International Civil Aviation Organization
North American, Central American and Caribbean Office

First North American, Central American and Caribbean Working Group (NACC/WG) Aviation System Block Upgrades (ASBU) Task Force (TF) On-line Meeting (ASBU/TF/01)
(Online, 14 June 2024)

Summary of Discussions

Date	14 June 2024
Location	Online
Participants	The Meeting was attended by 17 delegates from 5 States/Territories from the NAM/CAR Regions, one International Organization, and one representative of the industry. f. The list of participants is shown in **Appendix A.** The Agenda is under **Appendix B.**

1. Objectives

1.1 The objective of the meeting was to follow up on the decisions and conclusions of the last meeting of the North American, Central American and Caribbean Working Group (NACC/WG), as well as update the Task Force's work plan for 2024 and review the implications /actions to comply with the new format of the Regional Air Navigation Plan (RANP) under the Global Air Navigation Plan (GANP), Version 7. In addition to monitoring the development activities of the air navigation plans of the CAR Region States.

2. Discussion

2.1 The Group's rapporteur, Ms. Midori Tanino, indicated that the work that had been carried out was affected by the pandemic, but that was very gratifying that it could be resumed.

2.2 The meeting discussed the projects that are being executed by the ICAO NACC Regional Office supported by the Multi-Regional Civil Aviation Assistance Programme (MCAAP) (RLA09801), in addition to presenting the new version of the Air Navigation Plan format according to GANP, Version 7.

2.3 Under P/02, the Secretariat presented the planning proposal for the creation of air navigation plans in the CAR region, indicating that the development process of CAR regional planning requires the establishment of a series of activities, which allow evaluation of the current ANS implementation status and identify subsequent implementation based on data, both at the State and Regional levels.

2.4 The project based on GANP version 7 has the following deliverables:

- Establish the implementation status of Air Navigation Services and aerodromes in the region.
- The development of the National Air Navigation Plans of the CAR States.
- Establishment of regional growth goals for at least the next 10 years.

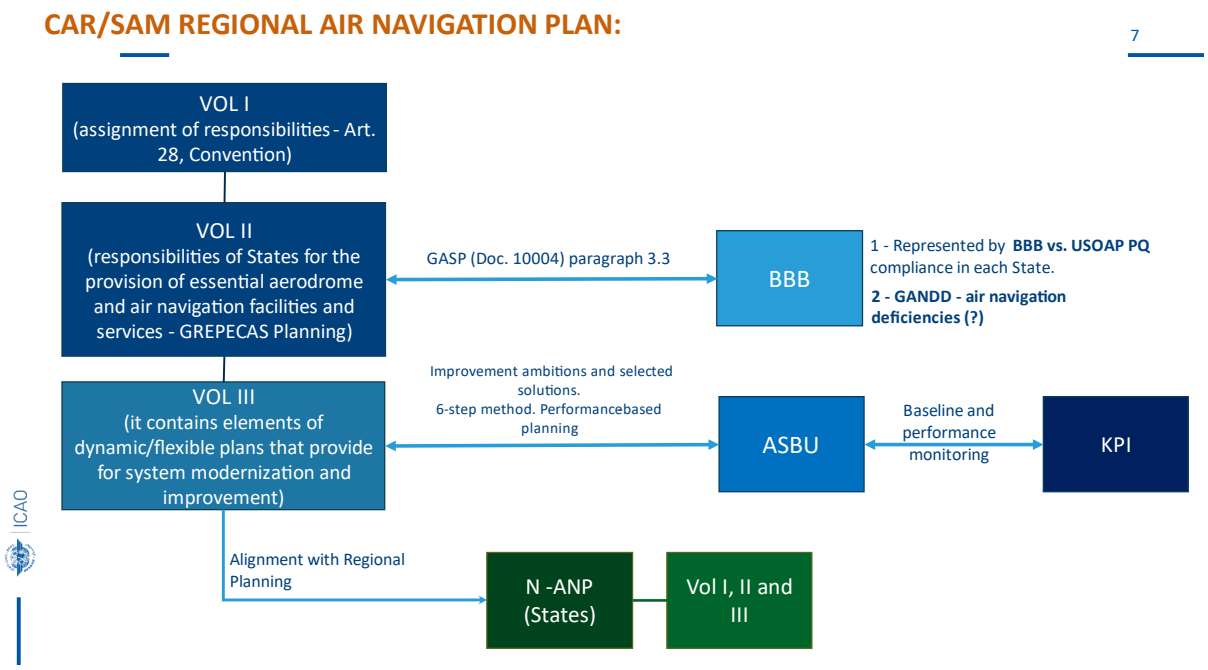
2.5 During the Project evolution process, the following activities will be executed:

a) Update of the electronic Air Navigation Plan Volume I (e-ANP Vol I)
b) Update of the electronic Air Navigation Plan Volume II (e-ANP Vol II)
c) Update of the electronic Air Navigation Plan Volume III (e-ANP Vol III)

2.6 In the case of e-ANP Vol III, the project will support:

1. The creation of the State's baseline regarding the process of identifying and measuring Key Performance Indicators (KPI)
2. The establishment of the planning for implementing the subsequent ASBU modules per the needs identified by the State and using the "Air Navigation - System Performance Assessment (AN-SPA)" tool.

2.7 The NANP development proposal aims to update and aligning the national objectives of the States with the regional objectives through the following documentation:



2.8 States should incorporate the Basic Building Blocks (BBB), as the strategy of their national planning framework into their national air navigation plans, to ensure the provision of seamless air navigation services based on the deployment of interoperable systems and procedures harmonized.

2.9 The elements of the ASBU are divided into three different categories:

1. Operational.
2. Information.
3. Technology.

2.10 Each element is part of a module and an implementation block that defines the time were the element can be implemented. The analysis of ASBU elements will help identify weak areas, projects that should be prioritized, and short, medium, and long-term goals. The block improvement elements constitute an important step in the development of the regional aviation system and their correct implementation constitutes an important step for the development of State and Region aviation development.

2.11 KPIs are quantitative means of measuring current/past performance, expected future performance, and actual progress in achieving performance objectives. For ANS services, they provide information to be reviewed by States on service performance and support decision-making for operational improvements.

2.12 For the development of national Air Navigation Plans, the State must ensure:

1. Integration of global harmonization through the GANP and ensuring the provision of minimum services for international civil aviation, agreed levels of performance, and global interoperability.
2. Link to the national context by facilitating access to financing for topics related to the sustainable development of aviation and the link with other deliverables such as Maintenance Plans (example of systems), investment plans, training plans, NASP, State Safety Programme (SSP), Safety management system (SMS), budget control, etc.
3. Identification of all stakeholders, definition of roles and responsibilities, define a strategy.
4. Do not jump to solutions, analyze and find data that justify the decisions (AN-SPA).
5. Choose the optimal solution, consider feasibility, safety assessment, environmental assessment, consider dependencies and maximize benefits.

2.13 Under WP/02, the Group rapporteur explained that the ASBU TF work programme covers the bases for the preparation and maintenance of NANPs by ICAO Member States/Territories of the CAR region and organizations.

2.14 To effectively prepare and maintain the NANP of the States, they must understand the GANP/ASBU in conjunction with the current and future needs of their States in terms of aeronautical technologies. The NANP should be used by States to strategically plan when and what capability will be implemented.

2.15 The rapporteur explained the changes that the different versions of the GANP have undergone from version 5 to the current version, which is version 7, and the changes that are expected in version 8 to be approved at the ICAO Assembly in 2025.

2.16 The NACC Office in coordination with United States Federal Aviation Administration (FAA), through the ASBU/TF Group rapporteur developed three different workshops: March 2018, August 2018 and November 2018, through which work was carried out in 20 States, 1 Territory and 1 organization in the CAR region that need to prepare the NANP. Antigua and Barbuda, Barbados, Belize, Costa Rica, Cuba, Curacao, Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, , Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, and COCESNA have PANN NANP? based on the 5th edition of ASBU. See https://www.icao.int/NACC/Pages/regional-group-ASBU.aspx.

2.17 For the following months, the updating/development of the States' air navigation plans is planned through two workshops sponsored by the MCAAP project:

1. For Spanish-speaking States it will be held in El Salvador, in August 2024.
2. For English-speaking States it will be held in Jamaica, in February 2025.

2.18 Greater resources will also be coordinated with the MCAAP Project to cover the development activities of the NANPs of the CAR region, due to the enormous benefit that this provides for the region based on both its national and regional planning.

2.19 The Group rapporteur also presented the changes that have been made in the format of the air navigation plan per version 7 of the GANP, which is the one that will be used in the development and/or updating of the NANP of the CAR States. The NANP and ANRF templates are under **Appendix C and D** (available only in English) respectively.

2.20 The result of the first workshop will be presented during the NACC/WG/09 meeting to be held during the first week of October 2024 and the work plan of the NACC/WG/ASBU TF will also be used based on these results.

3. Workshop Schedule and Activities

3.1 The meeting documentation, as well as the recording of the event, can be found at the following link: https://www.icao.int/NACC/Pages/meetings-2024-asbutf01.aspx

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First North American, Central American and Caribbean Working Group (NACC/WG) Aviation System Block Upgrades (ASBU) Task Force (TF) On-line Meeting (ASBU/TF/01)
Primera Reunión en línea del Grupo de tarea de Mejoras por bloques del sistema de aviación (ASBU/TF/01) del Grupo de Trabajo de Norteamérica, Centroamérica y Caribe (NACC/WG)

Online, 14 June 2024 / En línea, 14 de junio de 2024

APPENDIX A / APÉNDICE A
LIST OF PARTICIPANTS / LISTA DE PARTICIPANTES

DOMINICAN REPUBLIC/REPÚBLICA DOMINICANA
1. Claudia Roa
2. Eduardo Tejada

GUATEMALA
3. Enio Hernandez

MEXICO/MÉXICO
4. Francisco Uriel Rojas López
5. Salvador Lozano
6. Martin Rodríguez Valdez
7. Manuel Alejandro Cruz

TRINIDAD AND TOBAGO/TRINIDAD Y TOBAGO
8. Riaaz Mohammed
9. Kent Ramnarace-Sigh

UNITED STATES/ESTADOS UNIDOS
10. Midori Tanino

COCESNA
11. Ernest Arzu
12. Roger Pérez
13. Hugo Bolaños
14. Marco Zelaya
15. Wilmer Flores

THALES
16. Govind Vekaria

ICAO/OACI
17. Mayda Avila Sierra

First North American, Central American and Caribbean Working Group (NACC/WG) Aviation System Block Upgrades (ASBU) Task Force On-line Meeting (ASBU/TF/01)

On-line, 14 June 2024

APPENDIX B
PROVISIONAL AGENDA

Agenda Item 1: Adoption of the Provisional Agenda and Schedule

Agenda Item 2: Review of the Task Force's Activities and Progress

Agenda Item 3: Task Force Action Plan Update

Agenda Item 4: Other Business

PROVISIONAL AGENDA
EXPLANATORY NOTES

Agenda Item 1: Adoption of the Provisional Agenda and Schedule

Under this agenda item, the Meeting will review and adopt the agenda. The objectives and general expectations of the meeting will be presented.

Agenda Item 2: Review of the Task Force's Activities and Progress

Under this agenda item, the Task Force will review the status of the execution of its activities and the Rapporteur will present a proposal for the National Air Navigation Plan as per the Global Air Navigation Plan (GANP) 7.

Agenda Item 3: Task Force Action Plan Update

The Task Force action plan will be updated for 2024-2005.

Agenda Item 4: Other Business.

Under this agenda item, the Meeting will review other relevant and/or pertinent matters.

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[Your State Name]
National Air Navigation Plan

Date: XXXXX XX, 2024 –Draft
Prepared by: Your Organization Name

Document History Record

Release	Date	Author(s)/Comments
Draft	March XX, 2018	Your Name (Organization)
Version 1.0	XXXXX XX, 2018	Enter information on NANP based on the 5th edition
Version 2.0	XXXXX XX, 2018	Enter information on NANP based on the 7th edition

Table of Contents

Contents

1. Introduction

This document is Your State/Organization's National Air Navigation Plan (ANP) describing the plan and status of aviation technology implementation. The background of the National Air Navigation Plan (NANP) and the environment of our air navigation system are presented along with the method and process to evaluate and monitor aviation technology implementation.

