International Civil Aviation Organization

MIDANPIRG RANP/NANP Task Force

Second Meeting (RANPNANP TF/2)
(Cairo, Egypt, 17 – 19 February 2025)

Agenda Item 5:   Review and update MID Air Navigation Plan Volume III

REVIEW AND UPDATE OF THE MID AIR NAVIGATION PLAN VOLUME III

(Presented by the Secretariat)

SUMMARY

This paper presents the MID Air Navigation Plan Volume III for review and further improvement, as deemed necessary.

Action by the meeting is at paragraph 3.

REFERENCES

- GANP 7th edition;
- MIDANPIRG/21 (Abu Dhabi, UAE, 4 – 8 March 2024);
- AIMDP TF/1 (2202-21 January 2025, Amman, Jordan);
- ATM SG/10 (20-23 October 2024, Jeddah, Saudi Arabia);
- CNS SG/13 (20-23 October 2024, Jeddah, Saudi Arabia);
- PBN SG/9 (9-11 December 2024, Doha, Qatar);
- MET SG/12 (12-13 November 2024, Virtual);
- ASPIG/6 (27-29 May 2024, Muscat, Oman).

1.   INTRODUCTION

1.1   The ICAO Council approved the new eANP Template (Volumes I, II and III) and corresponding procedure for amendment on 18 June 2014 (202nd session, fourth meeting).

1.2   The MID eANP Volume I, II and III are available on the ICAO MID website: http://www.icao.int/MID/Pages/MIDeANP.aspx

1.3   The Assembly, through Resolution A41-6, endorsed the 2023-2025 edition of the Global Air Navigation Plan (GANP) as the global strategic direction for safety and the evolution of the air navigation system.

1.4   Furthermore, the Assembly 41 resolved that these global plans shall provide the frameworks in which regional, sub-regional and national plans will be developed and implemented, thus ensuring consistency, harmonization and coordination of efforts aimed at improving international civil aviation safety, capacity and efficiency.

1.5   The meeting may wish to note that Volume III contains dynamic/flexible plan elements providing implementation planning guidance for air navigation systems and their modernization taking into consideration emerging programmes such as the ASBUs and associated technology roadmaps described in the GANP. The ANP Volume III also includes appropriate additional guidance, particularly with regard to implementation, to complement the material contained in the ANP Volumes I and II. The amendment of Volume III does not require approval by the Council (approval of Part II is under the responsibility of the relevant PIRG).

2. **DISCUSSION**

2.1 As per the MIDANPIRG/21 mandate (para. 5.2.19, refers), the ICAO MID Office issued State Letter AN 1/7 – 24/185 dated 15 December 2024 to collect the following information and updates from MID States:

a) update on the status of implementation of the priority 1 ASBU Threads/Elements;

b) progress achieved in the implementation of the Performance Based Approach and development of State National Air Navigation Plan (NANP), by completing the Questionnaire; and

c) State's major achievement(s)/success story(ies) in the air navigation field in 2024.

2.2 Regarding the implementation status of the Performance Based Approach (PBA) within the MID Region, **Appendix A** presents the activities undertaken by ICAO MID and the progress made by States in developing their National Air Navigation Plans (NANP).

2.3 The meeting may wish to note that the following update and proposals have been received from States and MIDANPIRG Sub-Groups to revise MID ANP Volume III as presented at **Appendix B**:

a) **AIMDP TF/1** proposed to revise the following tables:

I. TABLE ASBU-MID-DAIM 3-1: *Automated Data-Centric Environment*;

II. TABLE ASBU-MID- DAIM-3-2: *Aeronautical Data Quality;*

III. TABLE ASBU-MID - DAIM-3-3: *Provision of Digital Data Sets*

b) **ATM SG/10** based on ICAO GANP 7th edition requested to include KPI 04 to the list of MID Region KPIs in *MID ANP Volume III Table 3* for regional monitoring purposes;

c) **MID States:** the list of Performance Objectives and associated Operational Improvements (projects) proposed by States for inclusion in the MID ANP Volume III at **Appendix B**.

3. **ACTION BY THE MEETING**

3.1 The meeting is invited to:

a) note and discuss the content of this working paper;
b) note the ICAO MID activities and the progress made by States in developing their National Air Navigation Plans (NANP) at **Appendix A**;
c) review the content of proposal for the next version of MID Air Navigation Plan Volume III at **Appendix B** and agree on the following Draft Conclusion:

DRAFT CONCLUSION 2/1: *REVISED MID AIR NAVIGATION PLAN VOLUME III*

That, the Revised MID Air Navigation Plan Volume III (Edition February 2025) is endorsed and be published by the ICAO MID Office.

STATES STATUS REGARDING IMPLEMENTATION OF PBA & DEVELOPMENT OF NANP

According to State Letter AN 1/7 – 24/185, dated 15 December 2024, and as detailed in Attachment B, the current status of MID States regarding the implementation of the PBA concept and the development of the NANP is as follows:

State	PBA implemented	Details related to the 6 steps approach provided	Example of performance initiatives shared with ICAO MID for inclusion in ANP Volume III	NANP developed	Remarks
Bahrain	No	No	No	No	No reply to attachment B
Egypt	No	No	No	No	Planned to conduct NANP workshop in Q2 2025
Iran	No	No	No	On-going	NANP workshop conducted 2-5 February 2025
Iraq	No	No	No	No	Planned to conduct NANP workshop in Q3 2025
Jordan	Yes	No	No	On-going	NANP workshop conducted 27-29 May 2024
Kuwait	Yes	Yes	Yes	Completed	NANP workshop conducted 28 May-1 June 2023
Lebanon	No	No	No	No	No reply to attachment B
Libya	No	No	No	No	Planned to conduct NANP workshop in Q3 2025
Oman	No	No	No	No	No reply to attachment B
Qatar	Yes	Yes	Yes	Completed	Planned to conduct NANP workshop in Q3 2025
Saudi Arabia	Yes	Yes	Yes	Completed	The link will be shared with ICAO MID Office
Sudan	No	No	No	No	No reply to attachment B
Syria	No	No	No	No	No reply to attachment B
UAE	Yes	No	Yes	On-going	-
Yemen	No	No	No	No	No reply to attachment B

APPENDIX B

MID AIR NAVIGATION PLAN

VOLUME III

(~~March 2023~~February 2025)

MID AIR NAVIGATION PLAN

VOLUME III

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MID ANP, VOLUME III

PART 0 – INTRODUCTION

1. INTRODUCTION

1.1 The background to the publication of ANPs in three volumes is explained in the Introduction of Volume I. The procedure for amendment of Volume III is also described in Volume I. Volume III contains dynamic/flexible plan elements related to the application of a performance-based approach for a cost-effective and benefit-driven modernization of the air navigation system in line with the Global Air Navigation Plan (GANP).

1.2 Collaborative decision-making is key for a cost-effective modernization of the air navigation system and ensures that all concerned aviation stakeholders are involved and given the opportunity to influence decisions in order to reach defined performance objectives. Volume III guides the aviation community in the application of performance management process and identification of relevant and timely operational improvements to a given region's air navigation system including some within the Aviation System Block Upgrade (ASBU) framework.

1.3 The information contained in Volume III is, therefore, related to:

- Planning: objectives, priorities, targets and needs planned at regional or sub-regional levels;

- Monitoring and reporting: performance and implementation monitoring of the agreed targets. This information should be used as the basis for reporting purposes (i.e.: global and regional air navigation reports and performance dashboards); and/or

- Guidance: providing regional guidance material for the implementation of specific system/procedures in a harmonized manner.

1.4 MIDANPIRG is responsible for managing and updating Volume III on a regular basis.

1.5 Whereas ICAO addresses the planning strategy at the global and regional levels, planning at the national level is the responsibility of States. A national planning framework should be developed by each State based on its needs and in collaboration with regional and global partners. This will ensure to the greatest extent possible that solutions are internationally harmonized and integrated.

1.6 National air navigation plans, as well as other national plans dealing with other aspects of aviation such as safety, security and facilitation, should all be linked together in a broader national aviation plan to ensure an integrated strategic approach at the State level. This broader plan can be considered as a civil aviation "master plan" addressing all aspects of air transport at the State level. The objective is to provide a clear and comprehensive planning and implementation strategy for the future development of the entire civil aviation sector in terms of policies, legislation, objectives, facilities, equipment, organization and capacity-building.

1.7 The master plan should also emphasize the importance of air transport for the economic development of the State. As such, the master plan should be linked to the State's overarching national development plan, where applicable, in order to mobilize public and private resources and partnerships for the implementation of the plan and to strengthen the civil aviation sector.

1.8 A clearly defined relationship between national air navigation plans aligned with the global and regional plans (GANP and RANP), civil aviation master plans and States' national development plans will enable the prioritization and optimum allocation of resources for all planned projects within States and across all sectors of activity.

MID ANP, VOLUME III
PART I - GENERAL PLANNING ASPECTS (GEN)

1. PLANNING METHOD

1.1   Planning for the modernization of the air navigation system must begin with a thorough understanding of user system requirements and take into account traffic density and complexity, and the level of sophistication required for the provision of necessary services, among other elements.

1.2   The Thirteenth Air Navigation Conference recommended that ICAO encourage the planning and implementation regional groups (PIRGs) to embrace a performance-based approach (PBA) for implementation and adopt the six-step performance management process, as described in the Manual on Global Performance of the Air Navigation System (Doc 9883), by reflecting the process in Volume III of all regional air navigation plans. Recommendation 4.3/1 — Improving the performance of the air navigation system, refers.

1.3   A PBA is results-oriented, helping decision makers set priorities and determine appropriate trade-offs that support optimum resource allocation while maintaining an acceptable level of safety performance and promoting transparency and accountability among stakeholders.

1.4   A PBA is a decision-making method based on three principles: strong focus on desired/required results; informed decision-making driven by those desired/required results; and reliance on facts and data for decision-making. The PBA is a way of organizing the performance management process.

