



MID Doc 002

INTERNATIONAL CIVIL AVIATION ORGANIZATION

**MIDDLE EAST AIR NAVIGATION PLANNING
AND IMPLEMENTATION REGIONAL GROUP
(MIDANPIRG)**

**MID REGION
AIR NAVIGATION STRATEGY**

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AIR NAVIGATION PRIORITIES AND MONITORING OF THE STATUS OF IMPLEMENTATION

1. Introduction

1.1 As traffic volume increases throughout the world, the demands on air navigation service providers in a given airspace increase, and air traffic management becomes more complex.

1.2 It is foreseen that the implementation of the components of the ATM operational concept will provide sufficient capacity to meet the growing demand, generating additional benefits in terms of more efficient flights and higher levels of safety. Nevertheless, the potential of new technologies to significantly reduce the cost of services will require the establishment of clear operational requirements.

1.3 Taking into account the benefits of the ATM operational concept, it is necessary to make many timely decisions for its implementation. An unprecedented cooperation and harmonization will be required at both global and regional level.

1.4 ICAO introduced the Aviation System Block Upgrades (ASBU) framework as a systemic manner to achieve a harmonized implementation of the air navigation services. An ASBU designates a set of improvements that can be implemented globally from a defined point in time to enhance the performance of the ATM system.

1.5 In accordance, with the Resolutions of the 40th Session of the ICAO Assembly, particularly Resolution A40-1 "ICAO global planning for safety and air navigation", the ICAO Assembly urged States and PIRGs to utilize the guidance provided in the GANP for planning and implementation activities which establish priorities, targets and indicators consistent with globally-harmonized objectives, taking into account operational needs. In response to this, the MID Region developed the MID Region Air Navigation Strategy – Part 1, which is aligned with the GANP 6th Edition and ASBU Framework.

1.6 Stakeholders including service providers, regulators, airspace users and manufacturers are facing increased levels of interaction as new, modernized ATM operations are implemented. The highly integrated nature of capabilities covered by the block upgrades requires a significant level of coordination and cooperation among all stakeholders. Working together is essential for achieving global harmonization and interoperability.

2. Strategic Air Navigation Capacity and Efficiency Objective

2.1 The Strategic Objective related to Air Navigation Capacity and Efficiency is to realize sound and economically-viable civil aviation system in the MID Region that continuously increases in capacity and improves in efficiency with enhanced safety while minimizing the adverse environmental effects of civil aviation activities.

3. MID Air Navigation Objectives

3.1 The MID Region air navigation objectives are set in line with the global air navigation objectives and address specific air navigation operational improvements identified within the framework of the Middle East Regional Planning and Implementation Group (MIDANPIRG).

3.2 Blocks '0' and "1" feature Elements are characterized by operational improvements, which have already been developed and implemented in many parts of the world. The MID Region priority 1 Block 0 & 1 Elements are reflected in **Table 1** below.

3.3 The MID Region Air Navigation Strategy aims to maintain regional harmonisation. The States should develop their National Air Navigation Plan (NANP), including action plans for the implementation of relevant priority 1 ASBU Elements and other ASBU elements or non ASBU solutions based on the States' operational requirements and cost benefits analysis.

3.4 The implementation of the ASBU Block 0 Elements in the MID Region started before 2013 and is continuing. For the short and medium term, the MID Region priorities include identified ASBU Elements from Block 0 and Block 1.

4. MID Region ASBU Threads/Elements Prioritization and Monitoring

4.1 On the basis of operational requirements and taking into consideration the associated benefits, **Table 1** below shows the priority associated for each ASBU element from Block 0 and Block 1, as well as the MIDANPIRG subsidiary bodies that will be monitoring and supporting the implementation of these Threads/Elements:

Priority 1 ASBU Element: Elements that have the highest contribution to the improvement of air navigation safety and/or efficiency in the MID Region. These Elements should be implemented where applicable and will be used for the purpose of regional air navigation monitoring and reporting.