1.1 Background

The ICAO Global Air Navigation Plan (Doc 9750, GANP) provides ICAO's vision to achieve sustainable growth of the global civil aviation system. It also presents all states with a comprehensive planning tool supporting a harmonized global air navigation system. The GANP is an overarching framework that includes key civil aviation policy principles to assist ICAO regions and states with the preparation of their regional and national ANPs.

Planning and Implementation Regional Groups (PIRGs) are expected to develop the regional ANPs reflecting the regional requirements. GANP obligates states to map their individual or regional programmes against the harmonized GANP, but provides them with far greater certainty of investment. GANP requires active collaboration among states through the PIRGs to coordinate initiatives within applicable regional ANPs.

The GANP introduces the Aviation System Block Upgrades (ASBU) methodology. The ASBU methodology and its description of future aviation capabilities define programmatic and flexible global systems engineering approaches allowing all states to advance their air navigation capacities based on their specific operational requirements.

To this extent, the North America (NAM), Central America and Caribbean (CAR) (NACC) Regional Office (RO), has published the NAM/CAR Regional Performance-Based Air Navigation Implementation Plan (RPBANIP v3.1 in April 2014) aligning the activities and strategies with the ICAO ASBU methodology. The efforts to produce electronic Air Navigation Plan (eANP) Volume III for the CAR/SAM Regional Planning and Implementation Group (GREPECAS) region is taking place. The Volume III contains dynamic and flexible plan elements providing implementation planning guidance for air navigation systems and their modernization taking into consideration emerging programmes such as the ICAO ASBUs and associated technology roadmaps described in the GANP. GREPECAS eANP Volume III will replace RPBANIP and South America (SAM) region's Performance Based Implementation Plan (PBIP).

This document is the NANP for Your State/Organization aligning activities and strategies to the GANP and RPBANIP. The information contained in the Your State/Organization NANP is related mainly to:

- Planning: objectives set, priorities and targets planned at the state level;
- Implementation monitoring and reporting: monitoring the progress of implementation towards targets planned. This information should be used for reporting purposes (i.e. global and regional air navigation reports and performance dashboards); and/or
- Guidance: providing state guidance material for the implementation of specific system/procedures in a harmonized manner.

The Your State/Organization NANP is adjusted to align with the 7th edition of GANP/ASBU. This NANP would be used as a tool for planning, monitoring, and reporting the status of implementation of the aviation capabilities.

1.2 Environment

The environments of Air Navigation of Your State/Organization, such as authority, airspace and airports, and air traffic are described in this section.

1.2.1 Authority of Your State/Organization

The ABC Organization was established by an Act of Parliament in NNNN. Its mission is to maximize air and sea-borne traffic and related services through safe and efficient operations. Its mandate is defined as the provision of coordinated and integrated systems of airports and seaports.

The ABC Organization is responsible for managing the aerodromes and airspace and other things. The organization is organized as shown in Figure 1.2.1. Who does what? Who has what responsibilities? Its operation is performed by a highly motivated work force contributing to the sustainable, social and economic development of My State.

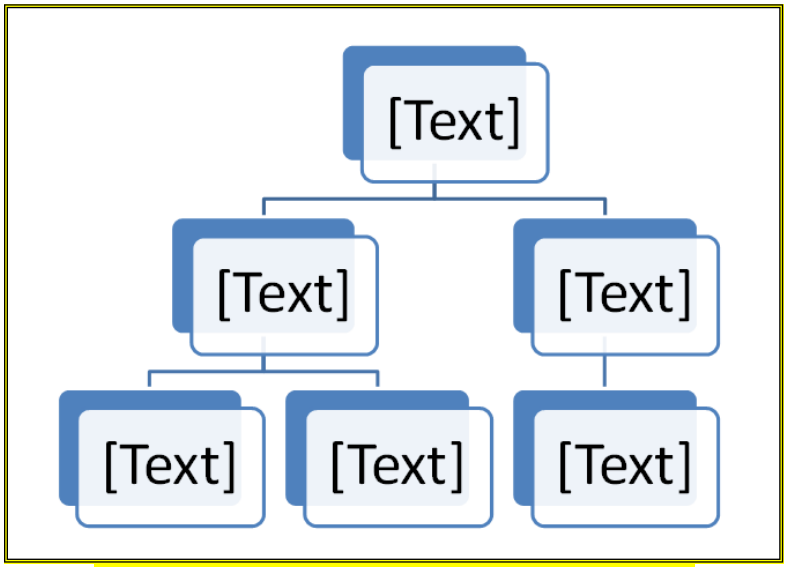


Figure 1.2.1: Organizational Structure of My State

1.2.2 Airspace

My State is located within the ZZZ Flight Information Region (FIR) that is managed by ABC. OR My State manages ZZZ Flight Information Region (FIR). Refer to Figure 1.2.2 for the airspace around My State or ZZZ FIR. Describe FIR more in detail if you like.

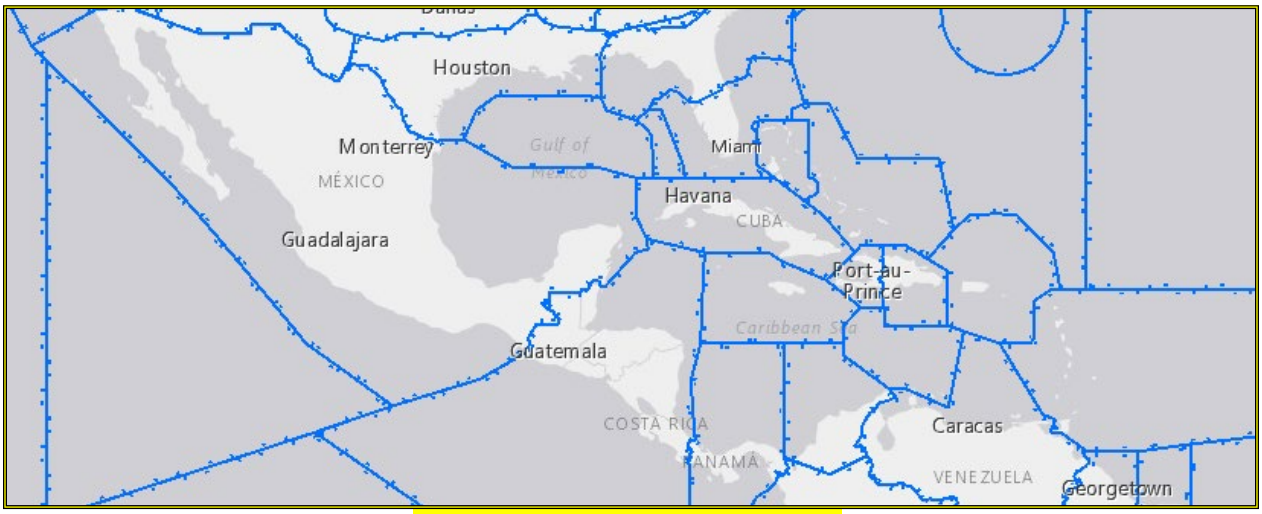


Figure 1.2.2: ZZZ FIR and My State

1.2.3 Aerodromes

Two (Two is an example. Determine the aerodromes to be included in this doc and describe.) Major aerodromes in My State are: Wow Wonderful Airport (TWOW) and Beautiful International Airport (TBTF). These two aerodromes are listed in the ICAO's regional ANP titled, "Caribbean and South American Air Navigation Plan, Volume I (dated October 2015), Table AOP I-1, International Aerodromes Required in the CAR/SAM Regions". The TWOW has the capacity of 8-10 air traffic movements per hour. The TBTF has the capacity of 12-14 air traffic movements per hour.

Runway Information on Wow Wonderful Airport (TWOW)

	Runway 09	Runway 27
Length x Width	6227 ft. x 148 ft.	6227 ft. x 148 ft.
Surface Type	asphalt	asphalt
TDZ-Elev	20 ft.	10 ft.
Lighting	edge	edge
Displace Threshold	430 ft.	1011 ft.

Runway Information on Beautiful International Airport (TBTF)

	Runway 10	Runway 28
Length x Width	9003 ft. x 151 ft.	9003 ft. x 151 ft.
Surface Type	asphalt	asphalt
TDZ-Elev	11 ft.	10 ft.
Lighting	Edge, ALS	edge
Displace Threshold	-	492 ft.
Stopway	-	200 ft.

1.2.4 Traffic Forecast

The global pandemic of COVID-19 in 2020 greatly affected the aviation industries. It significantly reduced the air traffic and made it difficult to forecast how the traffic will recover and grow. This section, Traffic Forecast will be re-visited by the following revision of NANP.

[**Remove remaining of this section** unless you want to include your traffic forecast information.]

This section forecast the traffic volume as much as possible under the current conditions.

Number of typical daily operations (arrival/departure) at Wow Wonderful Airport (TWOW) and Beautiful International Airport (TBTF) are 25/25 (total of 50 movements) and 30/30 (total of 60 movements), respectively. The RPBANIP forecasted that average annual growth of air traffic in the Caribbean region would increase 5.9% during 2024-2031. The **My Organization** believes that this overall Caribbean regional forecast of annual increase of 5.9% is too optimistic for **My Organization** and more moderate number of 3.0% annual increase might realistic anticipation. Estimated daily operations at TWOW and TBTF are shown in Tables 1.2.4a and 1.2.4b applying the increase forecasts to each year from 2019 to 2031.

Year	TWOW	TBTF
2019	56	67
2020	59	71
2021	63	75
2022	67	80
2023	71	85
2024	75	90
2025	79	95
2026	84	101
2027	89	106
2028	94	113
2029	99	119
2030	105	126
2031	112	134

Table 1.2.4a: Air Traffic Forecasts at TWOW and TBTF (number of daily operation) using annual increase rate of 5.9%

Year	TWOW	TBTF
2019	53	64
2020	55	66
2021	56	68
2022	58	70
2023	60	72
2024	61	74
2025	63	76
2026	65	78
2027	67	81
2028	69	83
2029	71	86
2030	73	88
2031	76	91

Table 1.2.4b: Air Traffic Forecasts at TWOW and TBTF (number of daily operation) using annual increase rate of 3.0%

1.3 Planning Methodology

Guided by the GANP and RPBANIP, the state planning process starts by identifying the state responsible ATM areas, major traffic flows and international aerodromes. An analysis of this data leads to the identification of opportunities for performance improvement. Available technologies and ASBU Elements are evaluated to identify which Elements best provide the needed operational improvements. Depending on the complexity of the selected technology or Elements, additional planning steps may need to be undertaken including financing and training needs. Finally, state plans would be developed for the deployment of improvements and supporting requirements. This is an iterative planning process which may require repeating several steps until a final plan with specific regional targets is in place. This planning methodology requires full involvement of states, service providers, airspace users and other stakeholders, thus ensuring commitment by all for implementation.

Considering that some of the ASBU Modules contained in the GANP are specialized packages of implementable capabilities called Elements that may be applied where specific operational requirements or corresponding benefits exist. States will decide how each ASBU Element would fit into national and regional plans.

In establishing and updating the implementation priorities detailed in the Your State/Organization NANP, due consideration should be given to the safety priorities set out in the Global Aviation Safety Plan (GASP) and the NAM/CAR regional safety strategy. Your State/Organization would establish its own air navigation objectives, priorities and targets to meet its individual needs and circumstances in line with the global and regional air navigation objectives, priorities, and targets.

1.4 Air Navigation Planning Process

The air navigation planning process prescribes evaluation, implementation, reviewing, reporting, and monitoring activities. It is recommended to conduct the process on a cyclical annual basis. An Air Navigation Reporting Form (ANRF) is a tool to monitor and report the implementation status of capabilities. The Your State/Organization ANRF is a customized tool for the application of setting planning targets, monitoring implementation, and identifying challenges, measuring implementation/performance and reporting. The ANRF reflects selected key performance areas as defined in the Manual on Global Performance of the Air Navigation System (ICAO Doc 9883).

Many of the future capabilities are described in terms of ASBU Elements. Some capabilities are specific to the need of the CAR region and/or the state needs. These specific needs are described as Regional Aviation System Improvements (RASI) and National Aviation System Improvements (NASI).

1.4.1 Performance Based Approach and 6-Step Process

ICAO advocates the six-step performance management process as shown in Figure 1.4.1. It consists of a Planning Phase (Steps 1-4), Implementation (Step 5) and Review Phase (Step 6). ICAO acknowledges there are several ways to apply a performance-based approach. This NANP is prepared by using the Analysis and Workflow Process that is familiar to the CAR states (refer to Figure 1.4.2: Analysis and Workflow Process) and this process is a variation of the six-step performance management process. ICAO NACC RO plans to transition to the ICAO advocated process in the future; however, not this time.

