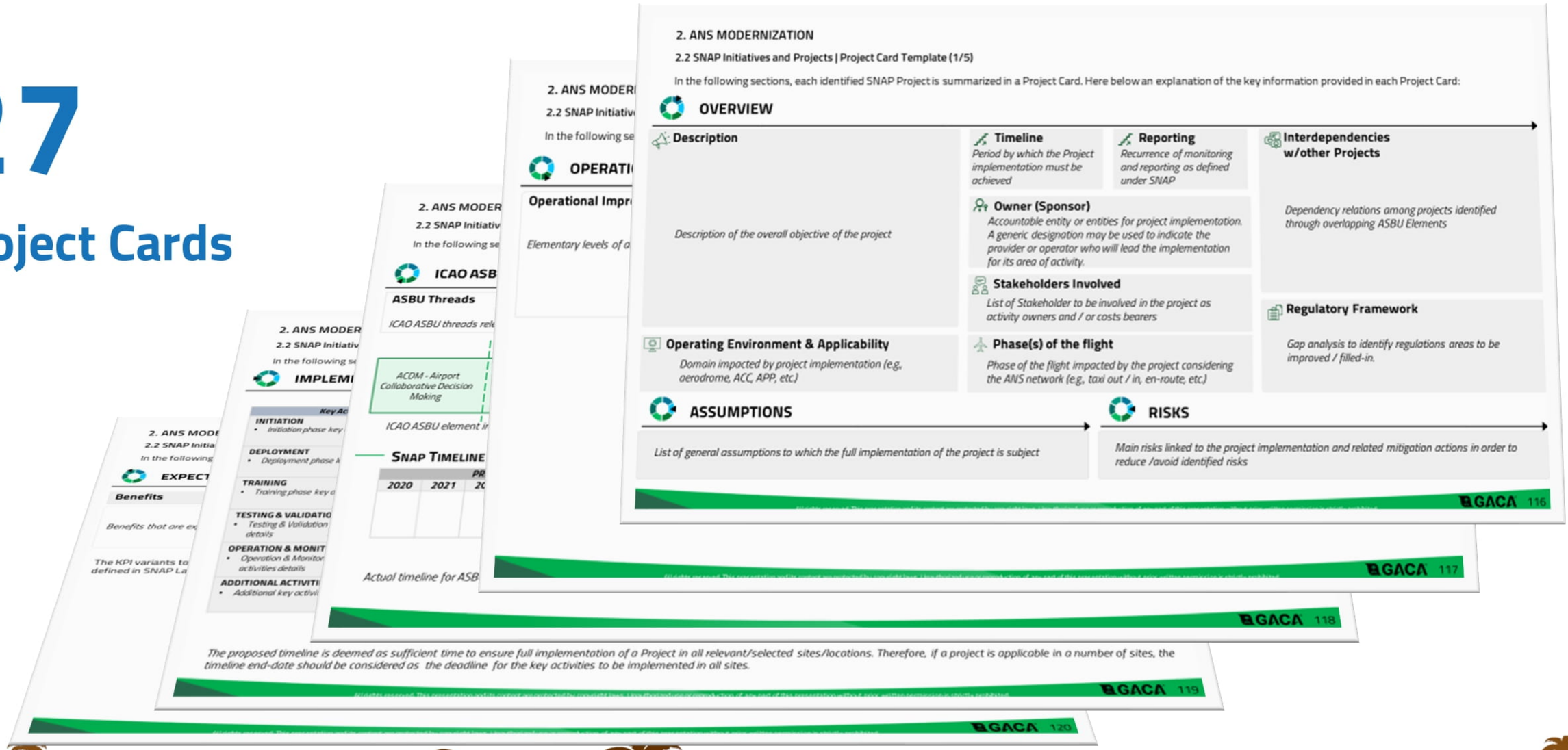
PROJECT DESCRIPTION	REFERENCE PERIOD	OPERATING ENVIRONMENT
OWNER (SPONSOR)	STAKEHOLDERS INVOLVED	PHASES OF THE FLIGHT
INTERDEPENDENCIES W/ OTHER PROJECTS	REGULATORY FRAMEWORK	ASSUMPTIONS
RISKS	OPERATIONAL IMPROVEMENT STEPS	TECHNICAL & OPS. ENABLERS
ICAO ASBU MAPPING	EXPECTED BENEFITS, KPAs & KPIs	IMPLEMENTATION TIMELINE

Each project is backed-up by "**Business Cases"** whose function is to rank different possible implementation scenarios (based on the expected **costs, risks and benefits**) and **identify the scenario to be effectively implemented.**

The Project Cards are synthetic representation of each Project's content

27

Project Cards

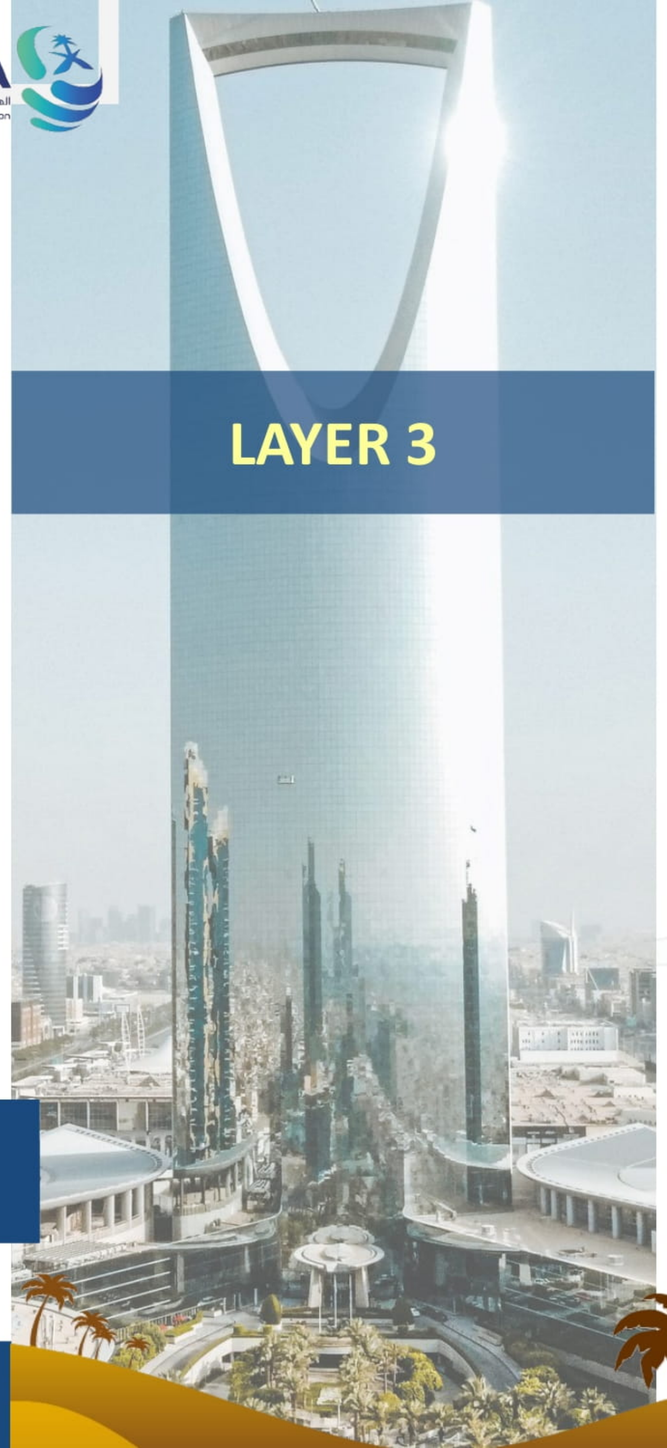


The Business Cases are synthetic representation of each Project's scenario costs, benefits and risks