Priority 2 ASBU Element: Elements recommended for implementation based on identified operational needs and benefits by States.

Priority 1 Thread: Any Thread with at least one priority 1 element

Table 1. MID REGION ASBU THREADS & ELEMENTS (BLOCK 0 & 1) PRIORITIZATION AND MONITORING

Thread	Element code	Title	Priority	Start Date	Monitoring		Remarks
					Main	Supporting	
Information Threads							
DAIM							
DAIM	B1/1	Provision of quality-assured aeronautical data and information	1	2021	AIM SG		
	B1/2	Provision of digital Aeronautical Information Publication (AIP) data sets	2				
	B1/3	Provision of digital terrain data sets	1	2021	AIM SG		
	B1/4	Provision of digital obstacle data sets	1	2021	AIM SG		
	B1/5	Provision of digital aerodrome mapping data sets	2				
	B1/6	Provision of digital instrument flight procedure data sets	2				
	B1/7	NOTAM improvements	2				
AMET							
AMET	B0/1	Meteorological observations products	1	2014	MET SG		
	B0/2	Meteorological forecast and warning products	1	2014	MET SG		
	B0/3	Climatological and historical meteorological products	1	2014	MET SG		

Thread	Element code	Title	Priority	Start Date	Monitoring		Remarks
					Main	Supporting	
	B0/4	Dissemination of meteorological products	1	2014	MET SG	CNS SG	
	B1/1	Meteorological observations information	2				
	B1/2	Meteorological forecast and warning information	2				
	B1/3	Climatological and historical meteorological information	2				
	B1/4	Dissemination of meteorological information	2				
FICE							
FICE	B0/1	Automated basic inter facility data exchange (AIDC)	1	2014	CNS SG ATM SG		
<i>Operational Threads</i>							
APTA							
APTA	B0/1	PBN Approaches (with basic capabilities)	1	2014	PBN SG	ATM SG AIM SG CNS SG	
	B0/2	PBN SID and STAR procedures (with basic capabilities)	1	2014	PBN SG	ATM SG AIM SG	
	B0/3	SBAS/GBAS CAT I precision approach procedures	2				
	B0/4	CDO (Basic)	1	2014	PBN SG	ATM SG	
	B0/5	CCO (Basic)	1	2014	PBN SG	ATM SG	
	B0/6	PBN Helicopter Point in Space (PinS) Operations	2				
	B0/7	Performance based aerodrome operating minima – Advanced aircraft	1	2021	PBN SG	AIM SG	
	B0/8	Performance based aerodrome operating minima – Basic aircraft	2				
	B1/1	PBN Approaches (with advanced capabilities)	2				
	B1/2	PBN SID and STAR procedures (with advanced capabilities)	2				

Thread	Element code	Title	Priority	Start Date	Monitoring		Remarks
					Main	Supporting	
	B1/4	CDO (Advanced)	2				
	B1/5	CCO (Advanced)	2				
FRTO							
FRTO	B0/1	Direct routing (DCT)	2				
	B0/2	Airspace planning and Flexible Use of Airspace (FUA)	1	2014	ATM SG		
	B0/3	Pre-validated and coordinated ATS routes to support flight and flow	2				
	B0/4	Basic conflict detection and conformance monitoring	1	2014	ATM SG	CNS SG	
	B1/1	Free Route Airspace (FRA)	2				
	B1/2	Required Navigation Performance (RNP) routes	2				
	B1/3	Advanced Flexible Use of Airspace (FUA) and management of real time airspace data	2				
	B1/4	Dynamic sectorization	2				
	B1/5	Enhanced Conflict Detection Tools and Conformance Monitoring	2				
	B1/6	Multi-Sector Planning	2				
	B1/7	Trajectory Options Set (TOS)	2				
NOPS							
NOPS	B0/1	Initial integration of collaborative airspace management with air traffic flow management	1	2015	ATM SG		
	B0/2	Collaborative Network Flight Updates	2				
	B0/3	Network Operation Planning basic features	2				
	B0/4	Initial Airport/ATFM slots and A-CDM Network Interface	2				
	B0/5	Dynamic ATFM slot allocation	2				
	B1/1	Short Term ATFM measures	2				