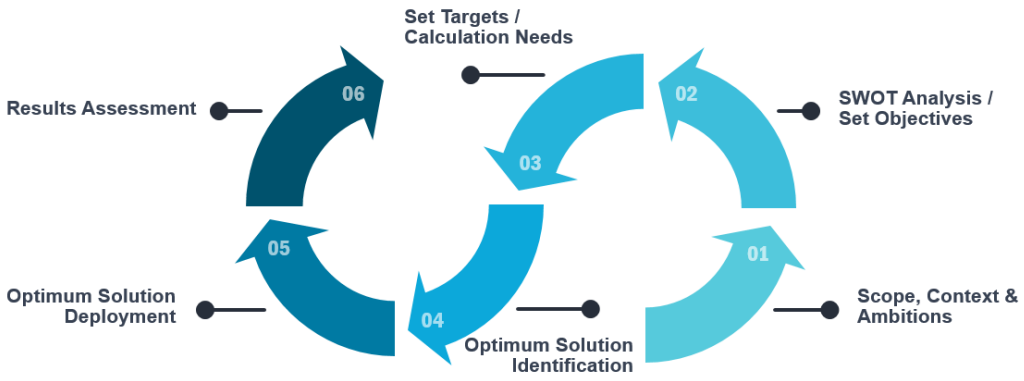


Figure 1.4.1: Six-Step Performance Management Process

1.4.2 Analysis and Workflow Process

Figure 1.4.2 depicts the workflow for analysing and implementing ASBU Elements. This flow process should be applied to each of the ASBU Elements. If the Element is applicable to an airport, each airport needs to be evaluated through this flow process. This same flow process is applicable to RASI and NASI.

The significance of each step in the workflow as it pertains to regional planning is as follows:

- **Analysis Not Started** – The requirement to implement this ASBU Element has not yet been assessed
- **Analysis In Progress** – A Need Analysis as to whether or not this ASBU Element is required, is in progress
- **N/A** – The ASBU Element is not required
- **Need** - The Need Analysis concluded that the ASBU Element is required, but planning for the implementation has not yet begun
- **Planning** – Implementation of this ASBU Element is planned, but not yet started
- **Developing** – Implementation of this ASBU Element is in the development phase, but not yet operational
- **Partially Implemented** – Implementation of this ASBU Element is partially completed and/or operational but all planned implementations are not yet complete
- **Implemented** - Implementation of this ASBU Element has been completed and/or is fully operational everywhere the need was identified

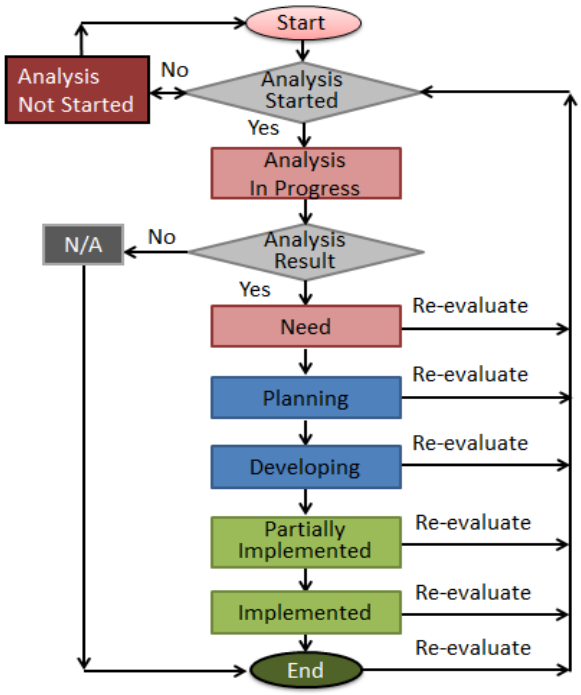


Figure 1.4.2: Analysis and Workflow Process

The Need Analysis of ASBU Elements will identify which ASBU Elements are required. In this context "required" means that the benefits estimated from the implementation would justify the associated implementation costs, or the potential safety benefits are deemed to justify the implementation costs. The implementation status of ASBU Elements which are not required should be indicated as "N/A", meaning "not applicable".

The analysis and implementation status determined in accordance with the above is reflected in the applicable ANRFs and in the ASBU Implementation Status Summary Tables.

1.4.3 Monitoring and Reporting Results

Monitoring and reporting results will be analyzed by the regions, states and the ICAO Secretariat to steer the air navigation improvements, take corrective actions and review the allocated objectives, priorities and targets if needed. The results will also be used by ICAO and aviation partner stakeholders 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. The reports will also provide the ICAO Council with detailed annual results on the basis of which tactical adjustments will be made to the performance framework work programme, as well as triennial policy adjustments.

The information provided in the Your State/Organization ANRFs should be periodically reviewed and updated if subsequent analysis results in a change to the applicability of any ASBU Elements, whether or not they were selected. The explanation of ANRF is provided in Appendix A. The customized Your State/Organization ASBU Air Navigation Reporting Form Template is provided in Appendix B. The Your State/Organization RASI and NASI ANRF Templates are provided in Appendix C.

1.5 Problem Identification

To provide and promote safe and efficient aviation services to the customers, it is important to resolve ongoing challenges that hindering the mission. It is also important to anticipate and address the potential problems in the future.

1.5.1 Existing Problems

The demands for TWOW and TBTF are only expected to increase in the future. The current infrastructure at both airports, notwithstanding upgrades and expansions over the years, does not adequately meet peak capacity demand. The solution requires a huge investment in airport infrastructure. This includes airport terminal development, runway and turning bay reconstruction and rehabilitation, total drainage redevelopment, new control tower and technical block, and continuous modernization of communication, navigation, and surveillance equipment (e.g. Performance Based Navigation procedures (PBN). The formal implementation of Standard Instrument Departure procedures (SIDs) would improve on the safety, efficiency and management of airspace capacity.

In addition, airport operations need to be improved by introducing capabilities such as Airport Collaborative Decision Making (ACDM). To support airport operations, having accurate and timely weather and aeronautical information is essential. Information such as aerodrome warnings and wind shear warnings/alerts will increase safety of operations. Securing quality data should also be accomplished by introducing the Quality Management System (QMS) to both weather and aeronautical data.

A fundamental component which is critical concern, is the availability of human resource to meet the wide-ranging needs of airport operations. The provision of relevant training for that human resource is paramount.

1.5.2 Future Problems

Anticipating heavier demand at the TWOW and TBTF airports, the introduction of a Ground Based Argumentation System (GBAS) landing system procedure would be effective.

The human resource issues, if not addressed in tandem with the infrastructure and procedure development, could result in deficient service provision and delivery. Human resource acquisition and development must coincide with the infrastructure and procedure development.

2. Your State/Organization's Aviation System Block Upgrade (ASBU) Implementation Status

The status of ASBU implementation is provided in this section. There are Block 0 to Block 3 (B0, B1, B2, and B3). and B0 and B1 capacities are ready to be implemented with supporting documents such as standards, procedures, specifications, and training materials. ICAO will provide supporting documents for B2 and B3 capacities in 2025 and 2031, respectively.

2.1 ASBU Block 0 Implementation Metrics, Targets, and Status

ASBU B0 Implementation Targets and Status are presented in this section. **My Organization** considers both Wow Wonderful Airport (TWOW) and Beautiful International Airport (TBTF) for airport oriented Elements.

2.1.1 ASBU B0 Implementation Metrics and Targets

Table 2.1.1 provides the ASBU B0 Implementation Metrics, Targets, and Status for each B0 Element.

Block 0 Modules	Elements	Metrics	Targets	Status & Remarks
Operation – Aerodrome Centric				
ACDM	**1.** Airport CDM Information Sharing (ACIS)	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**ACDM-B0/1 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **ACDM-B0/1 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. No KPI specified.
	2. Integration with ATM Network function	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**ACDM-B0/2 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **ACDM-B0/2 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. No KPI specified.
APTA	**1.** PBN Approaches (with basic capabilities)	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**APTA-B0/1 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **APTA-B0/1 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. Supports KPI10.
	2. PBN SID and STAR procedures (with basic capabilities)	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**APTA-B0/2 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **APTA-B0/2 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. Supports KPI10, KPI11, KPI17, and KPI19.

Block 0 Modules	Elements	Metrics	Targets	Status & Remarks
	3. SBAS/GBAS CAT I precision approach procedures	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**APTA-B0/3 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **APTA-B0/3 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. Supports KPI10.
	4. CDO (Basic)	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**APTA-B0/4 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **APTA-B0/4 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. Supports KPI19.
	5. CCO (Basic)	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**APTA-B0/5 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **APTA-B0/5 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. Supports KPI17.
	6. PBN Helicopter Point in Space (PinS) Operations	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**APTA-B0/6 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **APTA-B0/6 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. Supports KPI10.
	7. Performance based aerodrome operating minima – Advanced aircraft	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**APTA-B0/7 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **APTA-B0/7 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. Supports KPI10.
	8. Performance based aerodrome operating minima – Basic aircraft	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**APTA-B0/8 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **APTA-B0/8 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. Supports KPI10.
DATS	None	N/A	N/A	N/A
RSEQ	**1.** Arrival Management	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**RSEQ-B0/1 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **RSEQ-B0/1 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. Supports KPI08, KPI10, and KPI11.

Block 0 Modules	Elements	Metrics	Targets	Status & Remarks
	2. Departure Management	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**RSEQ-B0/2 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **RSEQ-B0/2 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. Supports KPI02 and KPI10.
	3. Point merge	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**RSEQ-B0/3 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **RSEQ-B0/3 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. Supports KPI10.
SURF	**1.** Basic ATCO tools to manage traffic during ground operations	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**SURF-B0/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **SURF-B0/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning Only TBTF needs this capability. Supports KPI02, KPI13 and KPI20.
	2. Comprehensive situational awareness of surface operations	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**SURF-B0/2 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **SURF-B0/2 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning Only TBTF needs this capability. Supports KPI20 and KPI21.
	3. Initial ATCO alerting service for surface operations	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**SURF-B0/3 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **SURF-B0/3 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning Only TBTF needs this capability. Supports KPI20.
WAKE	None	N/A	N/A	N/A
Operation – System Centric				
ACAS	None	N/A	N/A	N/A
CSEP	None	N/A	N/A	N/A
FRTO	**1.** Direct routing (DCT)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**FRTO-B0/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **FRTO-B0/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented Supports KPI04.
	2. Airspace planning and Flexible Use of Airspace (FUA)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**FRTO-B0/2 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **FRTO-B0/2 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented Supports KPI04, KPI05, KPI17, KPI18, and KPI19.

Block 0 Modules	Elements	Metrics	Targets	Status & Remarks
	3. Pre-validated and coordinated ATS routes to support flight and flow	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**FRTO-B0/3 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **FRTO-B0/3 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI not Specified.
	4. Basic conflict detection and conformance monitoring	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**FRTO-B0/4 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **FRTO-B0/4 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented Supports KPI06, KPI20 and KPI23.
GADS	None	N/A	N/A	N/A
NOPS	**1.** Initial integration of collaborative airspace management with ATFM	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**NOPS-B0/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **NOPS-B0/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented Supports KPI04, KPI05, KPI17, KPI18, and KPI19.
	2. Collaborative Network Flight Updates	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**NOPS-B0/2 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **NOPS-B0/2 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI not Specified.
	3. Network Operation Planning basic features	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**NOPS-B0/3 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **NOPS-B0/3 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI not Specified.
	4. Initial Airport/ATFM slots and A-CDM Network Interface	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**NOPS-B0/4 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **NOPS-B0/4 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI not Specified.
	5. Dynamic ATFM slot allocation	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**NOPS-B0/5 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **NOPS-B0/5 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented Supports KPI07.
OPFL	**1.** In Trail Procedure (ITP)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**OPFL-B0/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **OPFL-B0/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented Supports KPI18.

