

**Second CAR/SAM Implementation of Volume III of the Air
Navigation Plan (ANP) for the CAR/SAM Regions Workshop
(CAR/SAM/ANP-VOLIII/2)
Mexico City, Mexico, 13 to 15 February 2024**

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MULTILAYER STRUCTURE OF THE GANP

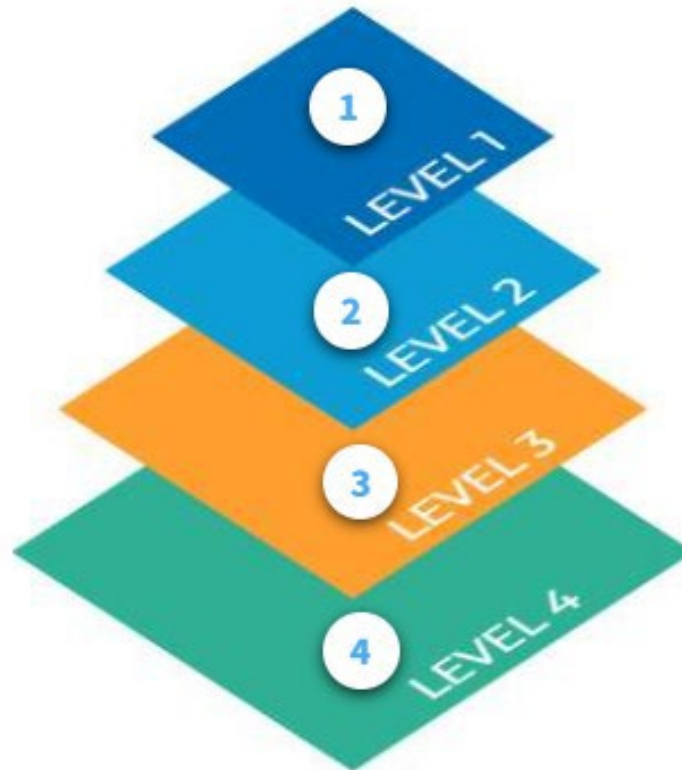
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GLOBAL STRATEGIC

GLOBAL TECHNICAL

REGIONAL

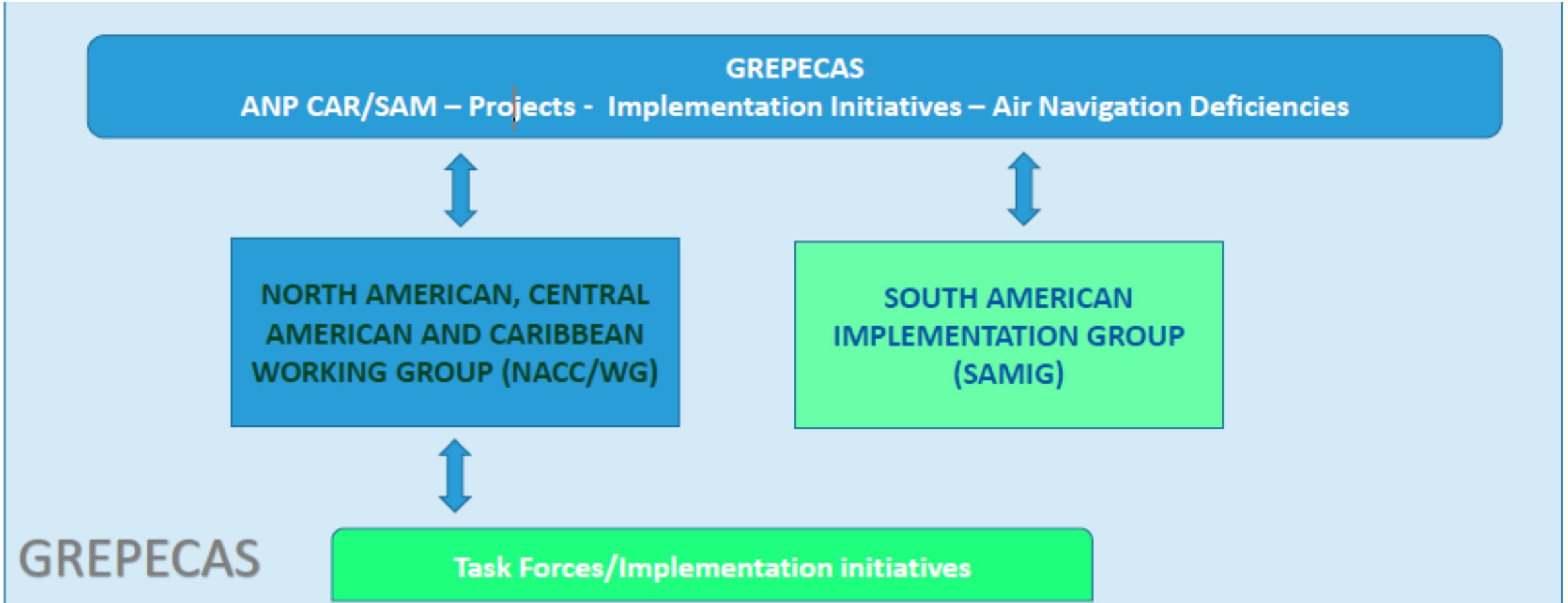
NATIONAL



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	Achieve continual safety performance improvement in aviation in each ICAO region
SECURITY	Zero significant disruptions due to cyber incidents

Achieving the above ambitions and realizing the GANP vision will require a series of transformational changes.