Thread	Element code	Title	Priority	Start Date	Monitoring		Remarks
					Main	Supporting	
	B1/2	Enhanced Network Operations Planning	2				
	B1/3	Enhanced integration of Airport operations planning with network operations planning	2				
	B1/4	Dynamic Traffic Complexity Management	2				
	B1/5	Full integration of airspace management with air traffic flow management	2				
	B1/6	Initial Dynamic Airspace configurations	2				
	B1/7	Enhanced ATFM slot swapping	2				
	B1/8	Extended Arrival Management supported by the ATM Network function	2				
	B1/9	Target Times for ATFM purposes	2				
	B1/10	Collaborative Trajectory Options Program (CTOP)	2				
ACAS							
ACAS	B1/1	ACAS Improvements	1	2014	ATM SG CNS SG		
SNET							
SNET	B0/1	Short Term Conflict Alert (STCA)	1	2017	ATM SG	CNS SG	
	B0/2	Minimum Safe Altitude Warning (MSAW)	1	2017	ATM SG	CNS SG	
	B0/3	Area Proximity Warning (APW)	1	2020	ATM SG	CNS SG	
	B0/4	Approach Path Monitoring (APM)	2				
	B1/1	Enhanced STCA with aircraft parameters	2				
	B1/2	Enhanced STCA in complex TMA	2				
GADS							
GADS	B1/1	Aircraft Tracking	2				
	B1/2	Operational Control Directory	1	2021	ATM SG		
RSEQ							
RSEQ	B0/1	Arrival Management	1	2021	ATM SG	CNS SG ASPIG	

Thread	Element code	Title	Priority	Start Date	Monitoring		Remarks
					Main	Supporting	
	B0/2	Departure Management	2				
	B0/3	Point merge	2				
	B1/1	Extended arrival metering	2				
SURF							
SURF	B0/1	Basic ATCO tools to manage traffic during ground operations	1	2014	ASPIG	ATM SG CNS SG	
	B0/2	Comprehensive situational awareness of surface operations	1	2014	ASPIG	ATM SG CNS SG	
	B0/3	Initial ATCO alerting service for surface operations	1	2021	ASPIG	ATM SG CNS SG	
	B1/1	Advanced features using visual aids to support traffic management during ground operations	2		ASPIG	ATM SG CNS SG	
	B1/2	Comprehensive pilot situational awareness on the airport surface	2		ASPIG	ATM SG CNS SG	
	B1/3	Enhanced ATCO alerting service for surface operations	2		ASPIG	ATM SG CNS SG	
	B1/4	Routing service to support ATCO surface operations management	2		ASPIG	ATM SG CNS SG	
	B1/5	Enhanced vision systems for taxi operations	2		ASPIG	ATM SG CNS SG	
ACDM							
ACDM	B0/1	Airport CDM Information Sharing (ACIS)	1	2014	ASPIG	CNS SG, AIM SG, ATM SG	
	B0/2	Integration with ATM Network function	1	2014	ASPIG	CNS SG, AIM SG, ATM SG	
Technology Threads							
ASUR							
ASUR	B0/1	ADS-B	1	2021	CNS SG	ATM SG ASPIG	
	B0/2	MLAT	1	2021	CNS SG	ATM SG ASPIG	
	B0/3	SSR-DAPS	1	2021	CNS SG	ATM SG ASPIG	
	B1/1	SB ADS-B	2				
NAVS							