Block 0 Modules	Elements	Metrics	Targets	Status & Remarks
SNET	**1.** Short Term Conflict Alert (STCA)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**SNET-B0/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **SNET-B0/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented Supports KPI20 and KPI23.
	2. Minimum Safe Altitude Warning (MSAW)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**SNET-B0/2 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **SNET-B0/2 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented Supports KPI20 and KPI23.
	3. Area Proximity Warning (APW)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**SNET-B0/3 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **SNET-B0/3 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented Supports KPI20 and KPI23.
	4. Approach Path Monitoring (APM)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**SNET-B0/4 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **SNET-B0/4 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented Supports KPI20 and KPI23.
TBO	**1.** Introduction of time-based management within a flow centric approach	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**TBO-B0/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **TBO-B0/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI not Specified.
Information				
AMET	**1.** Meteorological observations products	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**AMET-B0/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **AMET-B0/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI not Specified.
	2. Meteorological forecast and warning products	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**AMET-B0/2 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **AMET-B0/2 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI not Specified.
	3. Climatological and historical meteorological products	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**AMET-B0/3 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **AMET-B0/3 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI not Specified.

Block 0 Modules	Elements	Metrics	Targets	Status & Remarks
	4. Dissemination of meteorological products	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**AMET-B0/4 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **AMET-B0/4 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI not Specified.
DAIM	None	N/A	N/A	N/A
FICE	**1.** Automated basic inter facility data exchange (AIDC)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**FICE-B0/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **FICE -B0/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI not Specified.
SWIM	None	N/A	N/A	N/A
		Technology		
ASUR	**1.** Automatic Dependent Surveillance – Broadcast (ADS-B)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**ASUR-B0/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **ASUR-B0/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
	2. Multilateration cooperative surveillance systems (MLAT)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**ASUR-B0/2 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **ASUR-B0/2 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
	3. Cooperative Secondary Surveillance Radar Downlink of Aircraft Parameters (SSR-DAPS)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**ASUR-B0/3 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **ASUR-B0/3 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
COMI	**1.** Aircraft Communication Addressing and Reporting System (ACARS)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**COMI-B0/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **COMI-B0/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
	2. Aeronautical Telecommunication Network/Open System Interconnection (ATN/OSI)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**COMI-B0/2 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **COMI-B0/2 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.

Block 0 Modules	Elements	Metrics	Targets	Status & Remarks
	3. VHF Data Link (VDL) Mode 0/A	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**COMI-B0/3 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **COMI-B0/3 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
	4. VHF Data Link (VDL) Mode 2 Basic	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**COMI-B0/4 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **COMI-B0/4 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
	5. Satellite communications (SATCOM) Class C Data	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**COMI-B0/5 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **COMI-B0/5 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
	6. High Frequency Data Link (HFDL)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**COMI-B0/6 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **COMI-B0/6 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
	7. ATS Message Handling System (AMHS)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**COMI-B0/7 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **COMI-B0/7 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
COMS	**1.** CPDLC (FANS 1/A & ATN B1) for domestic and procedural airspace	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**COMS-B0/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **COMS-B0/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
	2. ADS-C (FANS 1/A) for procedural airspace	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**COMS-B0/2 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **COMS-B0/2 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
NAVS	**1.** Ground Based Augmentation Systems (GBAS)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**NAVS-B0/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **NAVS-B0/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.

Block 0 Modules	Elements	Metrics	Targets	Status & Remarks
	2. Satellite Based Augmentation Systems (SBAS)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**NAVS-B0/2 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **NAVS-B0/2 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
	3. Aircraft Based Augmentation Systems (ABAS)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**NAVS-B0/3 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **NAVS-B0/3 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
	4. Navigation Minimal Operating Networks (Nav. MON)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**NAVS-B0/4 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **NAVS-B0/4 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.

Table 2.1.1: ASBU B0 Implementation Metrics and Targets

2.1.2 ASBU B0 Implementation Status Summary

The summary of ASBU B0 implementation status is provided in the Table 2.1.2. The aerodrome centric Elements number in the entry is the number of applicable aerodromes. Since my Organization considers two aerodromes, the total number of counts for the aerodrome centric Elements will be always two. As for the system centric Elements, the total number of counts is always 1.

The details of ASBU B0 implementation status is recorded using ANRFs and provided in Appendix D.

Block 0 Module	Elements	Need Analysis				Implementation Status *(if Element is needed)*			
		Not Started	In Progress	Need	N/A	Planning	Developing	Partially Implemented	Implemented
Operation – Aerodrome Centric									
ACDM	**1.** Airport CDM Information Sharing (ACIS)								
	2. Integration with ATM Network function								
APTA	**1.** PBN Approaches (with basic capabilities)								
	2. PBN SID and STAR procedures (with basic capabilities)								
	3. SBAS/GBAS CAT I precision approach procedures								
	4. CDO (Basic)								
	5. CCO (Basic)								
	6. PBN Helicopter Point in Space (PinS) Operations								
	7. Performance based aerodrome operating minima – Advanced aircraft								
	8. Performance based aerodrome operating minima – Basic aircraft								
RSEQ	**1.** Arrival Management								
	2. Departure Management								

Block 0 Module	Elements	Need Analysis				Implementation Status *(if Element is needed)*			
		Not Started	In Progress	Need	N/A	Planning	Developing	Partially Implemented	Implemented
	3. Point merge								
SURF	**1.** Basic ATCO tools to manage traffic during ground operations								
	2. Comprehensive situational awareness of surface operations								
	3. Initial ATCO alerting service for surface operations								
Operation – System Centric									
FRTO	**1.** Direct routing (DCT)								
	2. Airspace planning and Flexible Use of Airspace (FUA)								
	3. Pre-validated and coordinated ATS routes to support flight and flow								
	4. Basic conflict detection and conformance monitoring								
NOPS	**1.** Initial integration of collaborative airspace management with ATFM								
	2. Collaborative Network Flight Updates								
	3. Network Operation Planning basic features								
	4. Initial Airport/ATFM slots and A-CDM Network Interface								
	5. Dynamic ATFM slot allocation								
OPFL	**1.** In Trail Procedure (ITP)								
SNET	**1.** Short Term Conflict Alert (STCA)								
	2. Minimum Safe Altitude Warning (MSAW)								
	3. Area Proximity Warning (APW)								
	4. Approach Path Monitoring (APM)								
TBO	**1.** Introduction of time-based management within a flow centric approach								
Information									
AMET	**1.** Meteorological observations products								
	2. Meteorological forecast and warning products								
	3. Climatological and historical meteorological products								
	4. Dissemination of meteorological products								
FICE	**1.** Automated basic inter facility data exchange (AIDC)								
Technology									
ASUR	**1.** Automatic Dependent Surveillance – Broadcast (ADS-B)								
	2. Multilateration cooperative surveillance systems (MLAT)								
	3. Cooperative Secondary Surveillance Radar Downlink of Aircraft Parameters (SSR-DAPS)								
COMI	**1.** Aircraft Communication Addressing and Reporting System (ACARS)								
	2. Aeronautical Telecommunication Network/Open System Interconnection (ATN/OSI)								
	3. VHF Data Link (VDL) Mode 0/A								
	4. VHF Data Link (VDL) Mode 2 Basic								
	5. Satellite communications (SATCOM) Class C Data								
	6. High Frequency Data Link (HFDL)								
	7. ATS Message Handling System (AMHS)								

Block 0 Module	Elements	Need Analysis				Implementation Status *(if Element is needed)*			
		Not Started	In Progress	Need	N/A	Planning	Developing	Partially Implemented	Implemented
COMS	**1.** CPDLC (FANS 1/A & ATN B1) for domestic and procedural airspace								
	2. ADS-C (FANS 1/A) for procedural airspace								
NAVS	**1.** Ground Based Augmentation Systems (GBAS)								
	2. Satellite Based Augmentation Systems (SBAS)								
	3. Aircraft Based Augmentation Systems (ABAS)								
	4. Navigation Minimal Operating Networks (Nav. MON)								

Table 2.1.2 ASBU B0 Implementation Status Summary

2.2 ASBU Block 1 Implementation Targets and Status

ASBU B1 Implementation Targets and Status are presented in this section. My Organization considers both Wow Wonderful Airport (TWOW) and Beautiful International Airport (TBTF) for airport oriented Elements.

2.2.1 ASBU B1 Implementation Metrics and Targets

Table 2.2.1 provides the ASBU B1 Implementation Metrics, Targets, and Status for each B1 Element.

Block 1 Modules	Elements	Metrics	Targets	Status & Remarks
Operation – Aerodrome Centric				
ACDM	N/A	N/A	N/A	N/A
APTA	**1.** PBN Approaches (with advanced capabilities)	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**APTA-B1/1 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **APTA-B1/1 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. Supports KPI10.
	2. PBN SID and STAR procedures (with advanced capabilities)	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**APTA-B1/2 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **APTA-B1/1 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. Supports KPI10, KPI11, KPI17 and KPI19.

Block 1 Modules	Elements	Metrics	Targets	Status & Remarks
	4. CDO (Advanced) **Note:** APTA-B1/3 is missing.	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**APTA-B1/4 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **APTA-B1/1 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. Supports KPI19.
	5. CCO (Advanced) **Note:** APTA-B1/3 is missing.	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**APTA-B1/5 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **APTA-B1/1 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. Supports KPI7.
DATS	**1.** Remotely Operated Aerodrome Air Traffic Services	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**DATS-B1/1 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **DATS-B1/1 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. Supports KPI20.
RSEQ	**1.** Extended arrival metering	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**RSEQ-B1/1 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **ACDM-B1/1 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. Supports KPI08.
SURF	**1.** Advanced features using visual aids to support traffic management during ground operations	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**SURF-B1/1 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **SURF-B1/1 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. Supports KPI02. KPI13, and KPI20.
	2. Comprehensive pilot situational awareness on the airport surface	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**SURF-B1/2 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **SURF-B1/2 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. Supports KPI20 and KPI21.
	3. Enhanced ATCO alerting service for surface operations	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**SURF-B1/3 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **SURF-B1/3 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. Supports KPI20.

Block 1 Modules	Elements	Metrics	Targets	Status & Remarks
	4. Routing service to support ATCO surface operations management	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**SURF-B1/4 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **SURF-B1/4 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. Supports KPI02 and KPI13.
	5. Enhanced vision systems for taxi operations	Number of aerodromes to be considered: 2 **a.** Have we assessed the need? *Yes or No* **b.** How many aerodromes need this capability? *None, 1, or 2* **c.** How many aerodromes implemented the capability? *None, 1, or 2*	**SURF-B1/5 Target 1:** Assessed in Sep 2017 **a.** Yes **b.** 1 (TBTF) **SURF-B1/5 Target 2:** Implement by Dec 2019 **c.** None	**Status** – Planning Only TBTF needs this capability. Supports KPI02, KPI13, KPI20 and KPI21.
WAKE	None	N/A	N/A	N/A
Operation – System Centric				
ACAS	**1.** ACAS Improvements	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**ACAS-B1/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **ACAS-B1/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning Supports KPI20 and KPI23.
CSEP	**1.** Basic airborne situational awareness during flight operations (AIRB)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**CSEP-B1/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **CSEP-B1/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning Supports KPI20 and KPI23.
	2. Visual Separation on Approach (VSA)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**CSEP-B1/2 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **CSEP-B1/2 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning Supports KPI20 and KPI23.
	3. Performance Based Longitudinal Separation Minima	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**CSEP-B1/3 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **CSEP-B1/3 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning Supports KPI06.
	4. Performance Based Lateral Separation Minima	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**CSEP-B1/4 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **CSEP-B1/4 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning Supports KPI06.

Block 1 Modules	Elements	Metrics	Targets	Status & Remarks
FRTO	**1.** Free Route Airspace (FRA)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**FRTO-B1/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **FRTO-B1/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning Supports KPI04.
	2. Required Navigation Performance (RNP) routes	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**FRTO-B1/2 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **FRTO-B1/2 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning Supports KPI06.
	3. Advanced Flexible Use of Airspace (FUA) and management of real time airspace data	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**FRTO-B1/3 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **FRTO-B1/3 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning Supports KPI04, KPI05, KPI17, KPI18, and KPI19.
	4. Dynamic sectorization	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**FRTO-B1/4 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **FRTO-B1/4 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning KPI not specified.
	5. Enhanced Conflict Detection Tools and Conformance Monitoring	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**FRTO-B1/5 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **FRTO-B1/5 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning KPI not specified.
	6. Multi-Sector Planning	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**FRTO-B1/6 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **FRTO-B1/6 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning KPI not specified.
	7. Trajectory Options Set (TOS)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**FRTO-B1/7 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **FRTO-B1/7 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning KPI not specified.
GADS	**1.** Aircraft Tracking	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**GADS-B1/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **GADS-B1/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning KPI not specified.