+60

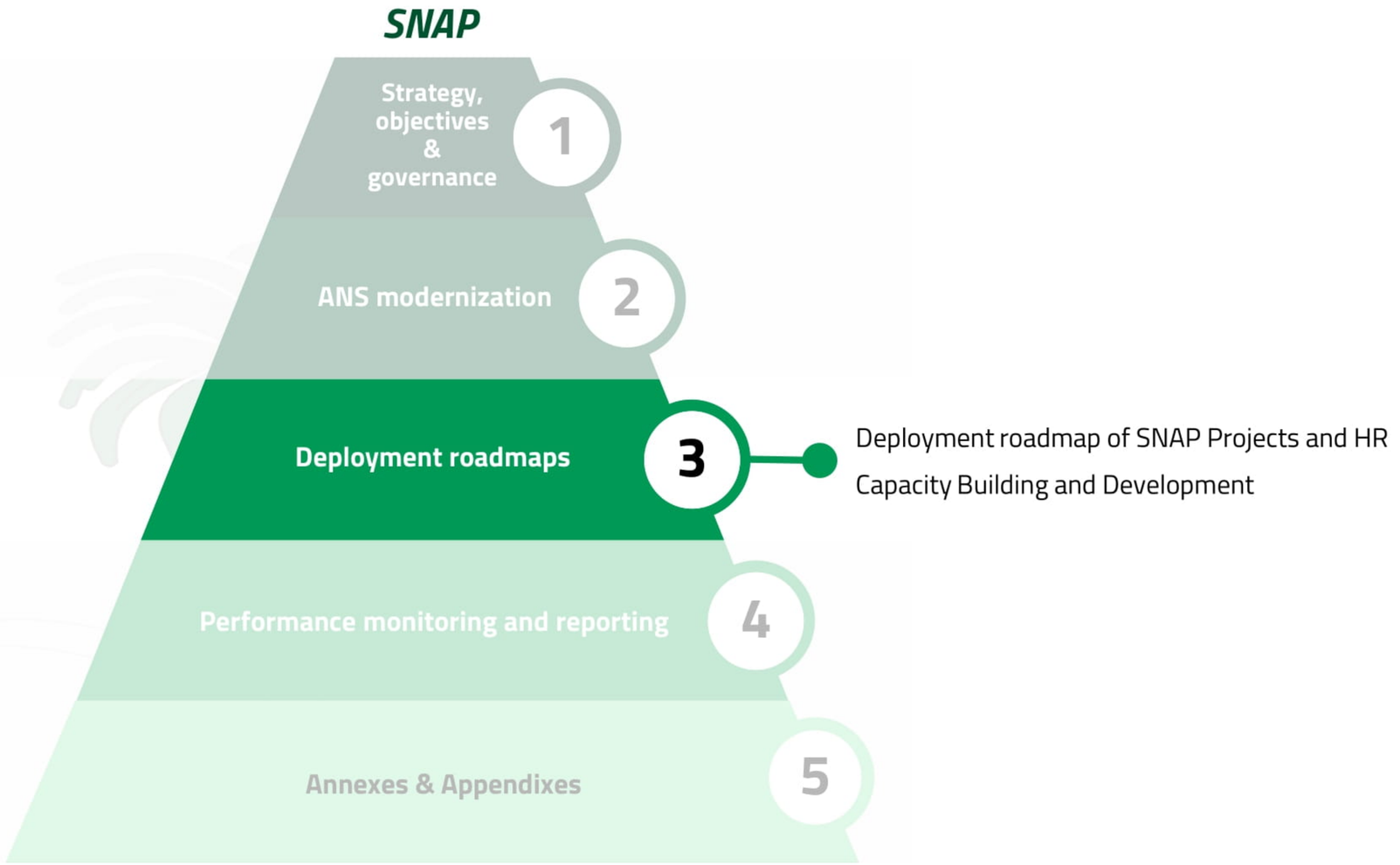
Business Cases

(avg. 2 scenarios per project)



LAYER 3

SNAP consists of a **5-layered structure** (ICAO compliant)



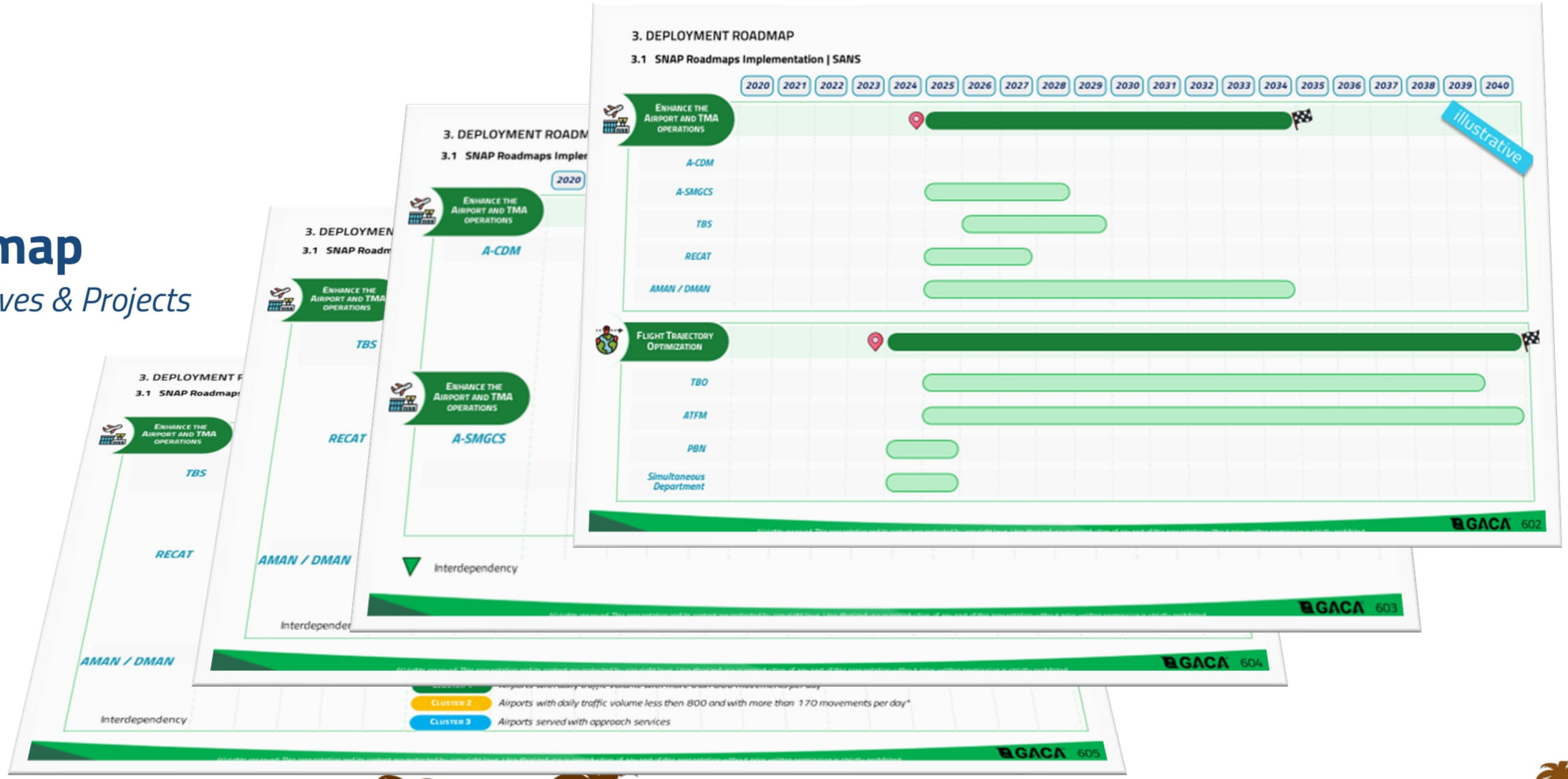
Deployment roadmap of SNAP Projects and HR Capacity Building and Development