Thread	Element code	Title	Priority	Start Date	Monitoring		Remarks
					Main	Supporting	
NAVS	B0/1	Ground Based Augmentation Systems (GBAS)	2				
	B0/2	Satellite Based Augmentation Systems (SBAS)	2				
	B0/3	Aircraft Based Augmentation Systems (ABAS)	1	2021	CNS SG	PBN SG ATM SG AIM SG	
	B0/4	Navigation Minimal Operating Networks (Nav. MON)	1	2021	CNS SG	PBN SG	
	B1/1	Extended GBAS	2				
COMI							
COMI	B0/1	Aircraft Communication Addressing and Reporting System (ACARS)	2				
	B0/2	Aeronautical Telecommunication Network/Open System Interconnection (ATN/OSI)	2				
	B0/3	VHF Data Link (VDL) Mode 0/A	2				
	B0/4	VHF Data Link (VDL) Mode 2 Basic	2				
	B0/5	Satellite communications (SATCOM) Class C Data	2				
	B0/6	High Frequency Data Link (HFDL)	2				
	B0/7	AMHS	1	2014	CNS SG		
	B1/1	Ground-Ground Aeronautical Telecommunication Network/Internet Protocol Suite (ATN/IPS)	1	2021	CNS SG		
	B1/2	VHF Data Link (VDL) Mode 2 Multi-Frequency	2				
	B1/3	SATCOM Class B Voice and Data	2				
	B1/4	Aeronautical Mobile Airport Communication System (AeroMACS) Ground-Ground	2				
COMS							
COMS	B0/1	CPDLC (FANS 1/A & ATN B1) for	2				

Thread	Element code	Title	Priority	Start Date	Monitoring		Remarks
					Main	Supporting	
		domestic and procedural airspace					
	B0/2	ADS-C (FANS 1/A) for procedural airspace	2				
	B1/1	PBCS approved CPDLC (FANS 1/A+) for domestic and procedural airspace	2				
	B1/2	PBCS approved ADS-C (FANS 1/A+) for procedural airspace	2				
	B1/3	SATVOICE (incl. routine communications) for procedural airspace	2				

5. Implementation and Monitoring of the priority 1 ASBU Elements

5.1 The monitoring of air navigation performance and its enhancement is achieved, inter-alia, through identification of relevant air navigation Metrics and Indicators as well as the adoption and attainment of air navigation system Targets. The monitoring of the priority 1 ASBU Threads/Elements is carried out through the MID eANP Volume III.

5.2 MIDANPIRG through its activities under the various subsidiary bodies will continue to update and monitor the implementation of the ASBU Threads and elements to achieve the air navigation targets.

5.3 The priority 1 Threads/Elements along with the associated elements, applicability, performance Indicators, supporting Metrics, and performance Targets are shown in the **Table 2** below.

Note: Further details on the ASBU elements objectives, description, implementation requirements and performance impact assessment can be found on the ICAO GANP Portal <https://www4.icao.int/ganpportal/ASBU>

6. Governance

6.1 Progress report on the status of implementation of the different priority 1 Threads/Elements should be developed by MIDANPIRG Subsidiary bodies and presented to the MIDANPIRG on regular basis. A consolidated MID Air Navigation Report showing the status of implementation of the different priority 1 ASBU Elements by Thread will be developed on annual basis and presented to MIDANPIRG for endorsement.

6.2 The MIDANPIRG will be the governing body responsible for the review and update of the MID Region Air Navigation Strategy.

6.3 The MID Region Air Navigation Strategy will guide the work of MIDANPIRG and its subsidiary bodies and all its member States and partners.

6.4 Progress on the implementation of the MID Region Air Navigation Strategy and the achievement of the agreed air navigation targets will be reported to the ICAO Air Navigation Commission (ANC), through the review of the MIDANPIRG Reports, MID Air Navigation Reports, etc.; and to the stakeholders in the Region within the framework of MIDANPIRG.