Block 1 Modules	Elements	Metrics	Targets	Status & Remarks
	2. Operational Control Directory	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**GADS-B1/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **GADS-B1/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning KPI not specified.
NOPS	**1.** Short Term ATFM measures	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**NOPS-B1/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **NOPS-B1/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning KPI not specified.
	2. Enhanced Network Operations Planning	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**NOPS-B1/2 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **NOPS-B1/2 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning KPI not specified.
	3. Enhanced integration of Airport operations planning with network operations planning	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**NOPS-B1/3 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **NOPS-B1/3 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning KPI not specified.
	4. Dynamic Traffic Complexity Management	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**NOPS-B1/4 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **NOPS-B1/4 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning Supports KPI06.
	5. Full integration of airspace management with air traffic flow management	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**NOPS-B1/5 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **NOPS-B1/5 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning Supports KPI04, KPI05, KPI17, KPI18, and KPI19.
	6. Initial Dynamic Airspace configurations	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**NOPS-B1/6 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **NOPS-B1/6 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning KPI not specified.
	7. Enhanced ATFM slot swapping	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**NOPS-B1/7 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **NOPS-B1/7 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning KPI not specified.

Block 1 Modules	Elements	Metrics	Targets	Status & Remarks
	8. Extended Arrival Management supported by the ATM Network function	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**NOPS-B1/8 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **NOPS-B1/8 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning KPI not specified.
	9. Target Times for ATFM purposes	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**NOPS-B1/9 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **NOPS-B1/9 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning KPI not specified.
	10. Collaborative Trajectory Options Program (CTOP)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**NOPS-B1/10 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **NOPS-B1/10 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning Supports KIP04, KPI07, and KPI18.
OPFL	**1.** Climb and Descend Procedure (CDP)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**OPFL-B1/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **OPFL-B1/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning Supports KIP18.
SNET	**1.** Enhanced STCA with aircraft parameters	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**SNET-B1/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **SNET-B1/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning Supports KPI20 and KPI23.
	2. Enhanced STCA in complex TMAs	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**SNET-B1/2 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **SNET-B1/2 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning Supports KPI20 and KPI23.
TBO	**1.** Initial Integration of time-based decision making processes	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**TBO-B1/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **TBO-B1/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning KPI not specified.
Information				
AMET	**1.** Meteorological observations information	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**AMET-B1/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **AMET-B1/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.

Block 1 Modules	Elements	Metrics	Targets	Status & Remarks
	2. Meteorological forecast and warning information	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**AMET-B1/2 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **AMET-B1/2 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
	3. Climatological and historical meteorological information	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**AMET-B1/3 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **AMET-B1/3 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
	4. Dissemination of meteorological information	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**AMET-B1/4 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **AMET-B1/4 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
DAIM	**1.** Provision of quality-assured aeronautical data and information	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**DAIM-B1/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **DAIM-B1/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
	2. Provision of digital Aeronautical Information Publication (AIP) data sets	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**DAIM-B1/2 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **DAIM-B1/2 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
	3. Provision of digital terrain data sets	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**DAIM-B1/3 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **DAIM-B1/3 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
	4. Provision of digital obstacle data sets	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**DAIM-B1/4 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **DAIM-B1/4 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
	5. Provision of digital aerodrome mapping data sets	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**DAIM-B1/5 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **DAIM-B1/5 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.

Block 1 Modules	Elements	Metrics	Targets	Status & Remarks
	6. Provision of digital instrument flight procedure data sets	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**DAIM-B1/6 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **DAIM-B1/6 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
	7. NOTAM improvements	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**DAIM-B1/7 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **DAIM-B1/7 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Planning
FICE	None	N/A	N/A	N/A
SWIM	None	N/A	N/A	N/A
		Technology		
ASUR	**1.** Reception of aircraft ADS-B signals from space (SB ADS-B)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**ASUR-B1/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **ASUR-B1/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
COMI	**1.** Ground-Ground Aeronautical Telecommunication Network/Internet Protocol Suite (ATN/IPS)	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**COMI-B1/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **COMI-B1/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
	2. VHF Data Link (VDL) Mode 2 Multi-Frequency	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**COMI-B1/2 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **COMI-B1/2 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
	3. SATCOM Class B Voice and Data	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**COMI-B1/3 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **COMI-B1/3 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
	4. Aeronautical Mobile Airport Communication System (AeroMACS) Ground-Ground	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**COMI-B1/4 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **COMI-B1/4 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.

Block 1 Modules	Elements	Metrics	Targets	Status & Remarks
COMS	**1.** PBCS approved CPDLC (FANS 1/A+) for domestic and procedural airspace	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**COMS-B1/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **COMS-B1/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
	2. PBCS approved ADS-C (FANS 1/A+) for procedural airspace	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**COMS-B1/2 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **COMS-B1/2 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
	3. SATVOICE (incl. routine communications) for procedural airspace	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**COMS-B1/3 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **COMS-B1/3 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.
NAVS	**1.** Extended GBAS	**a.** Have we assessed the need? *Yes or No* **b.** Do we need this capability? *Yes or No* **c.** Have we implemented the capability? *Yes or No*	**NAVS-B1/1 Target 1:** Assessed in Dec 2016 **a.** Yes **b.** Yes **NAVS-B1/1 Target 2:** Implemented in Jan 2000 **c.** Yes	**Status** – Implemented KPI N/A.

Table 2.2.1: ASBU B1 Implementation Metrics and Targets

2.2.2 ASBU B1 Implementation Status Summary

The summary of ASBU B1 implementation status is provided in the Table 2.2.2. For the aerodrome centric Elements, number in the entry is the number of applicable aerodromes. Since my Organization considers two aerodromes, the total number of counts for the aerodrome centric Elements will be always two. As for the system centric Elements, the total number of counts is always 1.

The details of ASBU B1 implementation status is recorded using ANRFs and provided in Appendix E.

Block 1 Module	Elements	Need Analysis				Implementation Status *(if Element is needed)*			
		Not Started	In Progress	Need	N/A	Planning	Developing	Partially Implemented	Implemented
Operation – Aerodrome Centric									
APTA (no B1/3)	**1.** PBN Approaches (with advanced capabilities)								
	2. PBN SID and STAR procedures (with advanced capabilities)								
	4. CDO (Advanced)								
	5. CCO (Advanced)								
DATS	**1.** Remotely Operated Aerodrome Air Traffic Services)								
RSEQ	**1.** Extended arrival metering								

Block 1 Module	Elements	Need Analysis				Implementation Status *(if Element is needed)*			
		Not Started	In Progress	Need	N/A	Planning	Developing	Partially Implemented	Implemented
SURF	1. Advanced features using visual aids to support traffic management during ground operations								
	2. Comprehensive pilot situational awareness on the airport surface								
	3. Enhanced ATCO alerting service for surface operations								
	4. Routing service to support ATCO surface operations management								
	5. Enhanced vision systems for taxi operations								
Operation – System Centric									
ACAS	1. ACAS Improvements								
CSEP	1. Basic airborne situational awareness during flight operations (AIRB)								
	2. Visual Separation on Approach (VSA)								
	3. Performance Based Longitudinal Separation Minima								
	4. Performance Based Lateral Separation Minima								
FRTO	1. Free Route Airspace (FRA)								
	2. Required Navigation Performance (RNP) routes								
	3. Advanced Flexible Use of Airspace (FUA) and management of real time airspace data								
	4. Dynamic sectorization								
	5. Enhanced Conflict Detection Tools and Conformance Monitoring								
	6. Multi-Sector Planning								
	7. Trajectory Options Set (TOS)								
GADS	1. Aircraft Tracking								
	2. Operational Control Directory								
NOPS	1. Short Term ATFM measures								
	2. Enhanced Network Operations Planning								
	3. Enhanced integration of Airport operations planning with network operations planning								
	4. Dynamic Traffic Complexity Management								
	5. Full integration of airspace management with air traffic flow management								
	6. Initial Dynamic Airspace configurations								
	7. Enhanced ATFM slot swapping								
	8. Extended Arrival Management supported by the ATM Network function								
	9. Target Times for ATFM purposes								
	10. Collaborative Trajectory Options Program (CTOP)								
OPFL	1. Climb and Descend Procedure (CDP)								
SNET	1. Enhanced STCA with aircraft parameters								
	2. Enhanced STCA in complex TMAs								
TBO	1. Initial Integration of time-based decision making processes								
Information									
AMET	1. Meteorological observations information								
	2. Meteorological forecast and warning information								

Block 1 Module	Elements	Need Analysis				Implementation Status *(if Element is needed)*			
		Not Started	In Progress	Need	N/A	Planning	Developing	Partially Implemented	Implemented
	3. Climatological and historical meteorological information								
	4. Dissemination of meteorological information								
DAIM	**1.** Provision of quality-assured aeronautical data and information								
	2. Provision of digital Aeronautical Information Publication (AIP) data sets								
	3. Provision of digital terrain data sets								
	4. Provision of digital obstacle data sets								
	5. Provision of digital aerodrome mapping data sets								
	6. Provision of digital instrument flight procedure data sets								
	7. NOTAM improvements								
Technology									
ASUR	**1.** Reception of aircraft ADS-B signals from space (SB ADS-B)								
COMI	**1.** Ground-Ground Aeronautical Telecommunication Network/Internet Protocol Suite (ATN/IPS)								
	2. VHF Data Link (VDL) Mode 2 Multi-Frequency								
	3. SATCOM Class B Voice and Data								
	4. Aeronautical Mobile Airport Communication System (AeroMACS) Ground-Ground								
COMS	**1.** PBCS approved CPDLC (FANS 1/A+) for domestic and procedural airspace								
	2. PBCS approved ADS-C (FANS 1/A+) for procedural airspace								
	3. SATVOICE (incl. routine communications) for procedural airspace								
NAVS	**1.** Extended GBAS								

Table 2.2.2 ASBU B1 Implementation Status Summary

2.3 ASBU Block 2 Implementation Targets and Status

This section will be written after 2025. Appendix F is reserved for ASBU B2 ANRFs.

2.4 ASBU Block 3 Implementation Targets and Status

This section will be written after 2031. Appendix G is reserved for ASBU B3 ANRFs.

3. ICAO NACC Regional Aviation System Improvements (RASI) Status

The RPBANIP is aligned with GANP and provides guidance to states in the NACC region. The ICAO NACC RO also provides guidance to implement certain capabilities outside the ASBU scope, yet regionally important improvements. Currently four aerodrome associated NACC region specific improvements are identified and shown below. RASI ANRF for ICAO NACC Regional Initiatives is prepared and provided in Appendix H.

- Aerodrome certification – **Status**: Developing (both TWOW and TBTF)
- Heliport operational approval – **Status**: Implemented
- Visual aids for navigation – **Status**: Implemented
- Aerodrome Bird/Wildlife Organization and Control Programme – **Status**: Developing

4. Your State/Organization's National Aviation System Improvements (NASI) Status

Your State/Organization's National Aviation System Improvements (NASI) are broken into three categories; (1) Equipment upgrades; (2) Procedure upgrades; and (3) Infrastructure upgrades. The details of upgrades were recorded using NASI ANRFs and provided in Appendix I.

4.1 Equipment Upgrades

Equipment upgrades are not identified at this time.

4.2 Procedure Upgrades

Procedure upgrades are not identified at this time.

4.3 Infrastructure Upgrades

There are three infrastructure upgrades, shown below, which have been identified to address anticipated airport and airspace demand growth. NASI ANRF for Infrastructure Upgrades is prepared and provided in Appendix I.

- Airport Terminal Development – Status: Planning
- Airport Runway Rehabilitation and extension – Status: Analysis in Progress
- Control Tower and Technical Building upgrade – Status: Planning

5. Your State/Organization National ANP Next Review Schedule

The next review and revision of this document is scheduled in September 2022.

Appendix A: ANRF Explained

An ASBU ANRF should be completed for each applicable ASBU Thread.