1.5   Although there are several ways to apply a PBA, ICAO advocates for a globally harmonized performance management process based on six well-defined steps. The goal of this cyclic six-step method is to identify optimum solutions based on operational requirements and performance needs so that the expectations of the aviation community can be met by enhancing the performance of the air navigation system and optimizing allocation and use of the available resources.
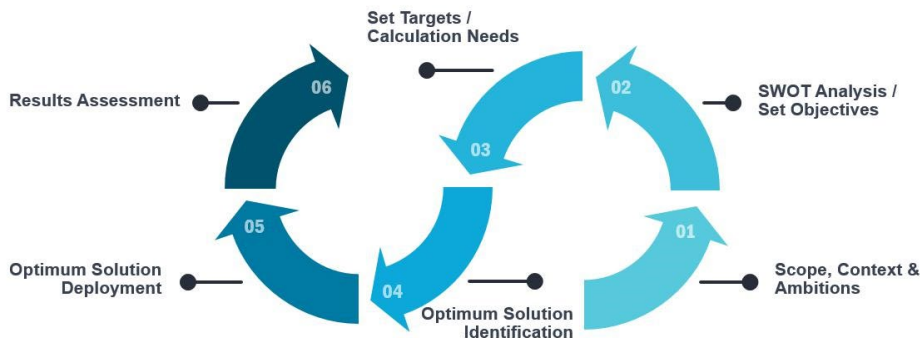

Figure 1 Six-step performance management process

1.6   Steps 1 and 2 serve to know the air navigation system, its strengths, weakness, opportunities and threats as well as how it is performing in order to set objectives. The catalogue of performance objectives that is part of the GANP global performance framework facilitates the definition of objectives.

1.7   Based on these objectives, targets can be set in step 3. An analysis of this data leads to the identification of potential solutions, in step 4, to achieve the targets by addressing the weaknesses and threats of the system. Once a set of potential solutions have been identified, a cost-benefits analysis, environmental impact assessment, safety assessment and human factor assessment should be performed to identify the optimum solution. In the GANP performance framework, a list of KPIs, linked to the relevant objectives in the performance objectives catalogue, is provided to set targets though the quantification of objectives **(See list below)**.

KPI 01	Departure punctuality	**KPI 13**	Taxi-in additional time
KPI 02	Taxi-out additional time	**KPI 14**	Arrival punctuality
KPI 03	ATFM Slot adherence	**KPI 15**	Flight time variability
KPI 04	Filed flight plan en-route extension	**KPI 16**	Additional fuel burn
KPI 05	Actual en-route extension	**KPI 17**	Level-off during climb
KPI 06	En-route airspace capacity	**KPI 18**	Level capping during cruise
KPI 07	En-route ATFM delay	**KPI 19**	Level-off during descent
KPI 08	Additional time in terminal airspace	**KPI 20**	Number of Aircraft Accidents
KPI 09	Airport peak capacity	**KPI 21**	Number of RWY Incursions
KPI 10	Airport peak throughput	**KPI 22**	Number of RWY Excursions
KPI 11	Airport throughput efficiency	**KPI 23**	Number of Airprox/TCAS
KPI 12	Airport/Terminal ATFM delay		Alert/Loss of separation/Near mid Air Collisions/Mid Air Collisions

1.8   Step 5 manages a coordinated deployment of the agreed solution by all stakeholders based on the previous steps. Regional plans might need to be developed for the deployment of solutions by drawing on supporting technology requirements.

1.9   Finally, step 6 consists of monitoring and reporting the performance of the system after the full deployment of the solution.

1.10   This is an iterative planning process, which may require repeating several steps until a final plan with specific targets is in place. This planning method requires full involvement of regulators (CAAs), service providers, airspace users and other stakeholders, thus ensuring commitment by all for implementation.

2.   Review and evaluation of air navigation planning and reporting and monitoring results

2.1   The progress and effectiveness against the priorities set out in the National and Regional Air Navigation Plan should be annually reported to ICAO using a consistent reporting format.

2.2   Performance monitoring requires a measurement strategy. Data collection, processing, storage and reporting activities supporting the identified regional/national/local performance metrics are fundamental to the success of performance-based approaches.

2.3   The air navigation planning and implementation performance framework prescribes reporting, monitoring, analysis and review activities being conducted on a cyclical, annual basis.

2.4   Reporting and monitoring results will be used to develop the MID Annual Air Navigation Reports. They will be analyzed by MIDANPIRG to steer the air navigation improvements, recommend corrective actions and review the agreed objectives, priorities and targets, if needed. The results will also be used by ICAO to develop the annual Global Air Navigation Report. The Report results will provide an opportunity for the international civil aviation community to compare progress across different ICAO Regions in the establishment of air navigation infrastructure and performance-based procedures.

2.5   The Report will also provide the ICAO Council with detailed annual results on the quality of service provided worldwide as well as the performance areas, which require more attention. This will serve as input for the triennial policy adjustments to the GANP and its priorities.

MID ANP, VOLUME III

PART II – PERFORMANCE MANAGEMENT PLANNING (PMP) AND ANS IMPLEMENTATION

1. STEP 1: DEFINE SCOPE, CONTEXT AND SET AMBITIONS/EXPECTATIONS

1.1   The purpose of Step 1 is to reach a common agreement on the scope and (assumed) context of the "system" on which the performance management process will be applied, as well as a common view on the general nature of the expected performance improvements. An important part of the PBA is the development of cause-effect relationships between these technical performance characteristics and the selected higher level KPAs from the eleven key performance areas (KPAs) as identified in the Global Air Traffic Management Operational Concept (Doc 9854).

1.2   Scope definition is important to avoid misunderstandings, in particular about the performance (improvement) which can be expected within the given scope. By defining the scope of the performance management activity, the limits of responsibility and accountability are also defined. Geographically, the scope could be an Aerodrome, FIR, TMA, CTA, etc., but the scope definition could include additional details such as type of traffic (international, overflight, IFR, VFR), etc.

1.3   Within a given scope, the purpose of identifying general ambitions and expectations is to develop a strategic view on the (performance) results that are expected.

1.4   States are requested to define the scope and context of the required performance improvements to the national air navigation system as well as the nature of the expected performance improvements.

1.5   The expectations of the global aviation community are defined in 11 Key Performance Areas (KPAs). The GANP considers all these areas through the performance ambitions. Although all these areas are equally important, as they are interrelated and cannot be considered in isolation, some areas are more visible to society than others.
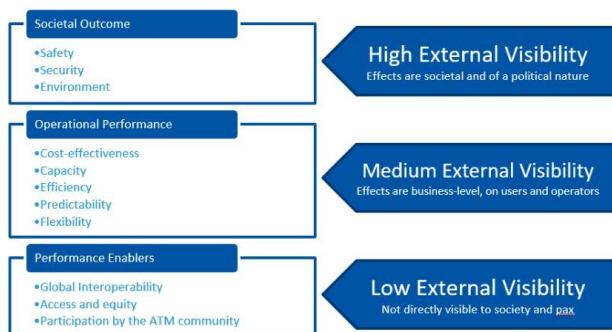

Figure 2 The 11 KPAs of the GANP

1.6   A Summary of the GANP Performance Ambitions is provided hereafter:

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

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

2.   STEP 2: KNOW YOUR SYSTEM – IDENTIFY OPPORTUNITIES, ISSUES AND SET OBJECTIVES

2.1   The purpose of Step 2 is to develop a detailed understanding of the performance behaviour of the system (this includes producing a list of opportunities and issues), and to decide which specific performance aspects are essential for meeting the general expectations. The essential performance aspects are those which need to be actively managed (and perhaps improved) by setting performance objectives.

2.2   Based on the scope, context and general ambitions/expectations which were agreed to during the previous step, the system should be analysed in order to develop an inventory of present and future opportunities and issues (weaknesses, threats) that may require performance management attention. This part of the process is generally known as the SWOT (strengths, weaknesses, opportunities and threats) analysis.

2.3   A SWOT analysis, requires the identification of:

- *Strengths*: internal attributes of a system or an organization that can help in the realization of ambitions or in meeting expectations.

- *Weaknesses*: internal attributes of a system or an organization that are a detriment to realizing ambitions or meeting expectations.

- *Opportunities*: are external conditions that help in the realization of ambitions or in meeting expectations.

- *Threats*: external conditions that are a detriment or harmful to realizing ambitions or meeting expectations.

2.4   Once the strengths, weakness, opportunities and threats are identified, action can be taken to target and exploit or remove these factors. The SWOT analysis should be conducted at local/national level.

Regional objectives

2.5   Based on regional performance and operational needs, differences, constraints and opportunities, MIDANPIRG is responsible for defining regional planning and implementation priorities, aligned with the GANP.

2.6   Considering the global objectives defined in the GANP and those identified by States, within the key performance areas prioritized in step 1, MIDANPIRG may set common objectives to be pursued by the States within the Region and to be monitored at regional level.

3.   STEP 3: QUANTIFY OBJECTIVES AND SET TARGETS

3.1   The principle of "reliance on facts and data for decision-making" implies that objectives should be specific, measurable, achievable, relevant and time-bound (SMART). The purpose of Step 3 in the process is to ensure that these aspects are properly addressed.

3.2   During this step, the current/past performance (Perfromance Baseline), expected future performance, as well as actual progress in achieving performance objectives is quantitatively expressed by means of Key Performance Indicators (KPIs).

3.3   KPIs are not often directly measured. They are calculated from supporting metrics according to clearly defined formulas. Performance measurement is therefore done through the collection of data for the supporting metrics.

3.4   Data collection should take place at the most detailed level of granularity that can be afforded because the availability of detailed data greatly increases the effectiveness of the performance-based approach.

3.5   Performance targets are closely associated with performance indicators (KPIs) as they represent the values of performance indicators that need to be reached or exceeded to consider a performance objective as being fully achieved.