The Implementation Roadmaps are graphic representation of each Project's deployment timeline

1

Roadmap

for Initiatives & Projects

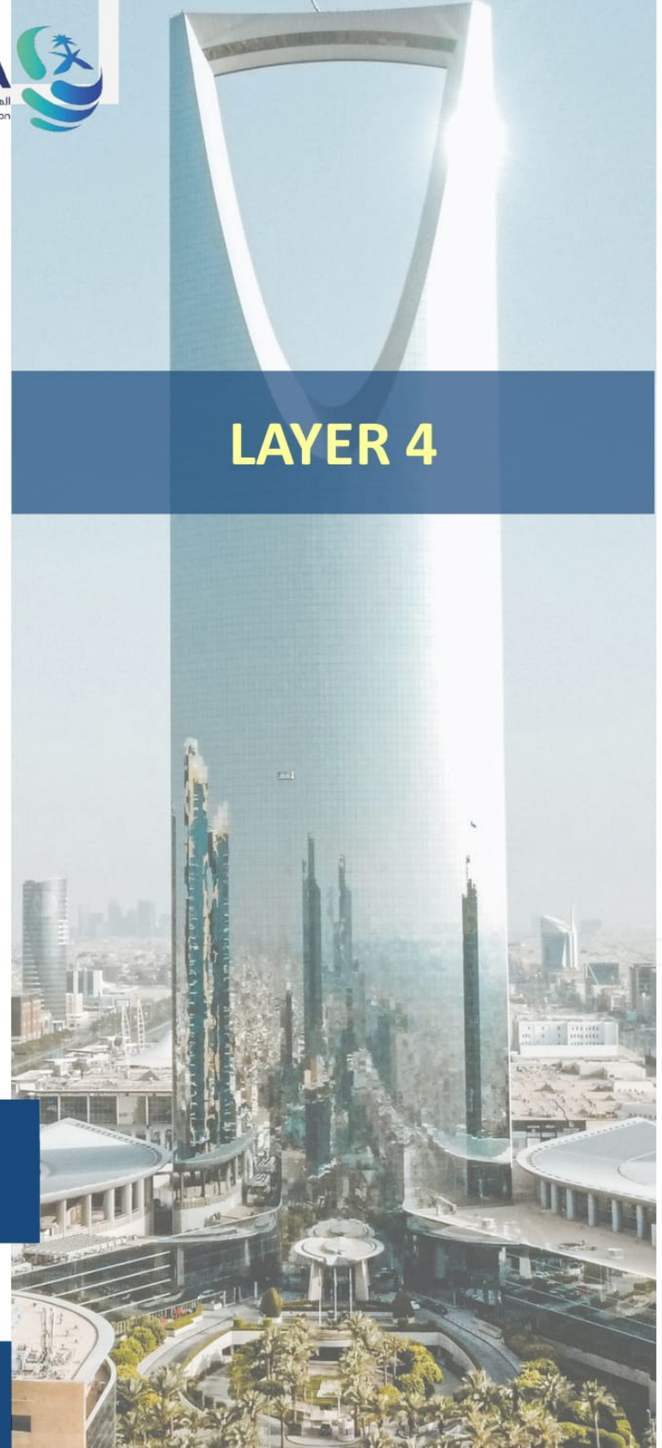


Capacity Building section encompasses Training Programs and associated roadmaps to meet the challenges of ANS modernization

1

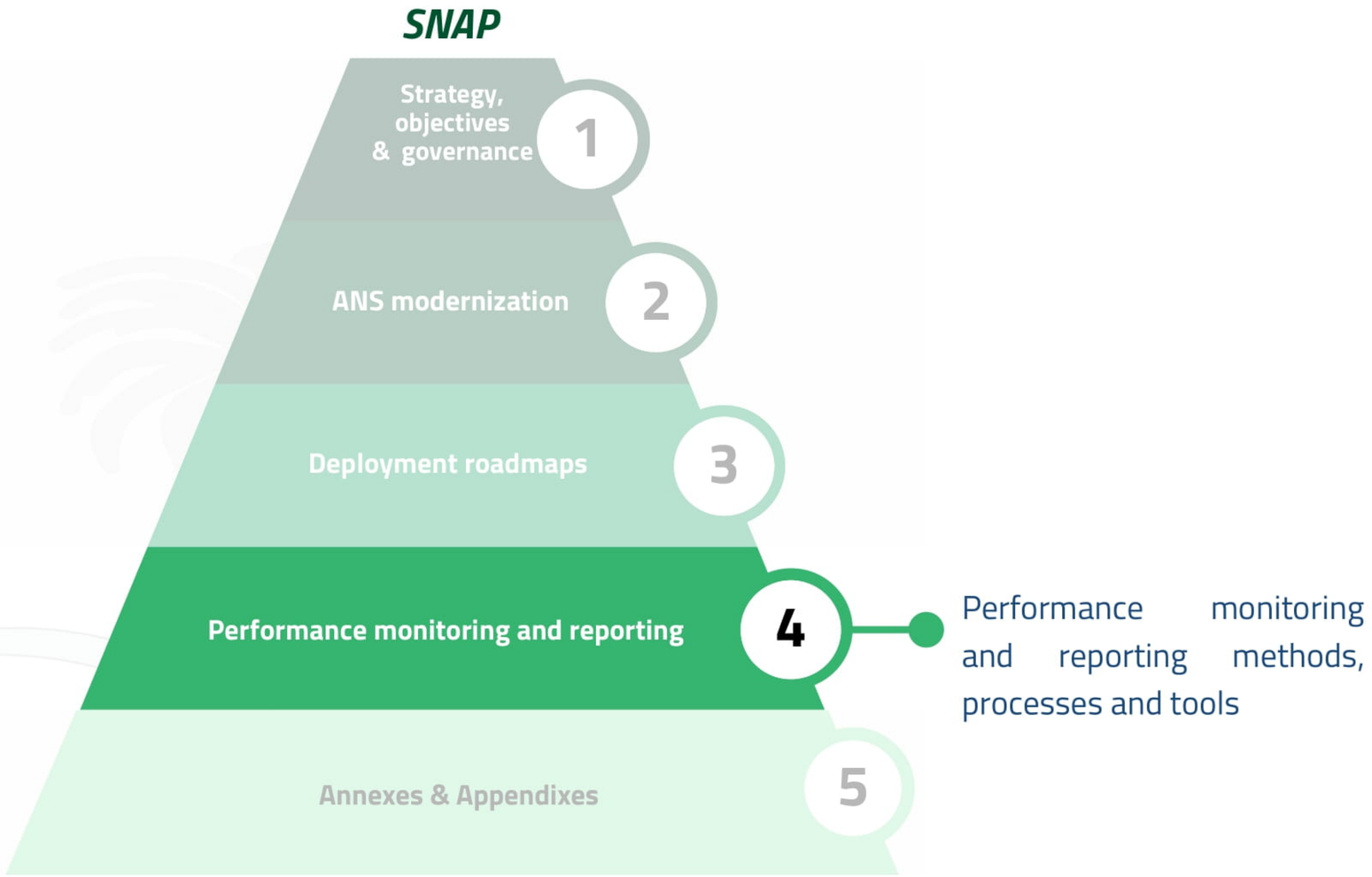
Capacity Building

Roadmap &
Training Programs



LAYER 4

SNAP consists of a **5-layered structure** (ICAO compliant)