**Table 2. MONITORING THE IMPLEMENTATION OF THE PRIORITY 1 ASBU
THREADS/ELEMENTS (Block 0 & 1) IN THE MID REGION**

Element	Applicability	Performance Indicators/ Supporting Metrics	Baseline (2022)	Target	Timeline	KPA/ KPI	
<i>Information Threads</i>							
DAIM							
DAIM B1/1	Provision of quality-assured aeronautical data and information	All States	Indicator*: Regional average implementation status of DAIM B1/1 (provision of quality-assured aeronautical data and information). Supporting Metrics: 1. Number of States that have implemented an AIXM-based AIS database (AIXM V5.1+) 2. Number of States that have established formal arrangements with at least 50% of their AIS data originators.	55%	80%	Dec 2021	N/A
DAIM B1/3	Provision of digital terrain data sets	All States	Indicator*: Regional average implementation status of DAIM B1/3(Provision of Terrain digital datasets). Supporting Metric: Number of States that provide required Terrain digital datasets	35%	60%	Dec 2021	N/A
DAIM B1/4	Provision of digital obstacle data sets	All States	Indicator*: Regional average implementation status of DAIM B1/4(Provision of obstacle digital datasets). Supporting Metric: Number of States that provide required obstacle digital datasets	35%	60 %	Dec 2021	N/A
AMET							
AMET B0/1	Meteorological observations products	All states	Indicator*: Regional average implementation status of B0/1 (Meteorological observations products). Supporting Metrics: Number of States that provide the following Meteorological observations products, as required: 1. Automatic Weather Observation System (AWOS) information (including real-time exchange of wind and RVR data)	65%	80%	Dec 2021	N/A

Element		Applicability	Performance Indicators/ Supporting Metrics	Baseline (2022)	Target	Timeline	KPA/ KPI
			<ol style="list-style-type: none"> 2. Local reports (MET REPORT/SPECIAL) 3. Aerodrome reports (METAR/SPECI) 4. Lightning Information 5. Ground-based weather radar information 6. Meteorological satellite imagery 7. Aircraft meteorological report (ie. ADS-B, AIREP, etc.) 8. Vertical wind and temperature profiles 9. Wind shear alerts 				
AMET B0/2	Meteorological forecast and warning products	All states	<p>Indicator*: Regional average implementation status of B0/2 (Meteorological forecasts and warning products)</p> <p>Supporting Metrics: Number of States that provides the following Meteorological forecast and warning products, as required:</p> <ol style="list-style-type: none"> 1. World Area Forecast System (WAFS) gridded products 2. Significant Weather (SIGWX) 3. Aerodrome Forecast (TAF) 4. Trend Forecast (TREND) 5. Take-off Forecast 6. SIGMET 7. Aerodrome Warning 8. Wind Shear Warning 	60%	90%	Dec 2021	N/A
AMET B0/3	Climatological and historical meteorological products	All states	<p>Indicator: % of States that provide Climatological and historical meteorological products, as required.</p> <p>Supporting Metric: Number of States that provide Climatological and historical meteorological products, as required</p>	60%	85%	Dec 2021	N/A
AMET B0/4	Dissemination of meteorological products	All states	<p>Indicator: % of States disseminating Meteorological products using a variety of formats and means (TAC, Gridded, Graphical, BUFR code, IWXXM)</p> <p>Supporting Metric: Number of States disseminating</p>	60%	85%	Dec 2021	N/A

Element		Applicability	Performance Indicators/ Supporting Metrics	Baseline (2022)	Target	Timeline	KPA/ KPI
			Meteorological products using a variety of formats and means (TAC, Gridded, Graphical, BUFR code, IWXXM)				
FICE							
FICE B0/1	Automated basic inter facility data exchange (AIDC)	According to the MID Region AIDC/OLDI Priority 1 Applicability Area	Indicator*: % of priority 1 AIDC/OLDI Interconnection have been implemented Supporting metric: Number of AIDC/OLDI interconnections implemented between adjacent ACCs	26%	70%	Dec 2020	N/A
Operational Threads							
APTA							
APTA B0/1	PBN Approaches (with basic capabilities)	All RWYs ENDS at International Aerodromes	Indicator: % of Runway ends at international aerodromes provided with Baro-VNAV approach procedures (LNAV/VNAV) Supporting metric: Number of Runways ends at international aerodromes provided with Baro-VNAV approach procedures (LNAV/VNAV)	55%	100%	Dec 2017	Capacity/ KPI 10
APTA B0/2	PBN SID and STAR procedures (with basic capabilities)	All RWYs ENDS at International Aerodromes	Indicator: % of Runway ends at international aerodromes provided with PBN SID and STAR (basic capabilities). Supporting Metric: Number of Runway ends at international aerodromes provided with PBN SID and STAR (basic capabilities).	55%	70%	Dec 2022	Efficiency Capacity/ KPI 10 KPI 11 KPI 17 KPI 19/
APTA B0/4	CDO (Basic)	OBBI, OIIE, OIKB, OIFM, OJAI, OLBA, OOMS, OTHH, OTBD, OEJN, OEMA, OEDF, OERK, HSSS, HSPN, OMAA, OMAL, OMAD, OMDW, OMDB, OMSJ, OMRK and OMFJ	Indicator*: % of International Aerodromes with CDO implemented as required. Supporting Metric: Number of International Aerodromes with CDO implemented as required. *As per the applicability area	65%	100%	Dec 2021	Efficiency/ KPI 19