3.6   To understand how challenging it is to reach a target, one should know the baseline performance. The difference between the baseline and the target is called the performance gap. The determination of the baseline performance (calculation of baseline indicator values) is done based on the previous iteration of the process (historical data).

List of regional indicators

3.7   The GANP includes a series of KPIs linked to the catalogue of performance objectives within the 11KPAs. At the Regional level, MIDANPIRG defines regional performance objectives, using the key performance indicators (KPIs) of the GANP, to achieve regional performance ambitions. The list of KPIs to be used for the regional level is as follows:

Table 3. MID Air Navigation KPIs

KPI (KPAs)	Title / Definition	Measurement Units	Variants
KPI01 (predictability)	**Departure punctuality** Percentage of flights departing from the gate on-time (compared to schedule).	% of flights	Variant to be selected from those available in the GANP
KPI02 (Efficiency Environmental Impact)	**Taxi-out additional time** Actual taxi-out time compared to an unimpeded/reference taxi-out time.	Excess taxi-out time in Minutes/flight	Variant to be selected from those available in the GANP
KPI 04 (Efficiency)	**Filed flight plan en-route extension** Flight planned en-route distance compared to a reference ideal trajectory distance.	% excess distance	Variant, using a 40 NM cylinder around the departure airport and a 100 NM cylinder around the destination airport as the start/end of en-route airspace.
KPI06 (Capacity)	**En-route airspace capacity** The maximum volume of traffic an airspace volume will safely accept under normal conditions in a given time period.	Movements/hr	Variant to be selected from those available in the GANP
KPI09 (Capacity)	**Airport peak capacity** The highest number of operations an airport can accept in a one-hour time frame (also called declared capacity). Can be computed for arrivals, departures or arrivals + departures.	Number of arrivals / hour	Variant to be selected from those available in the GANP
KPI13 (Efficiency Environmental Impact)	**Taxi-in additional time** Actual taxi-in time compared to an unimpeded/reference taxi-in time	Excess taxi-in time in Minutes/flight	Variant to be selected from those available in the GANP
KPI14 (predictability)	**Arrival punctuality** Percentage of flights arriving at the gate on-time (compared to schedule)	% of flights	Variant to be selected from those available in the GANP
KPI20 (Safety)	**Number of Aircraft Accidents** Accident' is defined in ICAO Annex 13, Chapter 1-Definitions; ADREP: Accident Data Report	Number of accidents / year	Variant 1 (GASP): Aircraft MTOW > 2 250 kg 1.1 National accident occurrence level
KPI21 (Safety)	**Number of RWY Incursions** Number of occurrences at an aerodrome involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing and take-off of aircraft. (CICTT Taxonomy definition)	Number of runway incursions / year	None
KPI22 (Safety)	**Number of RWY Excursions** Number of veer offs or overruns of the runway surface.	Number of runway excursions / year	None
KPI23 (Safety)	**Number of Airprox/TCAS Alert/Loss of separation/Near mid Air Collisions/Mid Air Collisions** Number of airproxes, TCAS alerts, loss of separation as well as near collisions or collisions between aircraft in flight.	Number of airprox/TCAS alert/loss of separation/near midair collisions/midair collisions (MAC)/ year	Variants to be selected from those available in the GANP

3.8   The measurement of these KPIs, as well as the progress in achieving performance objectives will be monitored at the regional level. Yet, States, as part of their national air navigation plan, should use additional KPIs to measure the progress in achieving all their performance objectives.

4. STEP 4: SELECT SOLUTIONS

4.1 The purpose of this step is to combine the knowledge of baseline performance, opportunities and issues with the performance objectives and targets, in order to make decisions in terms of priorities, trade-offs, selection of solutions and resource allocation. The aim is to optimize the decisions to maximize the achievement of the desired/required (performance) results.

4.2 This is the part of the process where decision-makers need to know their options for mitigating pre-identified issues and therefore to exploit available opportunities. The list then needs to be analyzed in a performance oriented way, to assess/quantify the impact of drivers, constraints, impediments, etc., on the objectives under consideration. The solution might be ASBU or non-ASBU solution. Depending on the nature of the project, the output of this process is either a single preferred solution or a roadmap of selected solutions. In any case, decision-makers need to gain a good understanding of the strategic fit, the benefits, cost and feasibility of each option for operational improvement.

4.3 States should consider the operational improvements (ASBU elements) within the ASBU framework as potential solutions to improve the selected objectives/KPIs in the operational environment under analysis. In order to help States with this task, ICAO has developed the Air Navigation System Performance Analysis (AN-SPA) tool, available for free at:
https://www4.icao.int/ganpportal/ANSPA/Reports

4.4 Considering the identified needs at regional level, the ICAO SARPs linked to the ASBU framework, the required performance improvements, the States' needs and capabilities and users' requirements, MIDANPIRG sets in the MID Region Air Navigation Strategy (MID Doc 002) available at: *https://www.icao.int/MID/MIDANPIRG/Pages/MID-Docs.aspx*, the list of priority 1 ASBU Threads/Elements with their associated areas of applicability and targets, for implementation by States and monitoring at the regional level.

4.5 In addition to the priority 1 ASBU Elements, States should report to ICAO all the optimum solutions that they have identified for the achievement of the agreed performance objectives, in order to be included in the annual Web-based MID Air Navigation Report available at: *https://www.icao.int/MID/MIDANPIRG/Pages/MID-AN.aspx.*

5. STEP 5: IMPLEMENT SOLUTIONS

5.1 Step 5 is the execution phase of the performance management process. This is where the changes and improvements that were decided upon during the previous steps are organized into detailed plans, implemented, and begin delivering benefits.

5.2 Once the optimum solution/s has/have been identified, it is the moment to start the execution phase of the performance management process. The changes and improvements that have been identified as the optimum solution for the problem during the previous steps are organized into plans, implemented and begin delivering services to achieve the expected performance. During this execution phase, it is important to keep track of the project deployments (time, budget, etc.).

6. STEP 6: ASSESS ACHIEVEMENTS

6.1 The purpose of Step 6 is to continuously keep track of performance and monitor whether performance gaps are being closed as planned and expected.

6.2 Once the project is implemented, it is time to assess the benefits from the implementation. This means measuring the performance of the operational environment under analysis once the solution/s has/have been deployed.

6.3 First and foremost, this implies data collection to populate the supporting metrics with the data needed to calculate the performance indicators. The indicators are then compared with the targets defined during Step 3 to draw conclusions on the speed of progress in achieving the objectives.

6.4 This step also includes monitoring progress of the implementation projects, particularly in those cases where the implementation of solutions takes several years, as well as checking periodically whether

all assumptions are still valid and the planned performance of the solutions is still meeting the (perhaps changed) requirements.

6.5   With regard to the review of actually achieved performance, the output of this step is simply an updated list of performance gaps and their causes. In practice, the scope of the activity is often interpreted as being much wider and includes recommendations to mitigate the gaps.

6.6   This is then called performance monitoring and review, which in addition to this step, includes step 1, 2 and 3.

6.7   For the purpose of organizing performance monitoring and review, the task can be broken down into five separate activities:

- Data collection

- Data publication

- Data analysis

- Formulation of conclusions; and

- Formulation of recommendations.

6.8   As part of the process to assess the achievements, States should calculate/estimate the benefits accrued from the implementation of the solutions implemented in step 5.

6.9   States should also report to ICAO on annual basis the status of implementation of the selected solutions and progress achieved. The updates will be reflected in the annual Web-based MID Air Navigation Report available at: icao.int/MIDANReport/Pages/default.aspx; which will reflect also the priority 1 ASBU Threads/Elements implementation status against the objectives and targets as set forth in the MID Air Navigation Strategy (MID Doc 002), available at: MID Docs (icao.int).

6.10   The following Tables available in the **Appendix** are used for the collection of detailed information related to the implementation of associated priority 1 ASBU Threads/Elements, which are used also for the determination of the performance indicators included in the MID Region Air Navigation Strategy (MID Doc 002): DAIM 3-1, DAIM 3-2, DAIM 3-3, DAIM 3-4, AMET 3-1, AMET 3-2, AMET 3-3, AMET 3-4, APTA 3-1, ACAS 3-1 and ASUR 3-1. Other Tables might be developed for other Threads/Elements.

6.11   The monitoring of these Tables is assigned to the relevant MIDANPIRG Sub Groups.

7.   MID Region Air Navigation Systems Performance Based Framework

7.1   The following Template could support States in the development of their National Air Navigation Plans (NANPs). It is used also to collect information from States on the implementation of the performance based approach (6 step approach) for the measurement of their air navigation system performance; and for the reporting and monitoring at regional level.