Group There are four groups and they are:

(1) Operation – Aerodrome

(2) Operation – System

(3) Information

(4) Technology

Date	The date when the form was completed or updated.
Thread	The Thread designation for the ASBU Thread, as per the *NAM ASBU Handbook*.
Element	The Element name in abbreviated format followed by the descriptive text for each Element, as per the *NAM ASBU Handbook*. Insert additional rows, if necessary, to accommodate all of the Elements listed for the ASBU Thread. Keep the old status description and add new status including the date and POC information.
Date Planned or Implemented	The month and year when the Element was fully implemented or the year when it is planned for the Element to be fully implemented by all applicable states or at all applicable aerodromes. This field should be left blank if the status for the Element is "Analysis Not Started" or "Not Applicable" for all states or aerodromes in the region.
Status	The Need Analysis or Implementation status for the Element. Refer to Figure 1.4.1: Analysis and Work Flow. Indicate the status as follows: **Not Started:** if the Need Analysis has not been started for any of the states or aerodromes **In Progress:** if at least one Need Analysis has been started but none have yet been completed **Need:** if at least on Need Analysis has determined a requirement for the Element, but no implementation planning has yet been initiated **Not Applicable:** 1) if all of the Need Analyses completed to date have concluded the Element is not required, or 2) if the Element is not an aerodrome-related improvement and the region has not adopted the improvement for region-wide implementation. **Planning:** if at least one implementation is in the Planning phase and no implementations have yet been completed. **Developing:** if at least one implementation is in the Developing phase but no implementations have yet been completed. **Partially Implemented:** if at least one, but not all, implementations have been completed. **Implemented:** if all of Needed implementations have been completed.
Status Details	Further information to support or explain the reported status. The reason(s) an Element was found to be "Not Applicable" for all the aerodromes (or states) in

	the region. The reason(s) why the Need Analysis has not been completed for all or some of the aerodromes (or states) in the region. Information on where implementation has or has not been completed (as appropriate) if the reported status is "Partially Implemented".
Achieved Benefits	Describe the achieved benefits for the entire Module or particular Elements. The benefits can be quantitative or qualitative. The benefits should be described for the following 5 of the 11 Key Performance Areas (KPAs) defined the *Manual on Global Performance of the Air Navigation System* (Doc 9883): ***Access & Equity:*** Improving the operating environment so as to ensure all airspace users have the right of access to ATM resources needed to meet their specific operational requirements; and ensuring that the shared use of the airspace for different airspace users can be achieved safely. Providing equity for all airspace users that have access to a given airspace or service. Generally, the first aircraft ready to use the ATM resources will receive priority, except where significant overall safety or system operational efficiency would accrue or national defence considerations or interests dictate by providing priority on a different basis. ***Capacity:*** Improving the ability to meet airspace user demand at peak times and locations while minimizing restrictions on traffic flow. Responding to future growth by increasing capacity, efficiency, flexibility, and predictability while ensuring that there are no adverse impacts to safety and giving due consideration to the environment. Increasing resiliency to service disruption and minimising resulting temporary loss of capacity. ***Efficiency:*** Improving the operational and economic cost effectiveness of gate-to-gate flight operations from the airspace users' perspective. Increasing the ability for airspace users to depart and arrive at the times they select and fly the trajectory they determine to be optimum in all phases of flight. ***Environment:*** Contributing to the protection of the environment by minimizing or reducing noise, gaseous emissions, and other negative environmental effects in the implementation and operation of the air navigation system. ***Safety:*** Reducing the likelihood or severity of operational safety risks associated with the provision or use of air navigation services.
Implementation Challenges	A description of any circumstances that have been encountered or are foreseen that might prevent or delay implementation. Challenges should be categorized and described under the applicable subject area.
Notes	Any further information as deemed appropriate.

Appendix B: ASBU ANRF Template

[State] ASBU Air Navigation Reporting Form (ANRF)			
Group	Operation - Aerodrome	**Date**	17 February 2020
Thread	Airport Collaborative Decision Making		
Element Implementation Status			
Element: ACDM-B0/1 Airport CDM Information Sharing (ACIS)	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
Element: ACDM-B0/2 Integration with ATM Network function	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
Achieved Benefits such as *(1) Access and Equity; (2) Capacity; (3) Efficiency; (4) Environment; and (5) Safety. Provide KPI data.* If possible describe benefits or leave it blank.			
Implementation Challenges such as *(1) Ground system; (2) Avionics; (3) Procedures Availability; and (4) Operational Approvals* If possible describe benefits or leave it blank.			
Notes If possible provide notes.			

Appendix C: RASI and NASI ANRF Templates

RASI and NASI ANRF templates are the same with ASBU ANRF template with exception of the header as shown in this Appendix. The first header is for the ICAO NACC Regional Office specific improvements while the second header is for the state specific improvements.

Section C.1: Regional Aviation System Improvements (RASI) ANRF Header

Enter appropriate state name and date. (i.e. equipment, procedure, infrastructure, etc.)

Describe the module. (i.e. improvement group description)

State Name RASI Air Navigation Reporting Form (ANRF)		
ICAO NACC Regional Initiatives	**Date**	September 1, 2017
Module Description: ICAO NACC RO has identified airport improvements.		
Refer to the ASBU ANRF for the remaining sections (i.e. Element Implementation Status, Achieved Benefits, Implementation Challenges, and Notes)		

Section C.2: National Aviation System Improvements (NASI) ANRF Header

Enter appropriate state name, upgrades category and date. (i.e. equipment, procedure, infrastructure, etc.)

Describe the module (i.e. upgrades category description)

State Name NASI Air Navigation Reporting Form (ANRF)		
Infrastructure Upgrades	**Date**	September 1, 2017
Module Description: Describe module		
Refer to the ASBU ANRF for the remaining sections (i.e. Element Implementation Status, Achieved Benefits, Implementation Challenges, and Notes)		

Appendix D: Your Organization ASBU ANRFs

Insert 22 ASBU ANRFs based on Threads.

Group: Operation-Aerodrome - 6 Threads

1. ACDM	2. APTA	3. DATS	4. RSEQ	5. SURF	6. WAKE		

Group: Operation-System - 8 Threads

1. ACAS	2. CSEP	3. FRTO	4. GADS	5. NOPS	6. OPFL	7. SNET	8. TBO

Group: Information - 4 Threads

1. AMET	2. DAIM	3. FICE	4. SWIM				

Group: Technology (CNS Technology and Services) - 4 Threads

1. ASUR	2. COMI	3. COMS	4. NAVS				

Appendix H: Your Organization RASI ANRFs

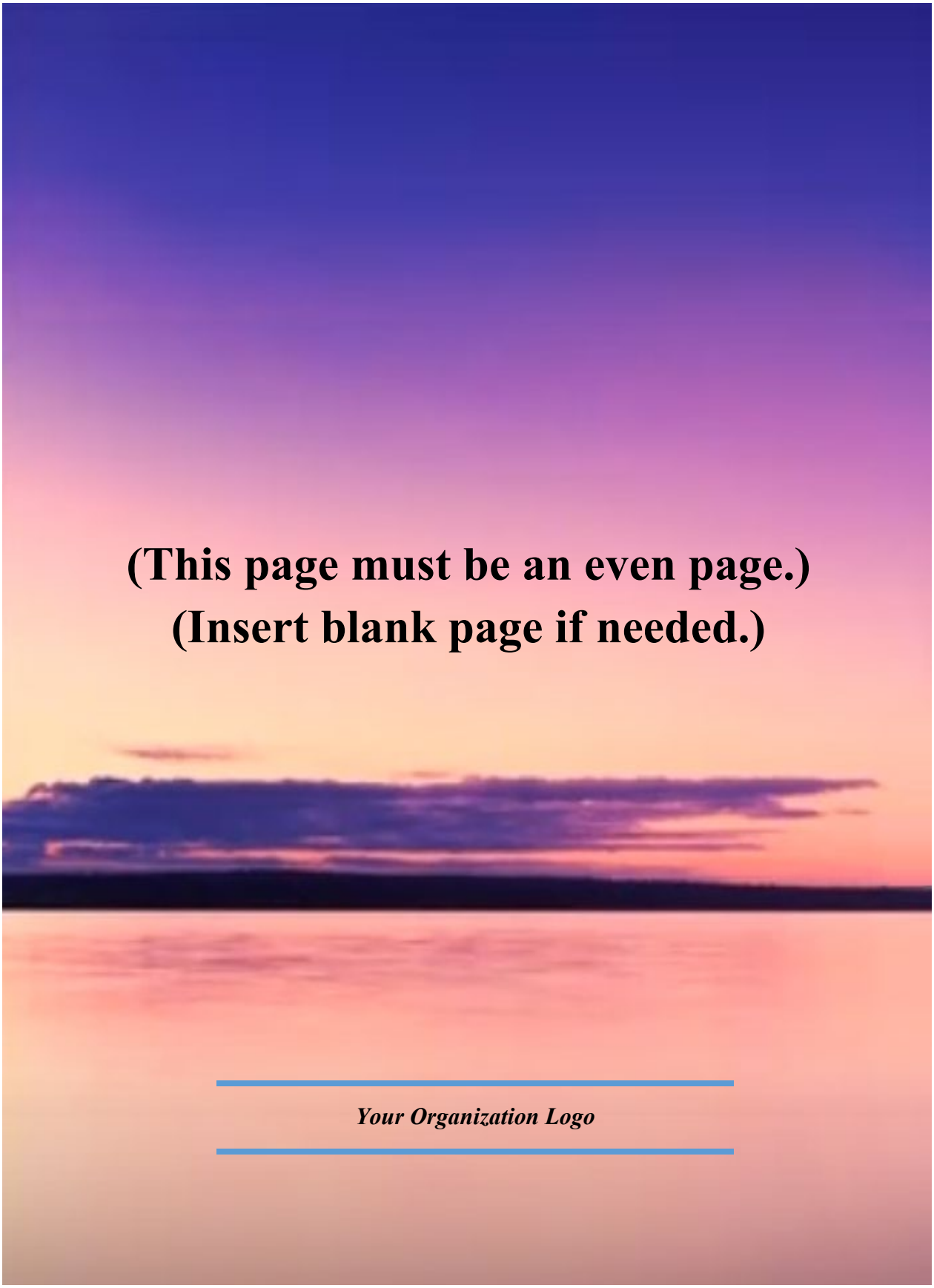
Replace with your RASI ANRF

My Organization RASI Air Navigation Reporting Form (ANRF)			
ICAO NACC Regional Initiatives		**Date**	September 1, 2017
Module Description: ICAO NACC RO has identified airport improvements.			
Element Implementation Status			
1	**Element Description:** Aerodrome certification	**Date Planned/Implemented** Dec 2019	**Status** Developing
	Status Details ICAO NACC region has a goal to have CAR aerodromes in its regional ANP Table AOP I-1 be certified. My Organization's two airports, TWOW and TBTF. They are both in the process.		
2	**Element Description:** Heliport operational approval	**Date Planned/Implemented** Sep 2017	**Status** Implemented
	Status Details ICAO NACC region has a goal to have CAR heliports in its regional ANP Table AOP I-1 certified. Currently in Saint Lucia, there is one approved heliport (servicing a hotel resort), and each airport has a designated landing area for helicopters. There is also a heliport in the need stage at a private hospital.		
3	**Element Description:** Visual aids for navigation	**Date Planned/Implemented** Sep 2017	**Status** Implemented
	Status Details ICAO NACC region has a goal to have CAR airports in its ANP Table AOP I-1 compliant with Annex 14 requirements. This capability is implemented at both TWOW and TBTF.		
4	**Element Description:** Aerodrome Bird/Wildlife Organization and Control Programme	**Date Planned/Implemented** Dec 2018	**Status** Developing
	Status Details ICAO NACC region has a goal to have CAR airports in its ANP Table AOP I-1 have an aerodrome bird/wildlife organization and control programme. Saint Lucia is developing the manual to address this issue.		
Achieved Benefits			
Access and Equity Element 1 - Aerodrome certification: International operators may not be permitted to operate to aerodromes that are not certified Element 2. Heliport operational approval: International operators may not be permitted to operate to heliports that are not approved Element 3. Visual aids for navigation: International operators may not be permitted to operate to aerodromes that are not compliant with Annex 14			
Implementation Challenges			
No report on (1) Ground System Implementation, (2) Avionics Implementation; (3) Procedures Availability; and (4) Operational Approvals.			
Notes Element 1: Airport Terminal Development will also address the airport terminal security issues.			

Appendix I: Your Organization NASI ANRFs

Replace with your NASI ANRF.

