

1. AIR NAVIGATION REPORT FORM (ANRF)

AFI Regional Planning for ASBU Modules

2. REGIONAL PERFORMANCE OBJECTIVE B0-APTA: Optimization of Approach Procedures Including Vertical Guidance					
Performance Improvement Area 1: Airport Operations					
3. ASBU B0-APTA: Impact on Main Key Performance Areas (KPA)					
	Access & Equity	Capacity	Efficiency	Environment	Safety
Applicable	Y	Y	Y	Y	Y

4. ASBU B0-APTA: Planning Targets and Implementation Progress	
5. Elements	6. Targets and implementation progress (Ground and Air)
1. APV with Baro VNAV	December 2016 – Service Providers and users
2. APV with SBAS	December 2017 – As per AFI – GNSS Strategy
3. APV with GBAS	December 2018 – Initial implementation at some States (services providers)

7. ASBU B0-APTA: Implementation Challenges				
Elements	Implementation Area			
	Ground system Implementation	Avionics Implementation	Procedures Availability	Operational Approvals
1. APV with Baro VNAV	NIL	Insufficient number of equipped aircraft	Insufficient appropriate training	Lack of appropriate training
2. APV with SBAS	Network infrastructure Funding	Cost of Aircraft equipage	Limited to certain states who has implemented	Lack of knowledge and appropriate training
3. APV with GBAS	Lack of cost benefit analysis Adverse ionosphere	Insufficient number of equipped aircraft	Insufficient appropriate training	Lack of appropriate training Evaluation of a real operational requirement

8. ASBU B0-APTA: Performance Monitoring and Measurement	
8A. B0-APTA: Implementation Monitoring	
Elements	Performance Indicators/Supporting Metrics
1. APV with Baro VNAV	Indicator: Percentage of international aerodromes having instrument runways provided with APV with Baro VNAV procedure implemented (Where the % is defined) Supporting metric: Number of international airport having approved APV with Baro VNAV procedure implemented
2. APV with SBAS	Indicator: Percentage of international aerodromes having instrument runways provided with APV SBAS procedure implemented Supporting metric: Number of international airport having APV
3. APV with GBAS	Indicator: Percentage of international aerodromes having instrument

8. ASBU B0-APTA: Performance Monitoring and Measurement**8A. B0-APTA: Implementation Monitoring**

Elements	Performance Indicators/Supporting Metrics
	runways provided with APV GBAS procedure implemented Supporting metric: Number of international airport having APV GBAS procedure implemented.

ASBU- APTA: Performance Monitoring and Measurement**8 B. ASBU B0-APTA: Performance Monitoring**

Key Performance Areas	Metrics (if not indicate qualitative Benefits)
Access & Equity	Increased aerodrome accessibility
Capacity	Increased runway capacity
Efficiency	Reduced fuel burn due to lower minima, fewer diversions, cancellations, delays
Environment	Reduced emissions due to reduced fuel burn
Safety	Increased safety through stabilized approach paths.

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2. REGIONAL/NATIONAL PERFORMANCE OBJECTIVE –ASBU B0-FRTO:					
Improved Operations through Enhanced En-Route Trajectories					
Performance Improvement Area3:					
Optimum Capacity and Flexible Flights – Through Global Collaborative ATM					
3. ASBU B0-FRTO: Impact on Main Key Performance Areas (KPA)					
	Access & Equity	Capacity	Efficiency	Environment	Safety
Applicable	Y	Y	Y	Y	Y

4. ASBU B0-FRTO: Planning Targets and Implementation Progress	
5. Elements	6. Targets and implementation progress (Ground and Air)
1. Airspace planning	Dec.2017
2. Flexible Use of airspace	Dec. 2016
3. Flexible Routing	Dec.2017

7. ASBU B0-FRTO: Implementation Challenges				
Elements	Implementation Area			
	Ground system Implementation	Avionics Implementation	Procedures Availability	Operational Approvals
1. Airspace planning	Lack of organized and managed airspace prior to the time of flight Lack of AIDC WGS-84 Survey	Nil	Lack of qualified personnel and technical expertise	Lack of knowledge and appropriate training
2. Flexible Use of airspace	NIL	NIL	Lack of implementation FUA Guidance and coordination agreements	Lack of coordination agreements and lack of knowledge in field
3. Flexible Routing	ADS-C/CPDLC	Insufficient number of equipped aircraft	Lack of LOAs and procedures	Poor percentage of fleet approvals

8. ASBU B0-FRTO: Performance Monitoring and Measurement	
8A. ASBU B0-FRTO: Implementation Monitoring	
Elements	Performance Indicators/Supporting Metrics
1. Airspace planning	Not assigned Indicator and metrics.
2. Flexible Use of airspace	Indicator: % of time segregated airspaces are available for civil operations in the State Supporting Metric: Reduction of delays in time of civil flights.
3. Flexible Routing	Indicator: % of PBN routes implemented Supporting Metric: KG of Fuel savings Supporting Metric: Tons of CO2 reduction