MID Region Air Navigation Systems Performance Based Framework/Template

Column

(1)   Scope of Performance Improvement
(2)   KPA (from the ICAO defined 11 Key Performance Areas (KPAs))
(3)   Performance Objectives (ambition/expectations)
(4)   KPIs based on the ICAO list of KPIs and associated variant
(5)   The Baseline of each KPI
(6)   The target of the KPI
(7)   Selected ASBU element(s) /Enabler(s) and/or Non ASBU solution(s) for each operational improvement
(8)   Target Implementation date
(8)(9)   Remarks/Progress

<u>*Note:*</u> The following is just a Sample

Scope/ Applicability	KPA & Focus Area	Performance Objective	KPI/ Variant	KPI Baseline	KPI Target	Operational Improvements (ASBU Elements/Enablers & Non ASBU)	Target Date	Reamarks/ Progress
1	2	3	4	5	6	7	8	
Aerodrome	Predictability (Punctuality)	Maximize departure punctuality	**KPI 01** (Departure punctuality) **Variant X**	TBD for each Airport	TBD for each Airport	TBD by each State/Airport	TBD for each Airport	
Aerodrome	Efficiency (Flight time/ distance)	Minimize Taxi-out time	**KPI 02** (Taxi-out additional time) **Variant X**	TBD for each Airport	TBD for each Airport	TBD by each State/Airport	TBD for each Airport	
Aerodrome	Capacity (Capacity, throughput & utilization)	Increase airport peak arrival capacity	**KPI 09** (Airport peak capacity) **Variant X**	TBD for each Airport	TBD for each Airport	TBD by each State/Airport	TBD for each Airport	
Aerodrome	Efficiency (Flight time/ distance)	Minimize Taxi-in time	**KPI 13** (Taxi-in additional time) **Variant X**	TBD for each Airport	TBD for each Airport	TBD by each State/Airport	TBD for each Airport	
Aerodrome	Predictability (Punctuality)	Maximize Arrival punctuality	**KPI 14** (Arrival punctuality) **Variant X**	TBD for each Airport	TBD for each Airport	TBD by each State/Airport	TBD for each Airport	

Scope/ Applicability	KPA & Focus Area	Performance Objective	KPI/ Variant	KPI Baseline	KPI Target	Operational Improvements (ASBU Elements/Enablers & Non ASBU)	Target Date	Remarks/ Progress
1	2	3	4	5	6	7	8	
Aerodrome	Safety	Minimize Number of RWY Incursions Incidents & Accidents	**KPI 21** (Nr. of RWY Incursions)	TBD for each State/Airport	TBD for each State/Airport	TBD by each State/Airport	TBD by each State/Airport	
Aerodrome	Safety	Minimize Number of RWY Excursions Incidents & Accidents	**KPI 22** (Nr. of RWY Excursions)	TBD for each State/Airport	TBD for each State/Airport	TBD by each State/Airport	TBD by each State/Airport	
ATC (ACC Sectors)	Capacity (Capacity, throughput & utilization)	Enhance capacity of ACC Sectors	**KPI 06** (En-route Airspace capacity) **Variant X**	TBD for each ACC Sector	TBD for each ACC Sector	TBD for each ACC	TBD for each ACC	
State/FIR	Safety	Minimize Number of Aircraft Accidents	**KPI 20** (Number of Aircraft Accidents) **Variant X**	TBD for each State/FIR	TBD for each State/FIR	TBD for each State/FIR	TBD for each State/FIR	
FIR	Safety	Minimize Number of Airprox/TCAS Alert/Loss of separation/Near mid Air Collisions/Mid Air Collisions	**KPI 23** (Number of Airprox/TCAS Alert/Loss of separation/Near mid Air Collisions/Mid Air Collisions) **Variants X, Y, Z**	TBD for each FIR	TBD for each FIR	TBD for each FIR	TBD for each FIR	

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MID Region Air Navigation Systems Performance Based Framework Template (Sample)

Scope/ Applicability	KPA & Focus Area	Performance Objective	KPI/Variant	KPI Baseline	KPI Target	Operational Improvements/ (ASBU Elements/Enablers & Non ASBU)	Target Date	Remarks/ Progress
3	1	2	4	5	6	7	8	
Aerodrome	Predictability (Punctuality)	Maximize departure punctuality	**KPI 01** (Departure punctuality) **Variant X**	TBD for each Airport	TBD for each Airport	TBD by each State/Airport	TBD for each Airport	
Aerodrome	Efficiency (Flight time/ distance)	Minimize Taxi-out time	**KPI 02** (Taxi-out additional time) **Variant X**	TBD for each Airport	TBD for each Airport	TBD by each State/Airport	TBD for each Airport	
Cairo Airport-Egypt (HECA)	Efficiency (Flight time & distance)	Avoid taxi-out additional time resulting from adverse conditions	**KPI 02** **Variant 1** – basic (computed without departure gate and runway data) **Reference Taxi Time:** 15 min	5 Minutes 4 Seconds	4 Minutes	• SURF-B1/4 • AMET-B0/1 • SURF-B1/5 • Applying new procedures	end of 2025 end of 2024 end of 2025 end of 2025	
Erbil Airport-Iraq (ORER)	Efficiency (Flight time/ distance)	Minimize Taxi-out time	**KPI 02** **Variant 1** – basic (computed without departure gate and runway data) **Reference Taxi Time:** 10 min	4min.	2min.	RSEQ B0/2 SURF B1/1 SURF B1/4 Layout improvement	Dec 2024 Dec 2024 Dec 2026 Dec 2026	
Aerodrome	Capacity (Capacity, throughput & utilization)	Increase airport peak arrival capacity	**KPI 09** (Airport peak capacity) **Variant X**	TBD for each Airport	TBD for each Airport	TBD by each State/Airport	TBD for each Airport	

Scope/ Applicability	KPA & Focus Area	Performance Objective	KPI/Variant	KPI Baseline	KPI Target	Operational Improvements/ (ASBU Elements/Enablers & Non ASBU)	Target Date	Remarks/ Progress
3	1	2	4	5	6	7	8	
Aerodrome	Efficiency (Flight time/ distance)	Minimize Taxi-in time	**KPI 13** (Taxi-in additional time) **Variant X**	TBD for each Airport	TBD for each Airport	TBD by each State/Airport	TBD for each Airport	
Aerodrome	Predictability (Punctuality)	Maximize Arrival punctuality	**KPI 14** (Arrival punctuality) **Variant X**	TBD for each Airport	TBD for each Airport	TBD by each State/Airport	TBD for each Airport	
Khartoum Airport Sudan (HSSK)	Predictability (Punctuality)	Increase the number (%) of scheduled flights adhering to the scheduled on-block time	**KPI14 Variant 2A** – % of arrivals within ± 15 minutes of scheduled time of arrival	50%	80%	• RSEQ-B0/1 • New rapid exit taxiway	end of 2025 end of 2026	
Aerodrome	Safety	Minimize Number of RWY Incursions Incidents & Accidents	**KPI 21** (Nr. of RWY Incursions)	TBD for each State/Airport	TBD for each State/Airport	TBD by each State/Airport	TBD by each State/Airport	
Aerodrome	Safety	Minimize Number of RWY Excursions Incidents & Accidents	**KPI 22** (Nr. of RWY Excursions)	TBD for each State/Airport	TBD for each State/Airport	TBD by each State/Airport	TBD by each State/Airport	
ATC (ACC Sectors)	Capacity	Enhance capacity of ACC Sectors	**KPI 06** (En-route airspace capacity)	TBD for each ACC Sector	TBD for each ACC Sector	TBD for each ACC	TBD for each ACC	

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SAMPLE

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Scope/ Applicability	KPA & Focus Area	Performance Objective	KPI/Variant	KPI Baseline	KPI Target	Operational Improvements/ (ASBU Elements/Enablers & Non ASBU)	Target Date		Remarks/ Progress
3	1	2	4	5	6	7	8		
	(Capacity, throughput & utilization)		Variant X						
Jordan Amman ACC North Sector	Capacity	Enhance capacity of Amman ACC North Sector	**KPI 06** **Variant 1** – airspace throughput (entry flow rate)	30 Mvts per hour	50 Mvts per hour	COMI B0/4 NAV B0/3 CSEP B1/3	Dec 2024 Dec 2024 Dec 2026		
State/FIR	Safety	Minimize Number of Aircraft Accidents	**KPI 20** (Number of Aircraft Accidents) **Variant X**	TBD for each State/FIR	TBD for each State/FIR	TBD for each State/FIR	TBD for each State/FIR		
FIR	Safety	Minimize Number of Airprox/TCAS Alert/Loss of separation/Near mid Air Collisions/Mid Air Collisions	**KPI 23** (Number of Airprox/TCAS Alert/Loss of separation/Near mid Air Collision/Mid Air Collisions **Variants**	TBD for each FIR	TBD for each FIR	TBD for each FIR	TBD for each FIR		
Iraq – Baghdad FIR (ORBB)	Safety	To reduce number of TCAS alerts & loss of separation	**KPI 23** **Variant 2**: TCAS alerts **Variant 3**: loss of separation	50 TCAS alerts/year 30 Loss of separation/year	30 TCAS alerts/year 20 Loss of separation/year	• Applying new procedures • Develop advanced training program	end of 2025 end of 2025		

Note: - The collection and processing of data related to Columns 1 to 7 is reflected in the MID Annual Air Navigation Reports: [*https://www.icao.int/MID/MIDANPIRG/Pages/MID-AN.aspx.*]

- The monitoring of the priority 1 ASBU elements implementation is governed by the MID Region Air Navigation Strategy (MID Doc 002): [*https://www.icao.int/MID/MIDANPIRG/Pages/MID-Docs.aspx*] and the status of `implementation of the priority 1 ASBU elements is provided through the MID Annual Air Navigation Reports [*https://www.icao.int/MID/MIDANPIRG/Pages/MID-AN.aspx.*]

The list of Performance Objectives and associated Operational Improvements (projects) proposed by MID States to be included in the MID ANP Volume III for regional monitoring.