Element		Applicability	Performance Indicators/ Supporting Metrics	Baseline (2022)	Target	Timeline	KPA/ KPI
APTA B0/5	CCO (Basic)	OBBI, OIIE, OIKB, OIFM, OJAI, OLBA, OOMS, OTHH, OTBD, OEJN, OEMA, OEDF, OERK, HSSS, HSPN, OMAA, OMAL, OMAD, OMDW, OMDB, OMSJ, OMRK and OMFJ	Indicator*: % of International Aerodromes with CCO implemented as required. Supporting Metric: Number of International Aerodromes with CCO implemented as required. *As per the applicability area	65%	100%	Dec 2021	Efficiency/ KPI 17
APTA B0/7	Performance based aerodrome operating minima – Advanced aircraft	All States	Indicator: % of States authorizing Performance- based Aerodrome Operating Minima for Air operators operating Advanced aircraft. Supporting Metric: Number of States authorizing Performance-based Aerodrome Operating Minima for Air operators operating Advanced aircraft.	85%	100%	Dec 2021	Capacity/ KPI 10
FRTO							
FRTO B0/2	Airspace planning and Flexible Use of Airspace (FUA)	Bahrain, Egypt, Jordan, Qatar, Saudi Arabia (2 ACCs), Sudan, UAE	Indicator*: % of ACCs using and implementing appropriate means (procedures and tools (automation)) to support Airspace planning and FUA and improve data exchange between Civil and Military to improve efficiency of Airspace. Supporting metric: Number of ACCs using and implementing appropriate means (procedures and tools (automation)) to support Airspace planning and FUA and improve data exchange between Civil and Military to improve efficiency of Airspace. * As per the applicability area	63%	70%	Dec 2022	Efficiency Access and equity/ KPI 04 KPI 05 KPI 17 KPI 18/ KPI 19
FRTO B0/4	Basic conflict detection and conformance monitoring	Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon,	Indicator*: % States that implemented MTCD and MONA, for ACCs, as required.	63%	100%	Dec 2021	Capacity/ KPI 06 Safety/