Saint Lucia NASI Air Navigation Reporting Form (ANRF)			
Infrastructure Upgrades		**Date**	September 1, 2017
Module Description: Development of major components of the overall Airport/Aerodrome to meet the demands of the growing Aviation Industry. This will improve capacity and safety in the terminal and allow seamless maneuvering of wide body Aircraft (example B777) at the turning bay. Such maneuvering will reduce runway occupancy time and reduce surface wear and tear. New ATC facility is required to meet the demands of increase staffing. Improving operational space is vital to meet the need of increased traffic. The benefits of such infrastructure upgrades will increase an overall traffic management efficiency and enhance safety.			
Element Implementation Status			
1	**Element Description:** Airport Terminal Development	**Date Planned/Implemented** TBD	**Status** Planning
	Status Details Current terminal building does not meet the passenger demands during peak periods. With the current airport terminal situation, the security and safety are likely to be compromised.		
2	**Element Description:** Airport Runway Rehabilitation and Extension	**Date Planned/Implemented** TBD	**Status** Analysis in Progress
	Status Details Certain areas of the runway require improvement. For example, it is highly important to be fully compliance with ICAO Aerodrome 4E.		
3	**Element Description:** Control Tower and Technical Building Upgrades	**Date Planned/Implemented** TBD	**Status** Planning
	Status Details Control Cab was originally designed to house one ATCO per shift. However, the Control Cab currently operating with three ATCOs per shift to meet the traffic demands. In addition, significantly more equipment was installed in the already crowded Control Cab. The expected increase of workload due to the increased traffic will only make the work environment of the Control Cab worse and impact the safety and efficiency of the ATC operation.		
Achieved Benefits			
(1) Access and Equity *(2) Capacity* Element 1 - Airport Terminal Development: Increase the capacity to handle passengers smoothly at the peak arrival periods *(3) Efficiency* *(4) Environment* *(5) Safety* Element 2 - Airport Runway Rehabilitation and Extension: Improve operational safety of aircraft. Element 3 - Control Tower and Technical Building Upgrades: Improve operational safety of aircraft and ATCOs.			
Implementation Challenges			
No report on *(1) Ground system Implementation; (2) Avionics Implementation; (3) Procedures Availability; and (4) Operational Approvals.*			
Notes Element 1 - Airport Terminal Development: Address the airport terminal security issues.			



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Your Organization Logo

APPENDIX D

[State] ASBU Air Navigation Reporting Form (ANRF)			
Group	Information	**Date**	17 February 2020
Thread	AMET: Meteorological information		
Element Implementation Status			
AMET-B0/1: Meteorological observations products		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
AMET-B0/2: Meteorological forecast and warning products		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
AMET-B0/3: AMET-B0/3 Climatological and historical meteorological products		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
AMET-B0/4: Dissemination of meteorological products		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
AMET-B1/1: Meteorological observations information		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
AMET-B1/2: Meteorological forecast and warning information		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
AMET-B1/3: Climatological and historical meteorological information		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
AMET-B1/4: Dissemination of meteorological information		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
Achieved Benefits such as *(1) Access and Equity; (2) Capacity; (3) Efficiency; (4) Environment; and (5) Safety. Provide KPI data.* If possible describe benefits or leave it blank.			
Implementation Challenges such as *(1) Ground system; (2) Avionics; (3) Procedures Availability; and (4) Operational Approvals* If possible describe benefits or leave it blank.			
Notes If possible provide notes.			

[State] ASBU Air Navigation Reporting Form (ANRF)			
Group	Information	**Date**	17 February 2020
Thread	DAIM: Digital Aeronautical Information Management		
Element Implementation Status			
DAIM-B0: No B0 element.			
DAIM-B1/1: Provision of quality-assured aeronautical data and information		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
DAIM-B1/2: Provision of digital Aeronautical Information Publication (AIP) data sets		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
DAIM-B1/3: Provision of digital terrain data sets		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
DAIM-B1/4: Provision of digital obstacle data sets		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
DAIM-B1/5: Provision of digital aerodrome mapping data sets		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
DAIM-B1/6: Provision of digital instrument flight procedure data sets		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
DAIM-B1/7: NOTAM improvements		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
Achieved Benefits such as *(1) Access and Equity; (2) Capacity; (3) Efficiency; (4) Environment; and (5) Safety. Provide KPI data.* If possible describe benefits or leave it blank.			
Implementation Challenges such as *(1) Ground system; (2) Avionics; (3) Procedures Availability; and (4) Operational Approvals* If possible describe benefits or leave it blank.			
Notes If possible provide notes.			

[State] ASBU Air Navigation Reporting Form (ANRF)			
Group	Information	**Date**	17 February 2020
Thread	FICE: Flight and Flow Information for a Collaborative Environment (FF-ICE)		
Element Implementation Status			
FICE-B0/1: Automated basic inter facility data exchange (AIDC)		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
FICE-B1: No B1 element.			
Achieved Benefits such as *(1) Access and Equity; (2) Capacity; (3) Efficiency; (4) Environment; and (5) Safety. Provide KPI data.* If possible describe benefits or leave it blank.			
Implementation Challenges such as *(1) Ground system; (2) Avionics; (3) Procedures Availability; and (4) Operational Approvals* If possible describe benefits or leave it blank.			
Notes If possible provide notes.			

[State] ASBU Air Navigation Reporting Form (ANRF)			
Group	Information	**Date**	17 February 2020
Thread	SWIM: System Wide Information Management		
Element Implementation Status			
SWIM-B0: No B0 element.			
SWIM-B1: No B1 element.			
Achieved Benefits such as *(1) Access and Equity; (2) Capacity; (3) Efficiency; (4) Environment; and (5) Safety. Provide KPI data.* If possible describe benefits or leave it blank.			
Implementation Challenges such as *(1) Ground system; (2) Avionics; (3) Procedures Availability; and (4) Operational Approvals* If possible describe benefits or leave it blank.			
Notes If possible provide notes.			

[State] ASBU Air Navigation Reporting Form (ANRF)			
Group	Operation-Aerodrome	**Date**	17 February 2020
Thread	ACDM: Airport Collaborative Decision Making		
Element Implementation Status			
ACDM-B0/1: Airport CDM Information Sharing (ACIS)		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
ACDM-B0/2: Integration with ATM Network function		**Date Planned/Implemented** Enter date	**Status** Enter status
ACDM-B1: No B1 element.			
Achieved Benefits such as *(1) Access and Equity; (2) Capacity; (3) Efficiency; (4) Environment; and (5) Safety. Provide KPI data.* If possible describe benefits or leave it blank.			
Implementation Challenges such as *(1) Ground system; (2) Avionics; (3) Procedures Availability; and (4) Operational Approvals* If possible describe benefits or leave it blank.			
Notes If possible provide notes.			

[State] ASBU Air Navigation Reporting Form (ANRF)			
Group	Operation-Aerodrome	**Date**	17 February 2020
Thread	APTA: Improved arrival and departure operations		
Element Implementation Status			
APTA-B0/1: PBN Approaches (with basic capabilities)	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
APTA-B0/2: PBN SID and STAR procedures (with basic capabilities)	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
APTA-B0/3: SBAS/GBAS CAT I precision approach procedures	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
APTA-B0/4: CDO (Basic)	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
APTA-B0/5: CCO (Basic)	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
APTA-B0/6: PBN Helicopter Point in Space (PinS) Operations	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
APTA-B0/7: Performance based aerodrome operating minima – Advanced aircraft	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
APTA-B0/8: Performance based aerodrome operating minima – Basic aircraft	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
APTA-B1/1: PBN Approaches (with advanced capabilities)	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			

APTA-B1/2: PBN SID and STAR procedures (with advanced capabilities)	**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.		
APTA-B1/3 – missing from the GANP/ASBU portal.		
APTA-B1/4: CDO (Advanced)	**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.		
APTA-B1/5: CCO (Advanced)	**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.		
Achieved Benefits such as *(1) Access and Equity; (2) Capacity; (3) Efficiency; (4) Environment; and (5) Safety. Provide KPI data.* If possible describe benefits or leave it blank.		
Implementation Challenges such as *(1) Ground system; (2) Avionics; (3) Procedures Availability; and (4) Operational Approvals* If possible describe benefits or leave it blank.		
Notes If possible provide notes.		

<table>
<tr><th colspan="4">[State] ASBU Air Navigation Reporting Form (ANRF)</th></tr>
<tr><td>Group</td><td>Operation-Aerodrome</td><td>Date</td><td>17 February 2020</td></tr>
<tr><td>Thread</td><td colspan="3">DATS: Digital Aerodrome Air Traffic Services</td></tr>
<tr><td colspan="4">Element Implementation Status</td></tr>
<tr><td colspan="4">DATS-B0: No B0 element.</td></tr>
<tr><td colspan="2">DATS-B1/1: Remotely Operated Aerodrome Air Traffic Services</td><td>Date Planned/Implemented
Enter date</td><td>Status
Enter status</td></tr>
<tr><td colspan="4">Status Details: Include the POC information and date of the description. Keep old status and add new status.
Describe status.</td></tr>
<tr><td colspan="4">Achieved Benefits such as (1) Access and Equity; (2) Capacity; (3) Efficiency; (4) Environment; and (5) Safety. Provide KPI data. If possible describe benefits or leave it blank.</td></tr>
<tr><td colspan="4">Implementation Challenges such as (1) Ground system; (2) Avionics; (3) Procedures Availability; and (4) Operational Approvals If possible describe benefits or leave it blank.</td></tr>
<tr><td colspan="4">Notes If possible provide notes.</td></tr>
</table>

[State] ASBU Air Navigation Reporting Form (ANRF)			
Group	Operation-Aerodrome	**Date**	17 February 2020
Thread	RSEQ: Improved traffic flow through runway sequencing		
Element Implementation Status			
RSEQ-B0/1: Arrival Management		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
RSEQ-B0/2: Departure Management		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
RSEQ-B0/3: Point merge		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
RSEQ-B1/1: Extended arrival metering		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
Achieved Benefits such as *(1) Access and Equity; (2) Capacity; (3) Efficiency; (4) Environment; and (5) Safety. Provide KPI data.* If possible describe benefits or leave it blank.			
Implementation Challenges such as *(1) Ground system; (2) Avionics; (3) Procedures Availability; and (4) Operational Approvals* If possible describe benefits or leave it blank.			
Notes If possible provide notes.			

[State] ASBU Air Navigation Reporting Form (ANRF)			
Group	Operation-Aerodrome	**Date**	17 February 2020
Thread	SURF: Surface operations		
Element Implementation Status			
SURF-B0/1: Basic ATCO tools to manage traffic during ground operations		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
SURF-B0/2: Comprehensive situational awareness of surface operations		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
SURF-B0/3: Initial ATCO alerting service for surface operations		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
SURF-B1/1: Advanced features using visual aids to support traffic management during ground operations		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
SURF-B1/2: Comprehensive pilot situational awareness on the airport surface		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
SURF-B1/3: Enhanced ATCO alerting service for surface operations		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
SURF-B1/4: Routing service to support ATCO surface operations management		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
SURF-B1/5: Enhanced vision systems for taxi operations		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
Achieved Benefits such as *(1) Access and Equity; (2) Capacity; (3) Efficiency; (4) Environment; and (5) Safety. Provide KPI data.* If possible describe benefits or leave it blank.			
Implementation Challenges such as *(1) Ground system; (2) Avionics; (3) Procedures Availability; and (4) Operational Approvals* If possible describe benefits or leave it blank.			
Notes If possible provide notes.			

[State] ASBU Air Navigation Reporting Form (ANRF)			
Group	Operation-Aerodrome	**Date**	17 February 2020
Thread	WAKE: Wake Turbulence Separation		
Element Implementation Status			
WAKE-B0: No B0 element.			
WAKE-B1: No B1 element.			
Achieved Benefits such as *(1) Access and Equity; (2) Capacity; (3) Efficiency; (4) Environment; and (5) Safety. Provide KPI data.* If possible describe benefits or leave it blank.			
Implementation Challenges such as *(1) Ground system; (2) Avionics; (3) Procedures Availability; and (4) Operational Approvals* If possible describe benefits or leave it blank.			
Notes If possible provide notes.			