Scope/ Applicability	KPA & Focus Area	Performance Objective	KPI/ Variant	KPI Baseline	KPI Target	Operational Improvements (ASBU Elements/Enablers & Non ASBU)	Target Date	Remarks/progress
1	2	3	4	5	6	7	8	9
Kuwait ANS Performance Based framework	Capacity	Increase Planned En-route Airspace Capacity	KPI06/ Movements/ hour	79 Per hour	30 %	Reduce lateral separation through the implementation of RNAV1 parallel routes	2025	
						FICE B0/1 with Bahrain, Iraq and Saudi Arabia	2025	
						Increase individual sector capacity by reducing ATCO workload FRTO B0/4	2026	
						FRTO B0/4 – Basic conflict detection and conformance monitoring	2026	
						Improve ATS routes network interface with Iraq	2026	
						Increase maximum sector configuration by Application of vertical sector splitting	2026	
	Predictability / Punctuality	Improve Departure Punctuality	KPI01/ % of departures within ± 15 minutes of	52%	90%	Prevent early takeoffs by delaying pushback of flights ready at the gate/stand	2025	

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Scope/ Applicability	KPA & Focus Area	Performance Objective	KPI/ Variant	KPI Baseline	KPI Target	Operational Improvements (ASBU Elements/Enablers & Non ASBU)	Target Date	Remarks/progress
1	2	3	4	5	6	7	8	9
			scheduled time of departure			Airport runway expansion (Third runway)	2026	
						Optimize the number of scheduled flights adhering to the push-back tolerance window by reducing the number of scheduled flights with push-back before the tolerance window	2025	
						NOPS B0/1 - Initial integration of collaborative airspace management with air traffic flow management Enablers: AMET B0/1(implemented) FRTO B0/2 (Not implemented)	2026	
						~~Reduce Taxi out time by implementing SURF B0/1~~	~~Implemented~~	
						Delay take-off clearance for flights arriving too early at the departure RWY	2025	
						RSEQ B0/2– Departure Management	2026	
	Safety	Maintain or improve	KPI14/ % of arrivals within ± 15	97.2%	98%	No action is required at this stage, the performance will be		

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Scope/ Applicability	KPA & Focus Area	Performance Objective	KPI/ Variant	KPI Baseline	KPI Target	Operational Improvements (ASBU Elements/Enablers & Non ASBU)	Target Date	Remarks/progress	
1	2	3	4	5	6	7	8	9	
		Arrival Punctuality	minutes of scheduled time of arrival			monitored regularly, and appropriate action(s) will be identified when needed.			
		Reduce the risk of non collision related occurrences associated with incorrect or unsafe usage of runways	KPI21/ Number of runway incursion	14	0	~~SURF B0/1 – Basic ATCO Tools to manage traffic during ground Operations~~	~~Implemented~~		
						SURF B0/2 - Comprehensive situational awareness of surface operations	2025		
						SURF B1/5 - Enhanced vision systems for taxi operations	2026		
						SURF B2/2 - Comprehensive vehicle driver situational awareness on the airport surface	2028		
		Maintain or improve safety in the air	KPI23/ TCAS Alert	8 Pear	0	~~SNET B0/1: Short Term Conflict Alert Enablers (ASUR B0/1 or ASUR B0/2)~~	~~Implemented~~		
						~~SNET B1/1: Enhanced STCA with aircraft parameters~~	~~Implemented~~		
						~~SNET B1/2: Enhanced STCA in complex TMA~~	~~Implemented~~		
						~~ACAS B1/1~~	~~Implemented~~		

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Scope/ Applicability	KPA & Focus Area	Performance Objective	KPI/ Variant	KPI Baseline	KPI Target	Operational Improvements (ASBU Elements/Enablers & Non ASBU)	Target Date	Remarks/progress
1	2	3	4	5	6	7	8	9
						FRTO B0/4: Basic conflict detection and conformance monitoring Enabler FRTO B0/1 (implemented)	2026	
Doha FIR	Capacity (Capacity, throughput & utilization)	Enroute airspace capacity	KPI 06 Variant 2: airspace occupancy count	35 movements/hr.	56 movements/hr.	Enhanced Airspace and FIR implementation; FRTO B0/4; FRTO B1/1	Implemented	
OTHH	Capacity (Capacity, throughput & utilization)	Airport peak throughput	KPI 10 Variant AD: IFR Operations (arrivals + departures)	75 movements/hr.	86 movements/hr.	Independent Parallel Operations; Re-Categorization Wake Turbulence Separation Minima; Visual Guided Approach (Qatar Airway); Reduced Runway Separation Minima; High Intensity Runway Operation; Distance Based Separation Tool; APTA B0/1; APTA B0/2; APTA B0/7; RSEQ B0/1; RSEQ B0/2	Implemented	
OTBD OTHH	Efficiency (Flight time & distance)	Reduce taxi-out additional time	KPI 02 Variant 2: Advanced (computed with departure gate and runway data)	7.88 mins/flight 9.24 mins/flight	7 mins 8 mins	SURF B0/1; RSEQ B0/2	Implemented	
OTBD OTHH	Efficiency (Flight time & distance)	Reduce taxi-in additional time	KPI 13 Variant 2: Advanced (computed with	2.88 mins/flight 1.31 mins/flight	2.5 mins 1 min	SURF B0/1	Implemented	

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Scope/ Applicability	KPA & Focus Area	Performance Objective	KPI/ Variant	KPI Baseline	KPI Target	Operational Improvements (ASBU Elements/Enablers & Non ASBU)	Target Date	Remarks/progress	
1	2	3	4	5	6	7	8	9	
			landing runway and arrival gate data)						
OTBD OTHH	Predictability (Punctuality)	Increase the number (%) of scheduled flights adhering to the scheduled off-block time.	KPI 01 Variant 2A: % of departures within ± 15 minutes of scheduled time of departure	52% of flights 72% of flights	50% of flights 90% of flights	RSEQ B0/2	Implemented		
OTBD OTHH	Predictability (Punctuality)	Increase the number (%) of scheduled flights adhering to the scheduled on-block time.	KPI 14 Variant 2A: % of arrivals within ± 15 minutes of scheduled time of arrival	44% of flights 52% of flights	50% of flights 90% of flights	ACDM B0/1; ACDM B0/2	Implemented		
FIR	Safety (Maintain or improve safety) Note: Occurrences where ATC was the main cause or a major contributory factor	Maintain or improve operational safety outcomes	KPI 20 Variant 2.1 National accident occurrence level	0 accident/year	0 accident/year	SURF B0/1; SURF B0/2 SURF B0/3; SNET B0/1 SNET B0/2 SNET B0/3 SNET B0/4; ACAS B1/1; FRTO B0/4	Implemented		
OTBD OTHH	Safety (Maintain or improve safety) Note: Occurrences where ATC was the main cause or a major contributory factor	Reduce number of runway incursions	KPI 21 The actual number of runway incursions at an aerodrome	OTBD: 6 incursions/year OTHH: 3 incursions /year	0.1 (1 per 10,000 mvts)	SURF B0/1; SURF B0/2	Implemented		
OTBD OTHH	Safety (Maintain or improve safety) Note: Occurrences where ATC was the main cause or a major contributory factor	Reduce number of runway excursions	KPI 22 The actual number of runway excursions at an aerodrome	OTBD: 0 excursions/year OTHH: 0 excursions/year	OTBD: 0 excursions/year OTHH: 0 excursions/year	SURF B0/3	Implemented		
FIR	Safety (Maintain or improve safety) Note: Occurrences where ATC was the main cause or a major contributory factor	Maintain or improve safety in the air	KPI 23 Variant 1: Number of airproxes Variant 2: TCAS alerts	5 airprox/year 4 TCAS alerts/year	SPIs alert levels	Procedures review Safety Nets review Training improvement Random sampling by Standard and Competency Unit	Implemented		

Scope/ Applicability	KPA & Focus Area	Performance Objective	KPI/ Variant	KPI Baseline	KPI Target	Operational Improvements (ASBU Elements/Enablers & Non ASBU)	Target Date	Remarks/progress
1	2	3	4	5	6	7	8	9
To allow the use of airspace which would otherwise be segregated (i.e. special use airspace) along with flexible routing adjusted for specific traffic patterns. This will allow greater routing possibilities, reducing potential congestion on trunk routes and busy crossing points, resulting in reduced flight length and fuel burn.	KPA 02 — Capacity KPA-04 – Efficiency	Flexible use of airspace (FUA	N/A	Increase in the FUA concept in coordination with the State stakeholders	30% of the current D/P/R to be converted to FUA	B0 – FRTO Improved Operations through Enhanced En-Route Trajectories	On Going	
To use performance-based airspace and arrival procedures allowing	KPA 04 — Efficiency	To use performance-based airspace and arrival procedures allowing aircraft to fly their optimum	Indicator: % Aerodromes/TMA with PBN STAR implemented	60%	100%	APTA-B0/4 CDO : Improved Flexibility and Efficiency in Descent Profiles PBN STARs	2026	

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Scope/ Applicability	KPA & Focus Area	Performance Objective	KPI/ Variant	KPI Baseline	KPI Target	Operational Improvements (ASBU Elements/Enablers & Non ASBU)	Target Date	Remarks/progress	
1	2	3	4	5	6	7	8	9	
aircraft to fly their optimum profile using continuous descent operations (CDOs). This will optimize throughput, allow fuel efficient descent profiles and increase capacity in terminal areas		profile using continuous descent operations (CDOs). This will optimize throughput, allow fuel efficient descent profiles and increase capacity in terminal areas.	Supporting Metric: Number of International Aerodromes/TMAs with PBN STAR implemented						
Manage arrivals and departures (including time-based metering) to and from a multi-runway aerodrome or locations with multiple dependent runways at closely proximate aerodromes, to efficiently utilize the inherent runway capacity. / Runways and terminal manoeuvring area	KPA 01 — Access and equity KPA 04 — Efficiency	Arrival Manager (AMAN) & Departure Manager (DMAN)	Indicator: % of Aerodromes that are managed by AMAN/DMAN systems Supporting metric: Number of Aerodromes that are managed by AMAN/DMAN systems	N/A	100%	B0 – RSEQ Improved Traffic Flow through	On-going		

Scope/ Applicability	KPA & Focus Area	Performance Objective	KPI/ Variant	KPI Baseline	KPI Target	Operational Improvements (ASBU Elements/Enablers & Non ASBU)	Target Date	Remarks/progress
1	2	3	4	5	6	7	8	9
in major hubs and metropolitan areas will be most in need of these improvements. The improvement is least complex – runway sequencing procedures are widely used in aerodromes globally. However, some locations might have to confront environmental and operational challenges that will increase the complexity of development and implementation of technology and procedures to realize this Module.								