Performance monitoring and reporting methods, processes and tools

Within SNAP, two types of **Monitoring & Reporting** are envisaged to keep track of the overall implementation and effectiveness of the activities :

1. **Progress Monitoring**: monitoring the **overall SNAP implementation**, namely the aggregated progress of the whole set of 27 Projects, through project management KPIs (actual % progress – planned % progress)

2. **Performance Monitoring:** monitoring the **performance variation** generated by the SNAP Projects, through the ICAO-proposed performance KPIs

The entire Monitoring & reporting cycle will take place through the SNAP Web Portal. The owners of the different Projects, through an ad-hoc SNAP Unit, will be able to:

- upload data and reports related to Projects' progresses while such Projects are still in the execution phase;
- upload data and reports related the performance variation generated after the Projects' execution and calculated against the established historical baseline.

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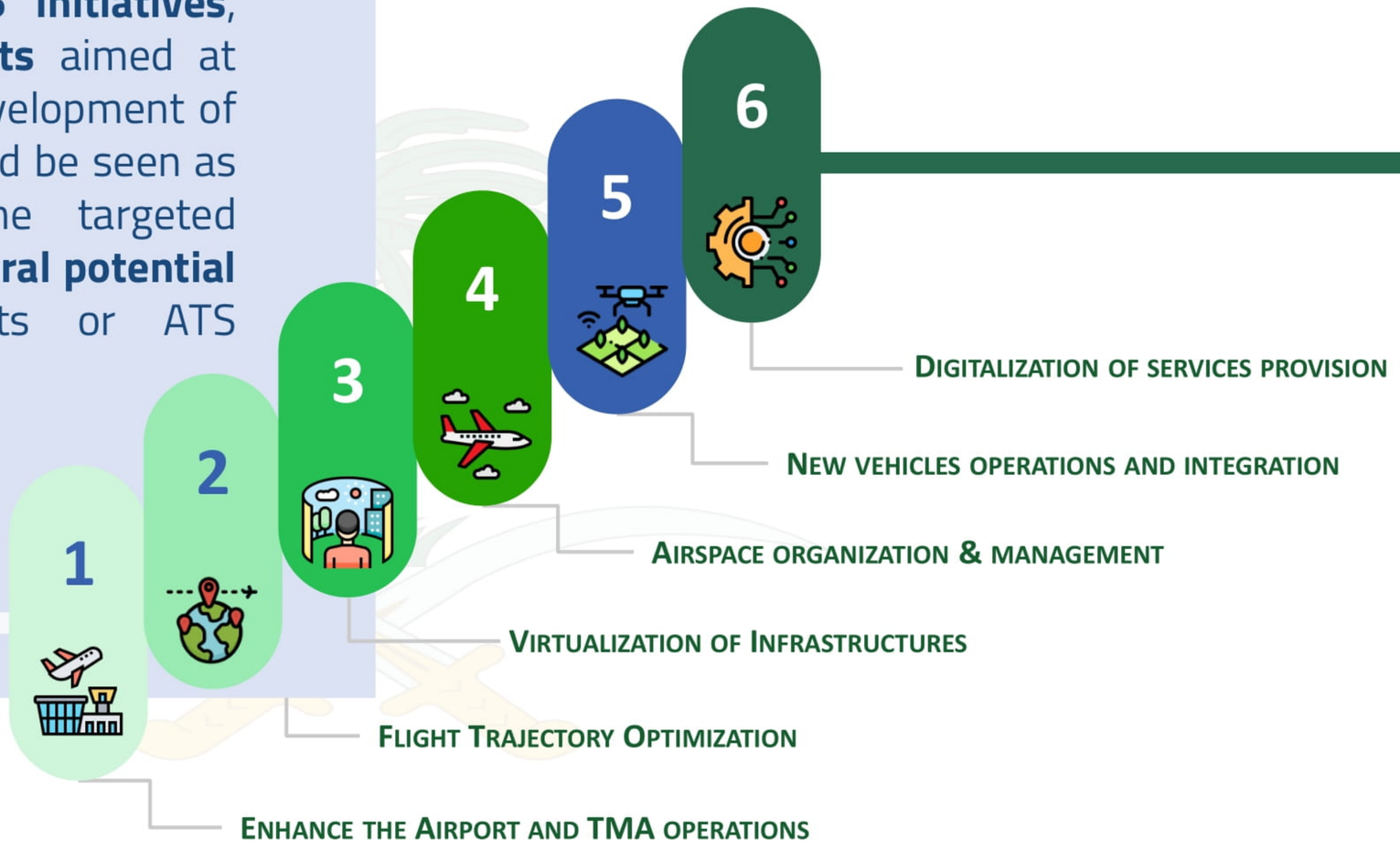
SNAP INITIATIVES

SNAP Initiatives and Projects | Overview

The SNAP is structured on **6 Initiatives**, comprising a list of **27 projects** aimed at fostering the comprehensive development of the KSA ANS. Each Project should be seen as a framework to achieve the targeted objectives and **is subject to several potential local implementation** (airports or ATS facilities).

Layer (2) ANS MODERNIZATION



Each initiative pursues at least 2 SNAP Objectives. The link between the initiative and the SNAP Objectives is outlined below:

	SNAP OBJECTIVES	I1	I2	I3	I4	I5	I6
Capacity building and development	1 ***Enable*** *the achievement of KSA Aviation Sector Strategy Objectives*	I1	I2	I3	I4	I5	I6
	2 ***Ensure*** *the respect of adequate standards of Safety*	I1	I2	I3	I4	I5	I6
	3 ***Implement*** *a new generation of ATM Ops and Tech solutions to enable increase in Capacity, Efficiency, Predictability and Env. Sustainability*	I1	I2	I3	I4	I5	I6
	4 ***Secure*** *progressive and smooth integration of new entrants (e.g. UAS, RPAS, and Space launches)*	I1	I2	I3	I4	I5	I6
	5 ***Ease*** *Military and Civil cooperation in the management of the airspace and access to ANS services*	I1	I2	I3	I4	I5	I6
	6 ***Improve*** *ANS network system resilience against disruption or threats (e.g. cyber-threats)*	I1	I2	I3	I4	I5	I6
	7 ***Ensure*** *application of Environmental Sustainability principles*	I1	I2	I3	I4	I5	I6
	8 ***Define*** *interoperable ANS, collaborative network and integrated CNS infrastructure for accurate operational information-sharing*	I1	I2	I3	I4	I5	I6
	9 ***Develop*** *regulatory framework supporting innovation and ANS modernization aligning with regional and international standards*	I1	I2	I3	I4	I5	I6
	10 ***Activate*** *digital transformation of ANS infrastructure systems, fostered by new technologies, automation and increased connectivity*	I1	I2	I3	I4	I5	I6

LEGENDA

- I1 - ENHANCE THE AIRPORT & TMA OPERATIONS
- I2 - FLIGHT TRAJECTORY OPTIMIZATION
- I3 - VIRTUALIZATION OF INFRASTRUCTURES
- I4 - AIRSPACE ORGANIZATION & MANAGEMENT
- I5 - NEW ENTRANTS' OPERATIONS AND INTEGRATION
- I6 - DIGITALISATION OF SERVICES PROVISION