Element		Applicability	Performance Indicators/ Supporting Metrics	Baseline (2022)	Target	Timeline	KPA/ KPI
		Oman, Qatar, Saudi Arabia (2 ACCs), Sudan, UAE	Supporting metric: The number of States that implemented MTCD and MONA for ACCs, as required. * As per the applicability area				KPI 20 KPI 23
NOPS							
NOPS B0/1	Initial integration of collaborative airspace management with air traffic flow management	Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Sudan, UAE	Indicator*: % of States implementing ASM/ATFM techniques, procedures and tools for the initial establishment of an integrated collaborative airspace management and air traffic flow and capacity management process Supporting metric: number of States implementing ASM/ATFM techniques, procedures and tools for the initial establishment of an integrated collaborative airspace management and air traffic flow and capacity management process. * As per the applicability area	42%	70%	Dec 2022	Efficiency Capacity/ KPI 04 KPI 05 KPI 17 KPI 18 KPI 19/
ACAS							
ACAS B1/1	ACAS Improvements Operational	All States	Indicator: % of States requiring carriage of ACAS (TCAS v 7.1) for aircraft with a max certificated take-off mass greater than 5.7 tons Supporting metric: Number of States requiring carriage of ACAS (TCAS v 7.1) for aircraft with a max certificated take-off mass greater than 5.7 tons	87%	100%	Dec 2024	Safety/ KPI 20 KPI 23
SNET							
SNET B0/1	Short Term Conflict Alert (STCA)	Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Libya, Lebanon, Oman, Qatar, Saudi Arabia, Sudan, UAE	Indicator*: % of States that have implemented Short-term conflict alert (STCA) Supporting metric: number of States that have implemented Short-term conflict alert (STCA) * As per the applicability area	100%	100%	Dec 2018	Safety/ KPI 20 KPI 23
SNET B0/2	Minimum Safe Altitude Warning (MSAW)	Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Libya, Lebanon,	Indicator*: % of States that have implemented Minimum safe altitude warning (MSAW) Supporting metric: number of States that have implemented	100%	100%	Dec 2018	Safety/ KPI 20

Element		Applicability	Performance Indicators/ Supporting Metrics	Baseline (2022)	Target	Timeline	KPA/ KPI
		Oman, Qatar, Saudi Arabia, Sudan, UAE	Minimum safe altitude warning (MSAW) * As per the applicability area				
SNET B0/3	Area Proximity Warning (APW)	Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Libya, Lebanon, Oman, Qatar, Saudi Arabia, Sudan, UAE	Indicator*: % of States that have implemented Area Proximity Warning (APW) for ACCs, as required Supporting metric: number of States that have Implemented Area Proximity Warning (APW) for ACCs, as required * As per the applicability area	67%	100%	Dec 2021	Safety/ KPI 20
GADS							
GADS B1/2	Operational Control Directory	All States	Indicator: % of States that provided GADSS Point of Contact (PoC) information Supporting Metric: Number of States that provided GADSS Point of Contact (PoC) information	73%	100%	Dec 2021	N/A
RSEQ							
RSEQ B0/1	Arrival Management	OBBI, HECA, HEBA, HELX, HESN, HESH, OTBD, OTHH, OEJN, OEDF, OEMA, OERK OMDB, OMAA	Indicator*: % of Aerodromes that have implemented arrival manager (AMAN), where required/applicable Supporting Metric: Number of Aerodrome that have implemented arrival manager (AMAN), where required/ applicable * As per the applicability area	36%	80%	Dec 2024	Capacity Efficiency/ KPI 08 KPI 10 KPI 11 KPI 14/
SURF							
SURF- B0/1	Basic ATCO tools to manage traffic during ground operations	All International Aerodromes	Indicator: % of Aerodromes having implemented Basic ATCO tools to manage traffic during ground operations Supporting metric: Number of Aerodromes having implemented Basic ATCO tools to manage traffic during ground operations	90%	100%	Dec 2021	Efficiency/ KPI 02 KPI 13 Safety/ KPI 20 KPI 21
SURF- B0/2	Comprehensive situational awareness of surface operations	OBBI, HECA, OIII, OOMS, OTBD, OTHH, OEDF, OEJN,	Indicator*: % of Airports having implemented the surveillance service of A- SMGCS Supporting metric: Number of Airports having	61%	80%	Dec 2021	Safety/ KPI 20 KPI 21