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APPENDICES

DAIM Digital Aeronautical Information Management

In order to assist States in the planning for the transition from AIS to AIM in an expeditious manner, the following Tables, should be used:

1- **Table DAIM 3-1** sets out the requirements for the Provision of AIS/AIM products and services based on the Integrated Aeronautical Information Database (IAID). It reflects the transition from the current product centric AIS to data centric AIM. For the future digital environment, it is important that the authoritative databases are clearly designated and such designation must be published for the users. This is achieved with the concept of the Integrated Aeronautical Information Database (IAID), a single access point for one or more authoritative databases (AIP, Terrain, Obstacles, AMDB, data-driven charting, etc.) for which the State is responsible. This Table will be used for the monitoring of the GANP and MID Region Air Navigation Strategy element DAIM-B1/1.

2- **Table DAIM 3-2** sets out the requirements for aeronautical data quality. It will be used for the monitoring of the GANP and MID Region Air Navigation Strategy element DAIM-B1/1.

3- **Table DAIM 3-3** sets out the requirements for the implementation of the World Geodetic System – 1984 (WGS-84). The requirement to use a common geodetic system remains essential to facilitate the exchange of data between different systems. The expression of all coordinates in the AIP and charts using WGS-84 is an important first step for the transition to AIM. This Table will be used for the monitoring of the GANP and MID Region Air Navigation Strategy element DAIM-B1/1.

4- **Table DAIM 3-4-1** sets out the requirements for the provision of Terrain and Obstacle data sets for Area 1 and Area 4. It will be used for the monitoring of the GANP and MID Region Air Navigation Strategy elements DAIM-B1/3 and DAIM-B1/4.

5- **Table DAIM 3-4-2** sets out the requirements for the provision of Terrain and Obstacle data sets for Area 2. It will be used for the monitoring of the GANP and MID Region Air Navigation Strategy elements DAIM-B1/3 and DAIM-B1/4.

6- **Table DAIM 3-4-3** sets out the requirements for the provision of Terrain and Obstacle data sets for Area 3 and implementation of Airport Mapping Databases (AMDB). It will be used for the monitoring of the GANP and MID Region Air Navigation Strategy elements DAIM-B1/3, DAIM-B1/4 and B1/5.

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Table DAIM 3-1

Provision of AIS/AIM products and services based on the Integrated Aeronautical Information Database (IAID)

EXPLANATION OF THE TABLE

Column:

1 — Name of the State or territory for which the provision of AIS/AIM products and services based on the IAID is required.

2 — Requirement for the implementation and designation of the authoritative IAID, shown by:
- FI   Fully Implemented
- PI   Partially Implemented
- NI   Not Implemented

Note 1 — The IAID of a State is a single access point for one or more databases (AIP, Terrain, Obstacles, AMDB, etc.). The minimum set of databases which should be integrated is defined in Annex 15.

Note 2 — The information related to the designation of the authoritative IAID should be published in the AIP (GEN 3.1)

3 — Requirement for an IAID driven AIP production, shown by:
- FI   Fully Implemented (eAIP: Text, Tables and Charts)
- PI   Partially Implemented
- NI   Not Implemented

Note 3 — AIP production includes, production of AIP, AIP Amendments and AIP Supplements

Note 4 — Charts' GIS-based database should be interoperable with AIP database

4 — Requirement for an IAID driven NOTAM production, shown by:
- FC – Fully Compliant
- NC   Not Compliant

5 — Requirement for an IAID driven SNOWTAM processing, shown by:
- FI   Fully Implemented
- NI   Not Implemented

6 — Requirement for an IAID driven PIB production, shown by:
- FC – Fully Compliant
- PC   Partially Compliant
- NC   Not Compliant

7 — Requirement for Procedure design systems to be interoperable with the IAID, shown by:
- FI   Fully Implemented
- PI   Partially Implemented
- NI   Not Implemented

Note 5 — full implementation includes the use of the IAID for the design of the procedures and for the storage of the encoded procedures in the IAID

8 — Requirement for ATS systems to be interoperable with the IAID, shown by:
- FI   Fully Implemented
- PI   Partially Implemented
- NI   Not Implemented

9 — Action Plan — short description of the State's Action Plan with regard to the provision of AIM products and services based on the IAID, especially for items with a "PC", "PI", "NC" or "NI" status, including planned date(s) of full compliance, as appropriate.

10 — Remarks — additional information, including detail of "PC", "NC", "PI" and "NI", as appropriate.

TABLE DAIM 3-1
Provision of AIS/AIM products and services based on the Integrated Aeronautical Information Database (IAID)

State	IAID	AIP	NOTAM	SNOWTAM	PIB	Procedure Design	ATS	Action Plan	Remarks
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*

TABLE ASBU-MID-DAIM 3-1
Automated Data-Centric Environment

EXPLANATION OF THE TABLE

Column:

1   Name of the State or territory.

2   *Level of Automation*, shown by:

        0 – Manual

        1 – Data Centric

        2 – Automated Workflow

        3 – Full AIM Integration

        Note 1 – Guidance on automation and description of different levels of automation are contained in Doc 8126 (Aeronautical Information Services Manual), Part II, Chapter 7 (7.4).

3   Implementation of *Automated processes - Data collection (interfaces with data originators),* shown by:

        FI – Fully Implemented: *when Data collection is at level 3 automation*

        PI – Partially Implemented: *when Data collection is at level 1 or 2 automation*

        NI – Not Implemented: *when Data collection is at level 0 automation*

        Note 2 — Guidance on the levels of automation are contained in Doc 8126 (Aeronautical Information Services Manual), Part II, 7.4.

        Note 3 — Additional guidance on the components of an automated AIM system (Data Input) are contained in Doc 8126 (Aeronautical Information Services Manual), Part II, 7.5.1.

4 Implementation of *Automated processes - Data processing*, shown by:

   FI – Fully Implemented: *when Data processing is at level 3 automation*
   PI – Partially Implemented: *when Data processing is at level 1 or 2 automation*
   NI – Not Implemented: *when Data processing is at level 0 automation*

Note 5 — Guidance on the levels of automation are contained in Doc 8126 (Aeronautical Information Services Manual), Part II, 7.4.

Note 6 — Additional guidance on the components of an automated AIM system (Core Processing System and Data Storage) are contained in Doc 8126 (Aeronautical Information Services Manual), Part II, 7.5.2 and 7.5.3.

5 Implementation of *Automated processes - Data provision/distribution*, shown by:

   FI – Fully Implemented: *when Data provision/distribution is at level 3 automation* PI – Partially Implemented: *when Data provision/distribution is at level 1 or 2 automation*
   NI – Not Implemented: *when Data provision/distribution is at level 0 automation*

Note 7 — Guidance on the levels of automation are contained in Doc 8126 (Aeronautical Information Services Manual), Part II, 7.4

State	Level of Automation (Overall)	Automated Processes			Automated data-centric environment based on (AIXM V5.1+)	Action Plan	Remarks
		Data collection (interfaces with data originators)	Data Processing	Data provision/ distribution			
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*

~~Table DAIM-3-2~~
~~Aeronautical Data Quality~~

~~EXPLANATION OF THE TABLE~~

~~Column:~~

~~1~~   ~~Name of the State or territory.~~

~~2~~   ~~Compliance with the requirement for implementation of QMS for Aeronautical Information Services including safety and security objectives, shown by:~~
    ~~FC   Fully compliant~~
    ~~NC   Not compliant~~

~~3~~   ~~Compliance with the requirement for the establishment of formal arrangements with approved data originators concerning aeronautical data quality, shown by:~~
    ~~FC   Fully compliant~~
    ~~PC   Partially compliant~~
    ~~NC – Not compliant~~

~~4~~   ~~Implementation of digital data exchange with originators, shown by:~~
    ~~FI   Implemented~~
    ~~PI   Partially Implemented~~
    ~~NI   Not implemented~~
    ~~*Note 1   Information providing detail of "PI" and "NI" should be given in the Remarks column (percentage of implementation).*~~

~~5~~   ~~Compliance with the requirement for metadata, shown by:~~
    ~~FC   Fully compliant~~
    ~~PC   Partially compliant~~
    ~~NC   Not compliant~~

~~6~~   ~~Compliance with the requirements related to aeronautical data quality monitoring (accuracy, resolution, timeliness, completeness), shown by:~~
    ~~FC   Fully compliant~~
    ~~PC – Partially compliant~~
    ~~NC   Not compliant~~

~~7~~   ~~Compliance with the requirements related to aeronautical data integrity monitoring, shown by:~~
    ~~FC   Fully compliant~~
    ~~PC   Partially compliant~~
    ~~NC   Not compliant~~

~~8~~   ~~Compliance with the requirements related to the AIRAC adherence, shown by:~~
    ~~FC   Fully compliant~~
    ~~NC   Not compliant~~

~~9~~   ~~Action Plan   short description of the State's Action Plan with regard to aeronautical data quality requirements implementation, especially for items with a "PC", "PI", "NC" or "NI" status, including planned date(s) of full compliance, as appropriate.~~

~~10~~1   Remarks   additional information, including detail of "PC", "NC", "PI" and "NI", as appropriate.

State	QMS	Establishment of formal agreements	Digital data exchange with originators	Metadata	Data quality monitoring	Data integrity monitoring	AIRAC adherence	Action Plan	Remarks
1	2	3	4	5	6	7	8	9	10

TABLE ASBU-MID- DAIM-3-2
Aeronautical Data Quality

EXPLANATION OF THE TABLE

Column:

1   Name of the State or territory.
2   Implementation of Quality Assurance and Quality Control, shown by: FC – Fully Compliant
PC – Partially Compliant NC – Not Compliant
Note 1 – Guidance on the implementation of Quality Assurance and Quality Control are contained in Doc 8126 (Aeronautical Information Services Manual), Part II, Chapter 6.
3   Establishment of formal arrangements with originators, shown by:
FC – Fully Compliant PC – Partially Compliant NC – Not
Compliant
Note 4 – Provisions and guidance on formal arrangements with originators are contained in Annex 15, 2.1.5 and Doc 8126, 3.3.
Note 5 – Fully compliant (FC) means that the AIS has established formal arrangements with all data originators.
Note 6 – Relevant data quality requirements should be considered in the formal arrangements with originators. Since the Aeronautical Data Catalogue contains all the data elements that the AIS manages, each one being assigned an owner, the AIS can use the Aeronautical Data Catalogue to systematically establish and document formal arrangements with all

identified data originators.
Note 7 – Formal arrangements with originators should include requirements related to the provision of metadata.