Layer (2) ANS MODERNIZATION

below the map of the Projects that will be activated starting from 2025 across the six initiatives is provided:

1

ENHANCE THE AIRPORT AND TMA OPERATIONS

- A-CDM
- A-SMGCS
- TBS
- RECAT
- AMAN-DMAN
- Parallel/Simultaneous Ops

2

FLIGHT TRAJECTORY OPTIMIZATION

- TBO
- ATFM
- PBN

3

VIRTUALIZATION OF INFRASTRUCTURE

- Remote Towers
- Remote Towers Centre
- Virtual & remote ATS facilities

4

AIRSPACE ORGANIZATION & MANAGEMENT

- MSP
- Dynamic sectorization
- Free Route
- FUA
- FIS

5

NEW ENTRANTS' OPERATIONS AND INTEGRATION

- Very Low-Level Operations (UTM and UAM)
- High Airspace Ops (HAO)
- RPAS

6

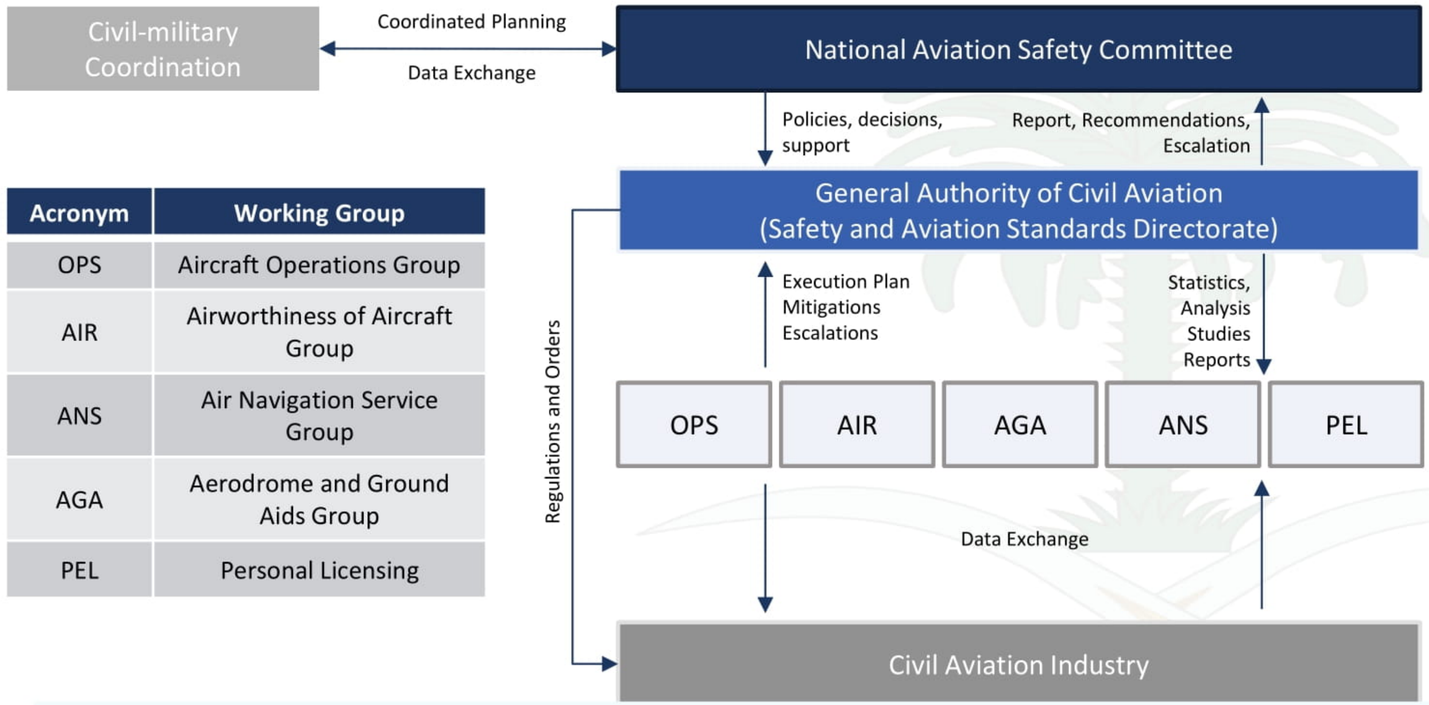
DIGITALISATION OF SERVICES PROVISION

- Tools based on Artificial Intelligence
- Conflict Resolution Assistant
- Data Link
- SWIM
- Digital AIS and MET
- Enhanced Surveillance
- SATCOM

SNAP Ref: 2.1 KSA Air Navigation Framework | 2.1.3 The State Safety Programme (1/2)

ICAO Annex 19 to High Level Safety Conference Doc 9335 requires each Member State to establish and maintain a **State Safety Programme (SSP)** – an integrated set of regulations and activities aimed at improving safety – that is uniquely developed to reflect the size and complexity of a State's aviation system. The **SSP is a key reference** that allows a State to apply safety management principles throughout its certified and regulated entities, allowing safety oversight authorities and service providers to interact and resolve safety concerns more effectively. The overall management of KSA SSP and the delivery of KSA aviation safety strategy is the responsibility of GACA based on the outcomes of the KSA SSP National Aviation Safety Committee (NASC).

KSA AVIATION SAFETY MANAGEMENT ORGANIZATION



Acronym	Working Group
OPS	Aircraft Operations Group
AIR	Airworthiness of Aircraft Group
ANS	Air Navigation Service Group
AGA	Aerodrome and Ground Aids Group
PEL	Personal Licensing

The NASC acts as a **forum for senior officials** from the key aviation safety entities, including aviation military bodies, to discuss, set, and approve **KSA SSP aviation safety strategy, policy, and governance**. Within the NASC framework, the **National Transportation Safety Centre (NTSC)** is the government body responsible for instituting inquiries into aircraft accidents, incidents and serious incidents and carrying out respective investigations.

GACA is the government authority responsible to regulate, manage and oversee KSA's civil aviation activities. It is responsible for **ensuring the respect of safety standards in daily operations**, for **data collection and analysis**, for the **execution of plans and mitigation of risks.**

Reporting to the NASC is a multitude of **permanent and/or ad hoc working groups (SSP-WGs)**. The SSP-WGs, composed of the Head of the Safety Aviation Standards Directorate (Chair), KSA aviation industry members, Subject Matter Experts (SMEs), and others as deemed necessary, are responsible for **reviewing safety data, trends, and SSP implementation plans**; **providing NASC with high level recommendations and mitigation actions**; **providing interim (quarterly) and final (semi-annual) reports to NASC**, including proposals for decision-making, resources allocation, safety promotions plan, and conflict resolutions; **define and review the Organizational Sector Safety Risk Profile.**

The Civil Aviation Industry is responsible for the **correct implementation of Regulations, guidance and Risk mitigation plans.**

DATA COLLECTION AND ANALYSIS

KSA SSP has established aviation **Safety Data Collection and Processing System (SDCPS)** for capturing, storing, aggregating, and allowing for the analysis of safety data and information. Main sources of data are represented by **Mandatory Reporting, Voluntary Reporting, Audit and Inspection, Safety Investigations, Enforcement Investigations and International & Regional Safety Reports**.