(1) STRENGTHS

- National Plans aligned with global plans and supporting regional implementation
- Industry maturity and operating models (airlines, airports)
- Potential human resources available
- Robust regional infrastructure, implementation experience and harmonized services
- Regional Integration and Harmonization with Horizontal Cooperation Mechanisms

- Robust implementation groups (NACC/WG and SAM/IG)
- Technical Cooperation Projects

(2) WEAKNESS

- Gaps in plan implementation (ANS, CNS, Technology, Training, budgets)
- Limited human talent management policies (hiring, training and retention of sufficient and competent human resources)
- Difficulty in institutional communication, collaboration and alignment between CAR and SAM.
- Different levels of maturity in the implementation of ANS and airport management models.
- Weak alignment and little communication between global plans (GANP, GASP, GASEP).
- Language and cultural barriers between regions. Lack of timely publication of ICAO Documents in all official languages

KPI01: Departure punctuality
KPI02: Taxi-out additional time
KPI04: Filed flight plan en-route extension
KPI05: Actual en-route extension
KPI07: En-route ATFM delay
KPI10: Airport peak throughput
KPI11: Airport throughput efficiency
KPI13: Taxi-in additional time
KPI16: Additional fuel burn
KPI17: Level-off during climb
KPI18: Level capping during cruise
KPI19: Level-off during descent
KPI20: Number of aircraft accidents
KPI21: Number of runway incursions
KPI22: Number of runway excursions
KPI23: Number of airprox/TCAS alert/loss of separation/near midair collisions/midair collisions (MAC)

(1) KPA s	(2) Focus Areas	(3) Performance Objectives	(4) Remarks
Capacity	Capacity, throughput & utilization	Overcome capacity limitations attributable to route network design	<i>PBN implementation in progress</i>
Capacity	Capacity, throughput & utilization	Take advantage of increased navigation precision (airspace with PBN operations) to implement route networks and airspace structures with smaller lateral and vertical safety buffers	<i>PBN implementation in progress</i>
Capacity	Capacity, throughput & utilization	Increase airport peak arrival capacity	<i>ACDM implementation project (to be analyzed)</i>
Capacity	Capacity, throughput & utilization	Equip additional RWY ends with instrument approaches	<i>PBN implementation in progress</i>
Capacity	Capacity, throughput & utilization	Reduce approach minima (ceiling & visibility)	<i>PBN implementation in progress</i>
Capacity	Capacity, throughput & utilization	Increase airport arrival rate	<i>PBN implementation in progress</i>
Capacity	Capacity, throughput & utilization	Apply merging & synchronisation of arrival flows	<i>Point merge implemented (Brazil, Colombia)</i>

Short Term Top priorities for Airlines

- Some ASBU elements should be “mandatory” for all States to assure harmonization and interoperability.
- The implementation of these ASBUs should consider their enablers.
- The following ASBUs should be considered in short term for all States:
 - FRTO B0/1, B0/2, B0/4 (Enabler) and B1/1
 - NOPS B0/1, B0/2 and B/03
 - APTA B0/1, B0/2, B0/4, B0/5, B0/7, B0/8, B1/1, B1/2, B1/4 and B1/5

Link between RANP, GREPECAS and Implementation Groups

- FRTO/APTA
 - CAR/SAM Airspace Optimization Programme - NEOSPACE-1 Project
 - NACC/WG and SAM/IG/SG1
 - AOTF (NACC) and GESEA (SAM)

Link between RANP, GREPECAS and Implementation Groups

Five Years Goals

Short term (2023/2024)

- Implement UPRs of route catalogue
- Create a process to expedite publication of UPRs
- Develop a Regional Guidance Material for implementing SDR and UPR, including operational/technical requirements.
- Develop a Regional FRA CONOPS, including operational/technical requirements.
- Initiate FRA trial in at least 1 CAR/SAM State
- Include UPR, SDR and FRA in the CAR/SAM Air Navigation Plan, through GREPECAS and corresponding NACC and SAM Implementation Groups.

Medium term (2025-2027)

- Implement SDR in 80%+ of SAM FIRs
- Implement SDR cross-border in at least 4 adjacent SAM FIRs
- Implement FRA in 20%+ of CAR/SAM FIRs

Link between RANP, GREPECAS and Implementation Groups

- NOPS
 - Improve demand and capacity balancing (DCB) Project
 - NACC/WG and SAM/IG
 - ATMF/TF (NACC) and GESEA/SG3 (SAM)

Link between RANP, GREPECAS and Implementation Groups

Short term (2023/2024)

- Prioritize investment on ATFM implementation, including allocation and training of human resources
- Implement an ATFM tactical coordination mechanism in SAM Region
- Implement/Improve and disseminate the ATFM Daily Plan to all stakeholders
- Review ATC sectorization to identify present and future bottlenecks
- Implement Post-operations analysis process based on agreed key performance indicators

Medium term (2025-2027)

- Implement a full ATFM service, including ATM Planning and ATFM Execution (Strategic, Pre-tactical, Tactical, and post-operations phases)

How to make a harmonized implementation?

- RANP Volume III
- GREPECAS Programmes and Projects
- NACC and SAM Implementation Groups
 - CONOPS
 - Road Map
 - Guidance Material