4 Action Plan – short description of the State's Action Plan with regard to aeronautical data quality requirements implementation and the establishment of formal arrangements with originators, especially for items with a "PC" or "NC" status, including planned date(s) of full compliance, as appropriate.

5 Remarks – additional information, including detail of "PC" and "NC", as appropriate.

State	Quality Assurance /Quality Control	Formal Arrangement with Originators	Action Plan	Remarks
1	*2*	*3*	*4*	*5*

Table DAIM-3-3

World Geodetic System-1984 (WGS-84)

EXPLANATION OF THE TABLE

Column:

1   Name of the State or territory for which implementation of WGS-84 is required.
2   Compliance with the requirements for implementation of WGS-84 for FIR and En-route points, shown by:
    FC   Fully compliant
    PC   Partially compliant
    NC   Not compliant
3   Compliance with the requirements for implementation of WGS-84 for Terminal Areas (arrival, departure and instrument approach procedures), shown by:
    FC   Fully compliant
    PC   Partially compliant
    NC – Not compliant
4   Compliance with the requirements for implementation of WGS-84 for Aerodrome, shown by:
    FC   Fully compliant
    PC   Partially compliant
    NC   Not compliant
5   Compliance with the requirements for implementation of Geoid Undulation, shown by:
    FC – Fully compliant
    PC   Partially compliant
    NC   Not compliant
6   Action Plan   short description of the State's Action Plan with regard to WGS-84 implementation, especially for items with a "PC", "PI", "NC" or "NI" status, including planned date(s) of full compliance, as appropriate.
7   Remarks   additional information, including detail of "PC" and "NC", as appropriate.

State	FIR/ENR	Terminal	AD	GUND	Action Plan	Remarks
1	2	3	4	5	6	7

TABLE ASBU-MID - DAIM-3-3
Provision of Digital Data Sets

EXPLANATION OF THE TABLE

Column

1   Name of the State

2   Terrain Data Set for area 1

3   Terrain Data Sets for airports (area 4, as applicable)

4   Terrain Data Sets for airports (area 2a)

5   Terrain Data Sets for airports (TOFP area)

6   Terrain Data Sets for airports (OLS)

7   Obstacle Data Set for area 1

8   Obstacle Data Sets for airports (area 4, as applicable)

9   Obstacle Data Sets for airports (area 2a)

10   Obstacle Data Sets for airports (TOFP area)

11   Obstacle Data Sets for airports (OLS)

12   AIP data sets

12   Action plan — short description of the State's Action Plan with regard to compliance with the requirements for provision of Terrain and Obstacle data sets "PC" and "NC" status.

13   Remarks— additional information, including detail of "PC" and "NC"

Note – when status of implementation is reflected in the table, it is shown by: FC (Fully Compliant), PC (Partially Compliant), NC (Not Compliant), N/A (Not Applicable)

State	Terrain data sets					Obstacle data sets					AIP data sets	Action Plan	Remarks
	Area 1	Area 4	Area 2a	TOFP	OLS	Area 1	Area 4	Area 2a	TOFP	OLS			
1	2	3	4	5	6	7	8	9	10	11	12	13	14

Table DAIM-3-4-1

Provision of Terrain and Obstacle data sets for Areas 1 and 4

EXPLANATION OF THE TABLE

Column

1   Name of the State or territory for which Terrain and Obstacle data sets for Areas 1 and 4 are required.

2   Compliance with requirement for the provision of Terrain data sets for Area 1, shown by:
  FC   Fully Compliant
  PC   Partially Compliant
  NC   Not Compliant

3   Compliance with requirement for the provision of Terrain data sets for Area 4, shown by:
  FC   Fully Compliant
  PC   Partially Compliant
  NC   Not Compliant
  N/A   Not Applicable

4   Compliance with requirement for the provision of Obstacle data sets for Area 1, shown by:
  FC   Fully Compliant
  PC   Partially Compliant
  NC   Not Compliant

5   Compliance with requirement for the provision of Obstacle data sets for Area 4, shown by:
  FC   Fully Compliant
  PC   Partially Compliant
  NC   Not Compliant
  N/A   Not Applicable

6   Action plan — short description of the State's Action Plan with regard to compliance with the requirements for provision of Terrain and Obstacle data sets for Areas 1 and 4, especially for items with a "PC" or "NC" status, including planned date(s) of full compliance, as appropriate.

7   Remarks — additional information, including detail of "PC" and "NC", as appropriate.

TABLE DAIM 3-4-1

Provision of Terrain and Obstacle data sets for Areas 1 and 4

State	Terrain data sets		Obstacle data sets		Action Plan	Remarks
	Area 1	Area 4	Area 1	Area 4		
1	2	3	4	5	6	7

Table DAIM-3-4-2
Provision of Terrain and Obstacle data sets for Area 2, the take-off flight path area (TOFP) and the obstacle limitation surfaces (OLS)

EXPLANATION OF THE TABLE

Column

1   Name of the State or territory for which Terrain and Obstacle data sets for Area 2 are required.

2   Compliance with requirement for the provision of Terrain data sets for Area 2a, shown by:

       FC – Fully Compliant
       PC – Partially Compliant
       NC – Not Compliant

3   Compliance with requirement for the provision of Terrain data sets for Area 2b, shown by:

       FI – Fully Implemented
       PI – Partially Implemented
       NI – Not implemented
       N/A – Not Applicable

4   Compliance with requirement for the provision of Terrain data sets for Area 2c, shown by:

       FI – Fully Implemented
       PI – Partially Implemented
       NI – Not Implemented
       N/A – Not Applicable

5   Compliance with requirement for the provision of Terrain data sets for Area 2d, shown by:

       FI – Fully Implemented
       PI – Partially Implemented
       NI – Not Implemented
       N/A – Not Applicable

6   Compliance with requirement for the provision of Terrain data sets for the take-off flight path area (TOFP), shown by:

       FI – Fully Implemented
       PI – Partially Implemented
       NI – Not Implemented
       N/A – Not Applicable

7   Compliance with requirement for the provision of Terrain data sets for the obstacle limitation surfaces (OLS) shown by:

       FI – Fully Implemented
       PI – Partially Implemented
       NI – Not Implemented
       N/A – Not Applicable

8   Compliance with requirement for the provision of Obstacle data sets for Area 2a, shown by:
                FC – Fully Compliant
                PC – Partially Compliant
                NC – Not Compliant

9   Compliance with requirement for the provision of Obstacle data sets for Area 2b, shown by:
                FI – Fully Implemented
                PI – Partially Implemented
                NI – Not implemented
                N/A – Not Applicable

10   Compliance with requirement for the provision of Obstacle data sets for Area 2c, shown by:
                FI – Fully Implemented
                PI – Partially Implemented
                NI – Not Implemented
                N/A – Not Applicable

11   Compliance with requirement for the provision of Obstacle data sets for Area 2d, shown by:
                FI – Fully Implemented
                PI – Partially Implemented
                NI – Not Implemented
                N/A – Not Applicable

12   Compliance with requirement for the provision of Obstacle data sets for the take-off flight path area (TOFP), shown by:
                FI – Fully Implemented
                PI – Partially Implemented
                NI – Not Implemented
                N/A – Not Applicable

13   Compliance with requirement for the provision of Obstacle data sets for the obstacle limitation surfaces (OLS), shown by:
                FI – Fully Implemented
                PI – Partially Implemented
                NI – Not Implemented
                N/A – Not Applicable

14   Action plan — short description of the State's Action Plan with regard to compliance with the requirements for provision of Terrain and Obstacle data sets for Area 2, especially for items with a "PC", "PI", "NC" or "NI" status.

15   Remarks— additional information, including detail of "PC", "PI" and "NC", "NI", as appropriate.

TABLE DAIM-3-4-2

Provision of Terrain and Obstacle data sets for Area 2, the take-off flight path area (TOFP) and the obstacle limitation surfaces (OLS)

State	Terrain data sets						Obstacle data sets						Action Plan	Remarks
	Area 2a	Area 2b	Area 2c	Area 2d	TOFP	OLS	Area 2a	Area 2b	Area 2c	Area 2d	TOFP	OLS		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Table DAIM-3-4-3
Provision of Terrain and Obstacle data sets for Area 3 and Airport Mapping Databases (AMDB)

EXPLANATION OF THE TABLE

Column

1   Name of the State or territory for which Terrain and Obstacle data sets for Area 3 and AMDB are required.

2   Compliance with requirement for the provision of Terrain data sets for Area 3, shown by:
         FI – Fully Implemented
         PI – Partially Implemented
         NI – Not Implemented
         N/A – Not Applicable

3   Compliance with requirement for the provision of Obstacle data sets for Area 3, shown by:
         FI – Fully Implemented
         PI – Partially Implemented
         NI – Not Implemented
         N/A – Not Applicable

4   Implementation of AMDB, shown by:
         FI – Fully Implemented
         PI – Partially Implemented
         NI – Not Implemented
         N/A – Not Applicable

5   Action plan — short description of the State's Action Plan with regard to compliance with the requirements for provision of Terrain and Obstacle data sets for Area 3 and AMDB implementation, especially for items with a "PC", "PI", "NC" or "NI" status.