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RELATION BETWEEN SNAP & NASP

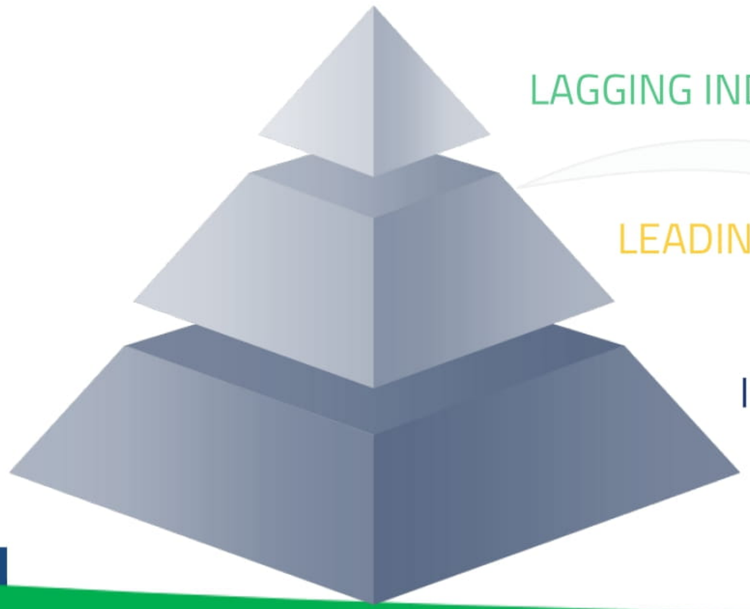
SSP SAFETY OBJECTIVES, SPIs, SPTs AND ALoSP

KSA SSP safety objectives are high-level statements of safety attainments or targets to be achieved. They can be **process-based**, namely established in terms of safe behaviours expected from technical and operational personnel or actions taken by the organization for safety risk management; **result-based**, namely, they can cover actions and trends concerning containment of operational and technical occurrences.
KSA SSP safety objectives guide the development of safety performance indicators (SPIs), safety performance targets (SPTs) and the subsequent establishment of KSA SSP acceptable level of safety performance (ALoSP). Collaborative efforts among key stakeholders are essential to the identification of appropriate SPIs, to the achievement of SPTs and to the maintenance of ALoSP.

SSP STATE SAFETY PERFORMANCE INDICATORS

KSA SSP has adopted the ICAO-tiered approach for developing aviation safety performance indicators:

- A first set of high-level safety performance indicators - Tier1 - have been identified as markers for monitoring KSA's aviation safety performance. These reactive lagging indicators consist of measures of adverse safety outcomes (accidents and serious incidents) according to operational sector and relative to the level of activity within that sector (exposure). They are also referred to as "outcome-based SPIs" and are normally (but not always) the negative outcomes the organization is aiming to avoid;
- Tier-2 indicators are high probability/low severity indicators that measure processes and inputs being implemented to improve or maintain safety. These leading indicators, also known as precursor events or "activity or process SPIs" as they monitor and measure conditions that have the potential to lead to or contribute to a specific outcome;
- Tier-3 indicators are indicators of regulatory gaps. Such indicators are determined by GACA regulatory management system and the ICAO USOAP CMA audit findings on regulatory gaps.



LAGGING INDICATORS	MEASURES OF ADVERSE SAFETY OUTCOMES (INCIDENTS/ACCIDENTS)	Ex: Number of runway excursions / 1000 landings
LEADING INDICATORS	PRECURSOR EVENTS	Ex: Number of unstabilized approaches / 1000 landings
INDICATORS	REGULATORY GAPS	Ex: Percentage of pilots who have received training in stabilized approach procedures

SNAP Ref: 2.1 KSA Air Navigation Framework | 2.1.4 The KSA National Safety Aviation Plan (NASP)

Developed in consultation with national operators and key aviation stakeholders, the KSA **National Aviation Safety Plan (NASP)** is the **master planning document** containing the strategic direction of KSA for the management of aviation safety in the short, medium and long term. The first edition of KSA NASP presents the national strategy and roadmap of actions for **enhancing aviation safety for the period from 2023 to 2025**. The plan establishes Saudi Arabia **Safety Goals, Targets (SPTs)* and Indicators (SPIs)*** and identifies **Safety Enhancement Initiatives (SEIs)***, namely specific actions that Saudi Arabia intends to undertake to improve State safety performance, based on Saudi Arabia's operating environment risks but consistently with ICAO GASP and the Middle East Regional Aviation Safety Plan (MID-RASP).

KSA NASP complements KSA SSP to effectively manage aviation safety and ensure highest level of safety performance. GACA is responsible for the development, implementation, monitoring and maintenance of KSA NASP, in collaboration with SSP stakeholders and with the national aviation industry. KSA NASP is subject to **on-going maintenance** and **recurrent updates** in alignment with the review, development and publication processes of GASP, RASP and KSA SSP.

KSA NASP Aviation Safety Goals, Indicators and targets

The KSA NASP goals, targets and indicators stem from the aviation challenges and priorities identified in the GASP (e.g Global Organizational Challenges, Global Operational Safety Risks, Emerging Issues, Regional and National Priorities). Saudi Arabia safety goals, as well as targets and indicators, are subject to possible updates, which will be reflected in the NASP future editions.

KSA NASP Acceptable Level of Safety Performance

Each safety goal contributes to an overall acceptable level of safety performance for Saudi Arabia. Saudi Arabia's acceptable level of safety performance, namely the general output of Saudi Arabia's safety goals is the following: *"No accidents involving commercial air transport that result in serious injuries or fatalities, no serious injuries to third parties as a result of aviation activities and improving safety performance across all sectors".*

KSA NASP Aviation Safety Enhancement Initiatives

KSA NASP includes Safety Enhancement Initiatives (SEIs) that address national operational safety risks, derived from lesson learned from occurrences and from a data-driven approach. These SEIs may include actions such as **rule-making, policy development, targeted safety oversight activities, safety data analysis and safety promotion.** In order to support Saudi Arabia in achieving KSA NASP safety goals and acceptable levels of safety performance, two action roadmaps of KSA SEIs – Operational (OPS) and Organizational (ORG) – have been designed. Such roadmaps are subject to possible updates in the NASP future editions.

The OPS Roadmap

The OPS Roadmap details Saudi Arabia's SEIs to meet global, regional and national goals related to the continuous reduction of operational safety risks, including risk management activities associated with ICAO High-Risk Categories (e.g Controlled Flight Into Terrain; Loss of Control in Flight; Mid-Air Collision; Runway Excursion; Runway Incursion).

The ORG Roadmap

The ORG roadmap details Saudi Arabia's SEIs associated with Saudi Arabia's safety oversight capabilities and the implementation of KSA SSP, including industry's SMS implementation.

**Focus on SPTs, SPIs, and SEIs*

Under Global Air Navigation Plan (GANP, Doc 9750) 7th edition, ICAO is moving a first step in aligning the GANP and the Global Aviation Safety Plan (GASP, Doc 10004) by means of a common Safety Key Performance Area and Key Performance Indicators. Moreover, the **Assembly Resolution A41-6** - "ICAO global planning for safety and air navigation" - **calls upon each State to develop and implement a national aviation safety plan (NASP)** in line with the GASP goals, targets and the global high-risk categories of occurrences (G-HRCs). It also invites other Stakeholders to cooperate in the development and implementation of aligned national plans - NANP and NASP - based on the GANP and GASP frameworks.

THE RELATIONSHIP BETWEEN KSA SSP AND KSA NASP

KSA SSP allows KSA to manage its aviation activities in a coherent and proactive manner, measure the safety performance of its civil aviation system, monitor the implementation of KSA NASP's SEIs and address national safety issues.