Element		Applicability	Performance Indicators/ Supporting Metrics	Baseline (2022)	Target	Timeline	KPA/ KPI
		OERK, OEMA, OMDB, OMAA.	implemented the surveillance service of A- SMGCS * As per the applicability area				
SURF- B0/3	Initial ATCO alerting service for surface operations	OBBI, HECA, OIII, OOMS, OTBD, OTHH, OEDF, OEJN, OERK, OEMA, OMDB, OMAA.	Indicator*: % of Airports having implemented the A- SMGCS alerting service. Supporting metric: Number of Airports having implemented the A- SMGCS alerting service * As per the applicability area	74%	80%	Dec 2021	Safety/ KPI 20
ACDM							
ACDM B0/1	Airport CDM Information Sharing (ACIS)	HECA, OBBI, OIII, OKBK, OOMS, OTHH, OEJN, OERK, OMDB, OMAA	Indicator*: % of Airports having implemented ACIS Supporting metric: number of Airports having implemented ACIS * As per the applicability area	75%	90%	Dec 2024	N/A
ACDM B0/2	Integration with ATM Network function	HECA, OBBI, OIII, OKBK, OOMS, OTHH, OEJN, OERK, OMDB, OMAA.	Indicator*: % of Airports having integrated ACDM with the ATM Network function. Supporting metric: Number of Airports having integrated ACDM with the ATM Network function * As per the applicability area	25%	50%	Dec 2024	N/A
Technology Threads							
ASUR							
ASUR B0/1	Automatic Dependent Surveillance – Broadcast (ADS-B)	(Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Saudi Arabia, Qatar, Sudan, UAE)	Indicator*: % of States that have implemented ADS-B to improve surveillance coverage/capabilities Supporting Metric: Number of States that have implemented ADS-B to improve surveillance coverage/capabilities * As per the applicability area	60%	80%	Dec 2022	N/A
ASUR B0/2	Multilateration cooperative surveillance systems (MLAT)	Bahrain, Egypt, Jordan, Kuwait, Oman, Saudi	Indicator*: % of States that have implemented Multi- lateration (M-LAT)	63%	80%	Dec 2022	N/A

Element		Applicability	Performance Indicators/ Supporting Metrics	Baseline (2022)	Target	Timeline	KPA/ KPI
		Arabia, Qatar, UAE	Supporting Metric: Number of States that have implemented Multi-lateration (M-LAT) * As per the applicability area				
ASUR B0/3	Cooperative Surveillance Radar Downlink of Aircraft Parameters (SSR-DAPS)	Bahrain, Egypt, Iran, Iraq, Kuwait, Lebanon, Jordan, Oman, Qatar, Saudi Arabia, Sudan and UAE	Indicator*: % of States that have implemented Downlink of Aircraft Parameters (SSR-DAPS) Supporting Metric: Number of States that have implemented Downlink of Aircraft Parameters (SSR-DAPS) * As per the applicability area	83%	90%	Dec 2023	N/A
NAVS							
NAVS B0/3	Aircraft Based Augmentation Systems (ABAS)	All States	Indicator: % of States requiring Aircraft Based Augmentation System (ABAS) equipage for aircraft with a max certificated take-off mass greater than 5,700 Kg to enable PBN Operations Supporting metric: Number of States requiring Aircraft Based Augmentation System (ABAS) equipage for aircraft with a max certificated take-off mass greater than 5,700 Kg to enable PBN Operations	40%	70%	Dec 2021	N/A
NAVS B0/4	Navigation Minimal Operating Networks (Nav. MON)	All States	Indicator: % of States that have developed a plan of rationalized conventional NAVAIDS network to ensure the necessary levels of resilience for navigation Supporting metric: Number of States that have developed a plan of rationalized conventional NAVAIDS network to ensure the necessary levels of resilience for navigation	47%	70%	Dec 2022	N/A
COMI							
COMI B0/7	ATS Message Handling System (AMHS)	All States	Indicator: % of States that have established AMHS interconnections with adjacent COM Centres Supporting metric: Number of States that have established AMHS interconnections with adjacent COM Centres	73%	90%	Dec 2020	N/A

Element		Applicability	Performance Indicators/ Supporting Metrics	Baseline (2022)	Target	Timeline	KPA/ KPI
COMI B1/1	Ground-Ground Aeronautical Telecommunication Network/Internet Protocol Suite (ATN/IPS)	All States	Indicator: % of States that have established National IP Network for voice and data communication Supporting metric: Number of States that have established National IP Network for voice and data communication	60%	80%	Dec 2021	N/A