6   Remarks— additional information, including detail of "PI" and "NI", as appropriate.

TABLE DAIM-3-4-3

Provision of Terrain and Obstacle data sets for Area 3 and Airport Mapping Databases (AMDB)

State	Terrain data sets (Area 3)	Obstacle data sets (Area 3)	AMDB	Action Plan	Remarks
1	2	3	4	5	6

Table AMET 3-1

Meteorological observations products

EXPLANATION OF THE TABLE

Column

1	Name of the State
2	Status of implementation of Automatic Weather Observation System (AWOS) information, where:
	FI – Fully Implemented
	PI – Partially Implemented
	NI – Not Implemented
	N/A – Not Applicable
3	Status of implementation of Local reports (MET REPORT/SPECIAL), where:
	FI – Fully Implemented
	PI – Partially Implemented
	NI – Not Implemented
	N/A – Not Applicable
4	Status of implementation of Aerodrome reports (METAR/SPECI), where:
	FI – Fully Implemented
	PI – Partially Implemented
	NI – Not Implemented
	N/A – Not Applicable
5	Status of implementation of Lightning Information, where:
	FI – Fully Implemented
	PI – Partially Implemented
	NI – Not Implemented
	N/A – Not Applicable
6	Status of implementation of Ground-based weather radar information, where:
	FI – Fully Implemented
	PI – Partially Implemented
	NI – Not Implemented
	N/A – Not Applicable
7	Status of implementation of Meteorological satellite imagery, where:
	FI – Fully Implemented

PI – Partially Implemented
NI – Not Implemented
N/A – Not Applicable
8   Status of implementation of Aircraft meteorological report (ie. ADS-B, AIREP, etc.), where:
FI – Fully Implemented
PI – Partially Implemented
NI – Not Implemented
N/A – Not Applicable
9   Status of implementation of Vertical wind and temperature profiles, where:
FI – Fully Implemented
PI – Partially Implemented
NI – Not Implemented
N/A – Not Applicable
10   Status of implementation of Wind shear alerts, where:
FI – Fully Implemented
PI – Partially Implemented
NI – Not Implemented
N/A – Not Applicable
11   Remarks

State	Implementation									Remarks
	AWOS	MET REPORT/SPECIAL	METAR/SPECI	Lightning Information	Ground-based weather radar information	Meteorological satellite imagery	Aircraft meteorological report	Vertical wind and temperature profiles	Wind shear alerts	
1	2	3	4	5	6	7	8	9	10	11

Table AMET 3-2

Meteorological forecast and warning products

EXPLANATION OF THE TABLE

Column

1   Name of the State
2   Status of implementation of World Area Forecast System (WAFS) gridded products, where:
    FI – Fully Implemented
    PI – Partially Implemented
    NI – Not Implemented
    N/A – Not Applicable
3   Status of implementation of Significant Weather (SIGWX), where:
    FI – Fully Implemented
    PI – Partially Implemented
    NI – Not Implemented
    N/A – Not Applicable
4   Status of implementation of Aerodrome Forecast (TAF), where:
    FI – Fully Implemented
    PI – Partially Implemented
    NI – Not Implemented
    N/A – Not Applicable
5   Status of implementation of Trend Forecast (TREND), where:
    FI – Fully Implemented
    PI – Partially Implemented
    NI – Not Implemented
    N/A – Not Applicable
6   Status of implementation of Take-off Forecast, where:
    FI – Fully Implemented
    PI – Partially Implemented
    NI – Not Implemented
    N/A – Not Applicable
7   Status of implementation of SIGMET, where:
    FI – Fully Implemented
    PI – Partially Implemented
    NI – Not Implemented
    N/A – Not Applicable
8   Status of implementation of Aerodrome Warning, where:
    FI – Fully Implemented
    PI – Partially Implemented
    NI – Not Implemented
    N/A – Not Applicable
9   Status of implementation of Wind Shear Warning, where:
    FI – Fully Implemented
    PI – Partially Implemented
    NI – Not Implemented
    N/A – Not Applicable
10 Remarks

State	Implementation								Remarks
	WAFS	SIGWX	TAF	TREND	Take-off Forecast	SIGMET	Aerodrome Warning	Wind Shear Warning	
1	2	3	4	5	6	7	8	9	10

Table AMET 3-3

Climatological and historical meteorological Products

EXPLANATION OF THE TABLE

Column

1	Name of the State
2	Status of availability of Aerodrome climatological tables, where:
	FI – Fully Implemented
	PI – Partially Implemented
	NI – Not Implemented
3	Status of availability of Aerodrome climatological summaries, where:
	FI – Fully Implemented
	PI – Partially Implemented
	NI – Not Implemented
4	Remarks

State	Implementation		Remarks
	Aerodrome climatological tables;	Aerodrome climatological summaries	
1	**2**	**3**	**4**

Table AMET 3-4

Dissemination of meteorological products

Column

1   Name of the State
2   Dissemination of meteorological products using TAC, where:
    FI – Fully Implemented
    PI – Partially Implemented
    NI – Not Implemented
3   Dissemination of meteorological products using Gridded, where:
    FI – Fully Implemented
    PI – Partially Implemented
    NI – Not Implemented
4   Dissemination of meteorological products using Graphical, where:
    FI – Fully Implemented
    PI – Partially Implemented
    NI – Not Implemented
5   Dissemination of meteorological products using BUFR code, where:
    FI – Fully Implemented
    PI – Partially Implemented
    NI – Not Implemented
6   Dissemination of meteorological products using IWXXM (in XML/GML), where:
    FI – Fully Implemented
    PI – Partially Implemented
    NI – Not Implemented
7   Dissemination means includes AFTN, where:
    FI – Fully Implemented
    PI – Partially Implemented
    NI – Not Implemented
8   Dissemination means includes AMHS, where:
    FI – Fully Implemented
    PI – Partially Implemented
    NI – Not Implemented
9   Dissemination means includes ssecure internet services (WIFS/SADIS), where:
    FI – Fully Implemented
    PI – Partially Implemented
    NI – Not Implemented
10 Remarks

State	Dissemination of meteorological products								Remarks
	Formats					Means			
1	**(TAC)** **2**	**(Gridded)** **3**	**(Graphical)** **4**	**(BUFR)** **5**	**(IWXXM)** **6**	**(AFTN)** **7**	**(AMHS)** **8**	**(WIFS/SADIS) 9**	**10**
BAHRAIN	FI	FI	FI	FI	NI	FI	NI	FI	
EGYPT	FI	NI	NI	NI	NI	FI	NI	FI	
IRAN	FI	NI	FI	NI	NI	FI	NI	NI	

APTA : Improve arrival and departure operations

TABLE -APTA 3-1

EXPLANATION OF THE TABLE

Column	
1	Name of the State / International Aerodromes' Location Indicator
2	Runway Designator
3, 4, 5	Conventional Approaches (ILS / VOR or NDB)
6, 7, 8, 9	Elements of APTA B0/1 PBN Approaches with basic capabilities (Status of PBN Plan and implementation of LNAV, LNAV/VNAV), where:
	Y – Yes, implemented
10	N – No, not implemented
	PBN Runway: where any type of PBN approach is implemented
12, 15	Elements of APTA B0/2 PBN SID and STAR procedures (with basic capabilities)
	Y – Yes, implemented
	N – No, not implemented
11, 13	Elements of APTA B0/5 CCO basic (Status of implementation of CCO) per runway end and per aerodrome, where:
	Y – Yes, implemented
	N – No, not implemented
14, 16	Elements of APTA B0/4 CDO basic (Status of implementation of CDO) per runway end and per aerodrome, where:
	Y – Yes, implemented
	N – No, not implemented
17	Elements of APTA B0/7 Performance based aerodrome operating minima – Advanced aircraft (Compliance with the requirements for **PB AOM**) per State, where:
	FC – Fully compliant
	NC – Not compliant
18	Remarks

Int'l AD (Ref. MID ANP) (1)	RWY (2)	Conventional Approaches (3)			APTA (6)			PBN RWY (10)	CCO (11)				CDO (14)				PB AOM (17)	Remarks (18)
		Precision (4)		VOR or NDB (5)	PBN PLAN (7)	LNAV (8)	LNAV / VNAV (9)		RNAV SID (12)		CCO (13)		RNAV STAR (15)		CDO (16)		AOP (17)	
		xLS	CAT		Update date				RWY	AD	RWY	AD	RWY	AD	RWY	AD	RWY	

ACAS Airborne Collision Avoidance System (ACAS)

Table ACAS 3-1

EXPLANATION OF THE TABLE

Column
1   Name of the State
2   Status of implementation:
           Y – Fully Implemented
           N – Not Implemented
3   National Regulation(s) Reference(s)
4   Remarks

State	Status	Regulation Reference	Effective Date	Remarks
1	**2**	**3**	**4**	**5**

ASUR Surveillance systems

Table ASUR 3-1

Surveillance Implementation Monitoring Table

EXPLANATION OF THE TABLE

Colum
n
1   Name of the State / ATS Units where Radar service provided
2   Surveillance Gap
         Y – Yes, non-radar covered area (GAP) exist
         N – No, GAP areas not existed
3   Multi- Surveillance Data processing capability
         Y – Yes, implemented
         N – No, not implemented
4   Surveillance Sensor used
         Y – Yes, implemented
         N – No, not implemented
5   Dual Surveillance sources
         Y – Yes, available
         N – No, not available
6   Issuance of ADS-B Carriage Mandate
         N – No, not issued
         Date – effective date of ADS-B carriage mandate
         Reference - link to mandate regulation

State/ ATS Units Served	Surveillance Gaps	Multi-Surveillance Data Processing Capability	Surveillance Sensor Used						Dual Surveillance Sources	ADS-B carriage mandate	
			PSR	SSR Mode A/C	SSR Mode S	MLAT	ADS-B	Data Sharing		Date	Reference
1	2	3	4						5	6	
State											

- END -