Through safety data analysis aspects of the SSP, KSA can use its hazard identification and safety risk management process as a source of safety intelligence to identify hazards and safety deficiencies and determine national operational safety risks and organizational challenges for inclusion in the KSA NASP. Therefore, **KSA SSP represents the primary source of safety information for the KSA NASP.**

On the other hand, **KSA NASP is one of the key documents produced as part of KSA's SSP documentation**. It is the means by which KSA defines and drives the implementation of SEIs determined through SSP processes and drawn from the ICAO Global Aviation Safety Roadmap (Doc 10161) and the MID RASP. **It also allows KSA to determine initiatives to strengthen KSA SSP** or otherwise needed to achieve its safety objectives.

THE RELATIONSHIP BETWEEN KSA SSP / NASP AND SNAP

Given its role as main reference document for the modernization of the KSA air navigation system in the next 15 years and considering the ICAO-derived need to ensure alignment between the national air navigation plan and the national aviation safety plan, **a governance model** is established to share information, manage and report the safety risks emerged in the SNAP implementation*.

THE IMPACT OF SNAP ON SSP IMPLEMENTATION

- KSA ANS stakeholders can benefit from the contents of SNAP to **promptly acquire essential basic information** on KSA aviation safety strategy, goals, indicators, targets and performance levels;
- SNAP represents a key platform that allows ANS stakeholders to **interact and discuss of safety-related concern** through concrete Initiatives and Projects to be implemented in the country;
- **The National Aviation Safety Committee (NASC) can leverage on SNAP communicative function and on the SNAP web-app in its endeavour for promoting a "safety culture"** across the entire KSA aviation industry facilitating the sharing of safety information among service providers.

THE IMPACT OF SNAP ON NASP IMPLEMENTATION

- **SNAP contributes directly to the effective achievement of safety goals** by ensuring, for instance, the implementation of required air navigation systems (i.e. Remote TRWs, ADS-B, etc.). For each Project considered within SNAP, moreover, safety studies and assessments are included among the key activities to be performed;
- **SNAP contributes to the monitoring of the overall safety performance in KSA** through the ICAO KPIs associated with the Safety KPA.

**see §4.3 Safety Management Considerations: Organizational chart, roles and responsibilities*

Where is the SSP & NASP located in the Stakeholder's Map?

STAKEHOLDERS MAPPING

INFLUENCE

ENGAGEMENT

ENGAGEMENT		INTERNAL	EXTERNAL	CONSULTANTS
		GACA	National, Regional and International organizations	Firms/Organizations
HIGH	Contribute directly to SNAP	GACA Human Capital Project GACA SSP & NASP	SANS, DACO Dammam Airports Company, مطارات الرياض riyadh airports, Tibah Airports, NEOM, matarat مطارات, Cluster 2 تجمع مطارات الثاني, jedco Jeddah Airports, Red Sea Global	Contracted companies enav الأفق الأزرق للإتصالات و تقنية المعلومات BLUE HORIZON ICT مجموعة الجريسي JERAISY GROUP
MEDIUM	Contribute indirectly to SNAP	GACA Cyber-security Department GACA AAM Project GACA IT Department Seamless Operations	Public Investment Fund, المركز الوطني للأرصاد National Center for Meteorology المملكة العربية السعودية, السعودية Saudia, flynas طيران ناس, طيران الرياض RIYADH AIR, طيران أديل flyadeal, SSA SAUDI SPACE AGENCY	Review & Validation support ALG
LOW	Informed about SNAP	CAESP GACA Data Protection Officer	NEOM نيوم NEOM UTM WG, SANS SANS UTM, BOEING BOEING UTM, aramco, الأكاديمية السعودية للطيران المدني Saudi Academy of Civil Aviation, وزارة النقل والخدمات اللوجستية Ministry of Transport and Logistic Services, وزارة الطاقة MINISTRY OF ENERGY, THC THE HELICOPTER COMPANY, GEOSA	International Organizations ICAO CANSO SHAPING OUR FUTURE SKIES IATA

SNAP Ref: 1.10 SNAP Governance and development process | 1.10.1 SNAP Governance

The SNAP Convenance is well constructed to be aligned with SSP & NASP by setting some responsibilities to achieve the common national objectives

SNAP Governance Structure		*Members*	*Description*
Tier 1	Board of Directors	• **GACA BoD Chairman (Chair)** • GACA BoD Members • GACA President	This is the highest level of the Governance structure. Its responsibilities can be summarized as follows: **i.** **Promote the contents of the SNAP and its updates, approving its adoption as the National Air Navigation Plan of Saudi Arabia.** **ii.** **Communicating** top-down **any change in the Civil Aviation strategic priorities.**
Tier 2	SNAP Steering Committee	• **GACA President (Chair)** • GACA VPs and Executives • GACA GMs • SANS CEO • Matarat CEO • NCM CEO • SMEs	This is the intermediate level of the Governance structure. Its responsibilities can be summarized as follows: **i.** **Selecting the final subset of Projects to be included in the SNAP**, among those proposed by the SNAP Operational Committee **ii.** **Validating the contents of the SNAP**, before its submission to the Board of Directors. **iii.** **Validating any update of the SNAP**, emerging from a change request approved by the GACA Executive Committee. **iv.** **Informing the SNAP Operational Commitee regarding any strategic guideline to be applied top-down to the SNAP** (i.e. due to changes in civil aviation strategic priorities coming from the Ministry of Transportation or the evolution of regulations & policies). **v.** **Reporting, at least quarterly and on-demand, to the SNAP Board of Directors** about the overall SNAP implementation progress.
Tier 3	SNAP Operational Committee	• **SNAP ANS GM (Chair)** • SNAP Initiative PMs • Stakeholder Representatives	This is the lowest level of the Governance structure. Its responsibilities can be summarized as follows: **i.** **Collecting the Projects to be proposed to the Steering Committee for their inclusion in the SNAP**, supported by Business Cases evaluating different scenarios and described following a pre-defined set of information (i.e. project name & description, OIS and technical enablers, ASBU Thread & Elements, benefits, KPIs, key activities, timeline, risks & mitigations, interdependencies, etc.). **ii.** **Orchestrating a "peer review" on each initiative or change request proposed by the stakeholders**, to validate the data provided. **iii.** **Collecting the request for changes to the SNAP** and presenting them to the Steering Committee for validation. **iv.** **Create a dedicated Unit (SNAP Unit)** to manage the future relationship with stakeholders, run and update the SNAP Web Portal, coordinate the monitoring of the SNAP projects' progress and performance, draft and publish Executive Reports. **v.** **Reporting bi-monthly to the Safety and Environmental Sustainability EVP on the implementation of the subset of Projects** (approved by the Steering Committee and formally included in the SNAP) and presenting updated data regarding the project status progress, and performance KPIs. **vi.** **Participating, through a SNAP delegation led by the SNAP Project Manager, in the ANS Working group sessions dedicated to discuss safety risks / issues and identify mitigation actions**, thus ensuring the consistent sharing of information between SNAP and NASP.

SNAP Ref: 4.3 Safety Management Considerations: Organizational chart, roles and responsibilities

Given the need to establish an information sharing mechanism between SNAP and NASP* and considering also the mission assigned to the different SSP Working groups, **the SSP ANS Safety WG is identified as the appropriate forum to discuss safety-related risks/issues (emerging from the SNAP projects) and related changes and upgrades**. Below, the key people involved in the information sharing mechanism are outlined alongside their roles and responsibilities:

Organizational chart

ANS Safety Working Group Chairman (ANS GM)

SNAP Unit Representative

ANS Safety Working Group Members

- *Representatives from Aviation Safety & Standards Directorate.*
- *KSA aviation industry members.*
- *Subject Matter Experts (SMEs).*
- *Others (as deemed necessary).*

Roles and Responsibilities

- Chairing the group by setting objectives, moderating the discussion and liaising with stakeholders.
- Validating the identified mitigation solutions and driving the decision-making process.