<table>
<tr><td colspan="4">[State] ASBU Air Navigation Reporting Form (ANRF)</td></tr>
<tr><td>Group</td><td>Operation-System</td><td>Date</td><td>17 February 2020</td></tr>
<tr><td>Thread</td><td colspan="3">ACAS: Airborne Collision Avoidance System</td></tr>
<tr><td colspan="4">Element Implementation Status</td></tr>
<tr><td colspan="4">ACAS-B0: No B0 element.</td></tr>
<tr><td colspan="2">ACAS-B1/1: ACAS Improvements</td><td>Date Planned/Implemented
Enter date</td><td>Status
Enter status</td></tr>
<tr><td colspan="4">Status Details: Include the POC information and date of the description. Keep old status and add new status.
Describe status.</td></tr>
<tr><td colspan="4">Achieved Benefits such as (1) Access and Equity; (2) Capacity; (3) Efficiency; (4) Environment; and (5) Safety. Provide KPI data. If possible describe benefits or leave it blank.</td></tr>
<tr><td colspan="4">Implementation Challenges such as (1) Ground system; (2) Avionics; (3) Procedures Availability; and (4) Operational Approvals If possible describe benefits or leave it blank.</td></tr>
<tr><td colspan="4">Notes If possible provide notes.</td></tr>
</table>

[State] ASBU Air Navigation Reporting Form (ANRF)			
Group	Operation-System	**Date**	17 February 2020
Thread	CSEP: Cooperative Separation		
Element Implementation Status			
CSEP-B0: No B0 element.			
CSEP-B1/1: Basic airborne situational awareness during flight operations (AIRB)		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
CSEP-B1/2: Visual Separation on Approach (VSA)		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
CSEP-B1/3: Performance Based Longitudinal Separation Minima		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
CSEP-B1/4: Performance Based Lateral Separation Minima		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
Achieved Benefits such as *(1) Access and Equity; (2) Capacity; (3) Efficiency; (4) Environment; and (5) Safety. Provide KPI data.* If possible describe benefits or leave it blank.			
Implementation Challenges such as *(1) Ground system; (2) Avionics; (3) Procedures Availability; and (4) Operational Approvals* If possible describe benefits or leave it blank.			
Notes If possible provide notes.			

[State] ASBU Air Navigation Reporting Form (ANRF)			
Group	Operation-System	**Date**	17 February 2020
Thread	FRTO: Improved operations through enhanced en-route trajectories		
Element Implementation Status			
FRTO-B0/1: Direct routing (DCT)		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
FRTO-B0/2: Airspace planning and Flexible Use of Airspace (FUA)		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
FRTO-B0/3: Pre-validated and coordinated ATS routes to support flight and flow		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
FRTO-B0/4: Basic conflict detection and conformance monitoring		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
FRTO-B1/1: Free Route Airspace (FRA)		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
FRTO-B1/2: Required Navigation Performance (RNP) routes		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
FRTO-B1/3: Advanced Flexible Use of Airspace (FUA) and management of real time airspace data		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
FRTO-B1/4: Dynamic sectorization		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
FRTO-B1/5: Enhanced Conflict Detection Tools and Conformance Monitoring		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			

FRTO-B1/6: Multi-Sector Planning	**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.		
FRTO-B1/7: Trajectory Options Set (TOS)	**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.		
Achieved Benefits such as *(1) Access and Equity; (2) Capacity; (3) Efficiency; (4) Environment; and (5) Safety. Provide KPI data.* If possible describe benefits or leave it blank.		
Implementation Challenges such as *(1) Ground system; (2) Avionics; (3) Procedures Availability; and (4) Operational Approvals* If possible describe benefits or leave it blank.		
Notes If possible provide notes.		

[State] ASBU Air Navigation Reporting Form (ANRF)			
Group	Operation-System	**Date**	17 February 2020
Thread	GADS: Global Aeronautical Distress and Safety System (GADSS)		
Element Implementation Status			
GADS-B0: No B0 element.			
GADS-B1/1: Aircraft Tracking		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
GADS-B1/2: Operational Control Directory		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
Achieved Benefits such as *(1) Access and Equity; (2) Capacity; (3) Efficiency; (4) Environment; and (5) Safety. Provide KPI data.* If possible describe benefits or leave it blank.			
Implementation Challenges such as *(1) Ground system; (2) Avionics; (3) Procedures Availability; and (4) Operational Approvals* If possible describe benefits or leave it blank.			
Notes If possible provide notes.			

[State] ASBU Air Navigation Reporting Form (ANRF)			
Group	Operation-System	**Date**	17 February 2020
Thread	NOPS: Network Operations		
Element Implementation Status			
NOPS-B0/1: Initial integration of collaborative airspace management with air traffic flow management	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
NOPS-B0/2: Collaborative Network Flight Updates	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
NOPS-B0/3: Network Operation Planning basic features	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
NOPS-B0/4: Initial Airport/ATFM slots and A-CDM Network Interface	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
NOPS-B0/5: Dynamic ATFM slot allocation	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
NOPS-B1/1: Short Term ATFM measures	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
NOPS-B1/2: Enhanced Network Operations Planning	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
NOPS-B1/3: Enhanced integration of Airport operations planning with network operations planning	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
NOPS-B1/4: Dynamic Traffic Complexity Management	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			

NOPS-B1/5: Full integration of airspace management with air traffic flow management	**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.		
NOPS-B1/6: Initial Dynamic Airspace configurations	**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.		
NOPS-B1/7: Enhanced ATFM slot swapping	**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.		
NOPS-B1/8: Extended Arrival Management supported by the ATM Network function	**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.		
NOPS-B1/9: Target Times for ATFM purposes	**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.		
NOPS-B1/10: Collaborative Trajectory Options Program (CTOP)	**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.		
Achieved Benefits such as *(1) Access and Equity; (2) Capacity; (3) Efficiency; (4) Environment; and (5) Safety. Provide KPI data.* If possible describe benefits or leave it blank.		
Implementation Challenges such as *(1) Ground system; (2) Avionics; (3) Procedures Availability; and (4) Operational Approvals* If possible describe benefits or leave it blank.		
Notes If possible provide notes.		

[State] ASBU Air Navigation Reporting Form (ANRF)			
Group	Operation-System	**Date**	17 February 2020
Thread	OPFL: Improved access to optimum flight levels in oceanic and remote airspace		
Element Implementation Status			
OPFL-B0/1: In Trail Procedure (ITP)		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
OPFL-B1/1: Climb and Descend Procedure (CDP)		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
Achieved Benefits such as *(1) Access and Equity; (2) Capacity; (3) Efficiency; (4) Environment; and (5) Safety. Provide KPI data.* If possible describe benefits or leave it blank.			
Implementation Challenges such as *(1) Ground system; (2) Avionics; (3) Procedures Availability; and (4) Operational Approvals* If possible describe benefits or leave it blank.			
Notes If possible provide notes.			

[State] ASBU Air Navigation Reporting Form (ANRF)			
Group	Operation-System	**Date**	17 February 2020
Thread	SNET: Ground-based Safety Nets		
Element Implementation Status			
SNET-B0/1: Short Term Conflict Alert (STCA)		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
SNET-B0/2: Minimum Safe Altitude Warning (MSAW)		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
SNET-B0/3: Area Proximity Warning (APW)		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
SNET-B0/4: Approach Path Monitoring (APM)		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
SNET-B1/1: Enhanced STCA with aircraft parameters		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
SNET-B1/2: Enhanced STCA in complex TMAs		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
Achieved Benefits such as *(1) Access and Equity; (2) Capacity; (3) Efficiency; (4) Environment; and (5) Safety. Provide KPI data.* If possible describe benefits or leave it blank.			
Implementation Challenges such as *(1) Ground system; (2) Avionics; (3) Procedures Availability; and (4) Operational Approvals* If possible describe benefits or leave it blank.			
Notes If possible provide notes.			

[State] ASBU Air Navigation Reporting Form (ANRF)			
Group	Operation-System	**Date**	17 February 2020
Thread	TBO: Trajectory-based operations		
Element Implementation Status			
TBO-B0/1: Introduction of time-based management within a flow centric approach.		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
TBO-B1/1: Initial Integration of time-based decision making processes		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
Achieved Benefits such as *(1) Access and Equity; (2) Capacity; (3) Efficiency; (4) Environment; and (5) Safety. Provide KPI data.* If possible describe benefits or leave it blank.			
Implementation Challenges such as *(1) Ground system; (2) Avionics; (3) Procedures Availability; and (4) Operational Approvals* If possible describe benefits or leave it blank.			
Notes If possible provide notes.			

[State] ASBU Air Navigation Reporting Form (ANRF)			
Group	Technology	**Date**	17 February 2020
Thread	ASUR: Surveillance systems		
Element Implementation Status			
ASUR-B0/1: Automatic Dependent Surveillance – Broadcast (ADS-B)	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
ASUR-B0/2: Multilateration cooperative surveillance systems (MLAT)	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
ASUR-B0/3: Cooperative Surveillance Radar Downlink of Aircraft Parameters (SSR-DAPS)	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
ASUR-B1/1: Reception of aircraft ADS-B signals from space (SB ADS-B)	**Date Planned/Implemented** Enter date	**Status** Enter status	
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
Achieved Benefits such as *(1) Access and Equity; (2) Capacity; (3) Efficiency; (4) Environment; and (5) Safety. Provide KPI data.* If possible describe benefits or leave it blank.			
Implementation Challenges such as *(1) Ground system; (2) Avionics; (3) Procedures Availability; and (4) Operational Approvals* If possible describe benefits or leave it blank.			
Notes If possible provide notes.			

[State] ASBU Air Navigation Reporting Form (ANRF)			
Group	Technology	**Date**	17 February 2020
Thread	COMI: Communication infrastructure		
Element Implementation Status			
COMI-B0/1: Aircraft Communication Addressing and Reporting System (ACARS)		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
COMI-B0/2: Aeronautical Telecommunication Network/Open System Interconnection (ATN/OSI)		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
COMI-B0/3: VHF Data Link (VDL) Mode 0/A		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
COMI-B0/4: VHF Data Link (VDL) Mode 2 Basic		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
COMI-B0/5: Satellite communications (SATCOM) Class C Data		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
COMI-B0/6: High Frequency Data Link (HFDL)		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
COMI-B0/7: ATS Message Handling System (AMHS)		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
COMI-B1/1: Ground-Ground Aeronautical Telecommunication Network/Internet Protocol Suite (ATN/IPS)		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
COMI-B1/2: VHF Data Link (VDL) Mode 2 Multi-Frequency		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			

COMI-B1/3: SATCOM Class B Voice and Data	**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.		
COMI-B1/4: Aeronautical Mobile Airport Communication System (AeroMACS) Ground-Ground	**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.		
Achieved Benefits such as *(1) Access and Equity; (2) Capacity; (3) Efficiency; (4) Environment; and (5) Safety. Provide KPI data.* If possible describe benefits or leave it blank.		
Implementation Challenges such as *(1) Ground system; (2) Avionics; (3) Procedures Availability; and (4) Operational Approvals* If possible describe benefits or leave it blank.		
Notes If possible provide notes.		

[State] ASBU Air Navigation Reporting Form (ANRF)			
Group	Technology	**Date**	17 February 2020
Thread	COMS: ATS Communication service		
Element Implementation Status			
COMS-B0/1: CPDLC (FANS 1/A & ATN B1) for domestic and procedural airspace		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
COMS-B0/2: ADS-C (FANS 1/A) for procedural airspace		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
COMS-B1/1: PBCS approved CPDLC (FANS 1/A+) for domestic and procedural airspace		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
COMS-B1/2: PBCS approved ADS-C (FANS 1/A+) for procedural airspace		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
COMS-B1/3: SATVOICE (incl. routine communications) for procedural airspace		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
Achieved Benefits such as *(1) Access and Equity; (2) Capacity; (3) Efficiency; (4) Environment; and (5) Safety. Provide KPI data.* If possible describe benefits or leave it blank.			
Implementation Challenges such as *(1) Ground system; (2) Avionics; (3) Procedures Availability; and (4) Operational Approvals* If possible describe benefits or leave it blank.			
Notes If possible provide notes.			

[State] ASBU Air Navigation Reporting Form (ANRF)			
Group	Technology	**Date**	17 February 2020
Thread	NAVS: Navigation systems		
Element Implementation Status			
NAVS-B0/1: Ground Based Augmentation Systems (GBAS)		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
NAVS-B0/2: Satellite Based Augmentation Systems (SBAS)		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
NAVS-B0/3: Aircraft Based Augmentation Systems (ABAS)		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
NAVS-B0/4: Navigation Minimal Operating Networks (Nav. MON)		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
NAVS-B1/1: Extended GBAS		**Date Planned/Implemented** Enter date	**Status** Enter status
Status Details: *Include the POC information and date of the description. Keep old status and add new status.* Describe status.			
Achieved Benefits such as *(1) Access and Equity; (2) Capacity; (3) Efficiency; (4) Environment; and (5) Safety. Provide KPI data.* If possible describe benefits or leave it blank.			
Implementation Challenges such as *(1) Ground system; (2) Avionics; (3) Procedures Availability; and (4) Operational Approvals* If possible describe benefits or leave it blank.			
Notes If possible provide notes.			

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