- Coordinating safety information collection from SNAP Initiative/projects Project Managers/Focal Points.
- Selecting major safety risks and issues common among local implementations of a Project and reporting them to the ANS Safety WG.
- Supporting the identification of mitigation solutions.

- Reviewing safety data, trends, and SSP implementation plans affecting ANS.
- Reviewing other SSP and NASP-implementation related sources of information.
- Providing National Aviation Safety Committee (NASC) with high level recommendations and mitigation actions to mitigate the risks identified in the ANS field.
- Providing interim (quarterly) and final (every half-year) reports to NASC, including proposals for decision-making, resources allocation, safety promotions plan, and conflict resolutions.
- Define and review the Organizational Sector Safety Risk Profile.

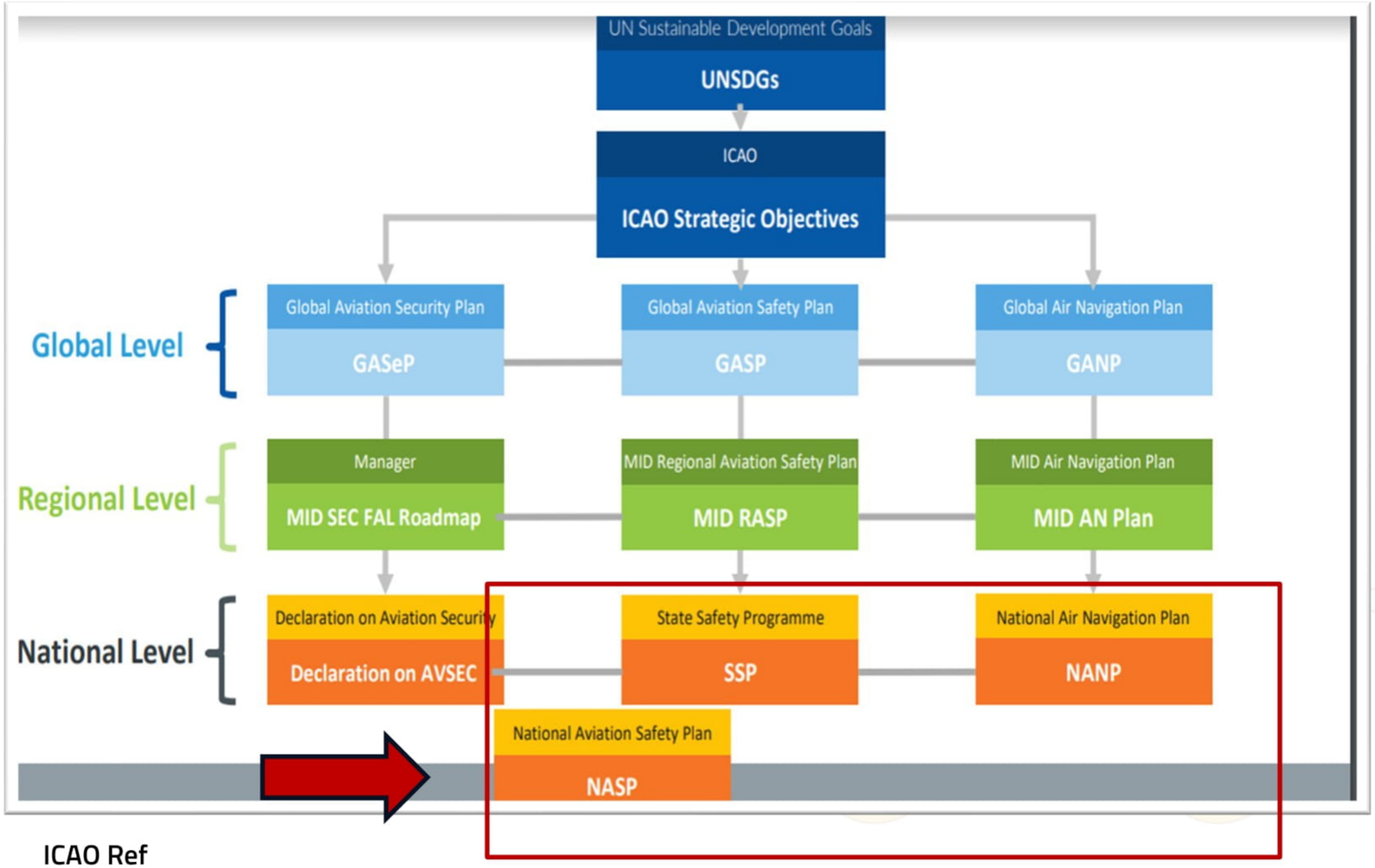
** see §2.1 KSA Air Navigation Framework | 2.1.5. The relationship between SSP/NASP and SNAP.*

Safety Management Considerations are imbedded in SNAP objective

2 *Ensure the respect of adequate standards of Safety*

- *High standard of safety must be the first priority during the deployment of SNAP' initiatives*
- *Maintain high standard of safety during the deployment of technical and operational solutions and delivery elements*
- *Identify safety improvements during the deployment of SNAP' initiatives and introduction of changes*
- *Support the achievement of safety targets, performance, and risk reduction identified under the National Aviation Safety Plan*
- *Ensure continuous improvement of ANS-related safety management as defined under SSP*
- *Systematic use of innovative Safety Risk Assessment methodologies to identify risks, and threats*

الأهداف الاستراتيجية للخطة العالمية لسلامة الطيران المرتبطة بالخطة العالمية للملاحة الجوية



ICAO Ref

- تحقيق الحد المستمر من مخاطر سلامة العمليات. (الحفاظ على اتجاه تناقص معدل الحوادث)
- تعزيز قدرات الدول على مراقبة السلامة تنفيذ برامج فعالة لسلامة الدولة. (قدرة الدول إلى تحسين درجاتها من أجل التنفيذ الفعال للعناصر الحاسمة لنظام الدولة لمراقبة السلامة (مع التركيز على الأسئلة ذات الأولوية)
- ضمان توفر البنية التحتية المناسبة لدعم العمليات الآمنة.
- زيادة التعاون على المستوى الإقليمي.
- توسيع نطاق استخدام برامج الصناعة وشبكات تبادل المعلومات المتعلقة بالسلامة من جانب مقدمي الخدمات.

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

العلاقة الوثيقة بين SNAP & SSP

عرفت منظمة (ICAO) العلاقة البينية الإستراتيجية بين خطتي الملاحة الجوية وخطة سلامة الطيران بالطموح المشترك لسلامة الطيران ولتحقيق تحسين مستمر لمستوى السلامة في كل إقليم لمنظمة الطيران المدني الدولي

GACA
الهيئة العامة للطيران المدني
General Authority of Civil Aviation

This Content will be presented orally during the meeting

ACTION BY MEETING

The second meeting of the RANP/NANP Task Force

(RANP/NANP TF/2)
(Cairo, Egypt, 17 – 19 February 2025)

ACTION BY THE MEETING:

- The meeting is invited to:

a) Note of the information presented in this PPT;

b) Meeting to share any views and feedback.

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THANK YOU

For More coordination you can communicate (SNAP Unit) snap@gaca.gov.sa