8. ASBU B0-FRTO: Performance Monitoring and Measurement
8 B. ASBU B0-FRTO: Performance Monitoring

Key Performance Areas	Metrics (if not indicate qualitative Benefits)
Access & Equity	Better access to airspace by a reduction of the permanently segregated volumes of airspace.
Capacity	Flexible routing reduces potential congestion on trunk routes and at busy crossing points. The flexible use of airspace gives greater possibilities to separate flights horizontally. PBN helps to reduce route spacing and aircraft separations.
Efficiency	In particular the module will reduce flight length and related fuel burn and emissions. The module will reduce the number of flight diversions and cancellations. It will also better allow avoiding noise sensitive areas.
Environment	Fuel burn and emissions will be reduced
Safety	NA

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2. REGIONAL/NATIONAL PERFORMANCE OBJECTIVE – B0-FICE: Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration

Performance Improvement Area 2: Globally Interoperable Systems and Data – Through Globally Interoperable System Wide Information Management

3. ASBU B0-FICE: Impact on Main Key Performance Areas (KPA)

	Access & Equity	Capacity	Efficiency	Environment	Safety
Applicable	N	Y	Y	N	Y

4. ASBU B0-FICE: Planning Targets and Implementation Progress

5. Elements	6. Targets and implementation progress (Ground and Air)
1. Complete AMHS implementation at States still not counting with this system	December 2015 Services provider
2. AMHS interconnection	December 2015 Services provider
3. Implement AIDC /OLDI at some States automated centres	June 2014 Services provider
4. Implement operational AIDC/OLDI between adjacent ACC's	June 2015 Services provider
5. Implement the AFI Comn regional network	June 2015 Services provider

7. ASBU B0-FICE: Implementation Challenges

Elements	Implementation Area			
	Ground System Implementation	Avionics Implementation	Procedures Availability	Operational Approvals
1. Complete AMHS implementation at States still not counting with this system	NIL	NIL	NIL	NIL
2. AMHS interconnection	TPDI negotiations between MTAs	NIL	NIL	NIL
3. Implement AIDC /OLDI at some States automated centres	NIL	NIL	NIL	NIL
4. Implement operational AIDC/OLDI between adjacent ACC's	Compatibility between AIDC or OLDI systems from various manufacturers	NIL	NIL	NIL

7. ASBU B0-FICE: Implementation Challenges				
Elements	Implementation Area			
	Ground System Implementation	Avionics Implementation	Procedures Availability	Operational Approvals
5. Implement the AFI regional com network	NIL	NIL	NIL	NIL

8. ASBU B0-FICE: Performance Monitoring and Measurement	
8A. ASBU B0-FICE: Implementation	
Elements	Performance Indicators/Supporting Metrics
1. Complete AMHS implementation at States still not counting with this system	Indicator: Percentage of States with AMHS implemented Supporting metric: Number of AMHS installed
2. AMHS interconnection	Indicator: Percentage of States with AMHS interconnected with other AMHS Supporting metric: Number of AMHS interconnections implemented
3. Implement AIDC /OLDI at some States automated centres	Indicator: Percentage of ATS units with AIDC or OLDI Supporting metric: Number of AIDC or OLDI systems installed
4. Implement operational AIDC/OLDI between adjacent ACC's	Indicator: Percentage of ACCs with AIDC or OLDI systems interconnection implemented Supporting metric: Number of AIDC interconnections implemented
5. Implement AFI regional comm network	Indicator: Percentage of phases completed for the implementation of the AFI digital network Supporting metric: Number of phases implemented

8A. ASBU B0-FICE: Performance Monitoring and Measurement	
8 B. ASBU B0-FICE: Performance Monitoring	
Key Performance Areas	Metrics (if not indicate qualitative Benefits)
Access & Equity	NIL
Capacity	Reduced controller workload and increased data integrity supporting reduced separations translating directly to cross sector or boundary capacity flow increases
Efficiency	The reduced separation can also be used to more frequently offer aircraft flight levels closer to the optimum; in certain cases, this also translates into reduced en-route holding
Environment	NIL
Safety	Better knowledge of more accurate flight plan information

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2. REGIONAL PERFORMANCE OBJECTIVE – B0-CCO:

Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)

Performance Improvement Area 4: Efficient Flight Path – Through Trajectory-based Operations

3. ASBU B0-CCO: Improved Flexibility and Efficiency in Departure Profiles (CCO)

	Access & Equity	Capacity	Efficiency	Environment	Safety
Applicable	N	Y	Y	Y	Y

4. ASBU B0-CCO: Planning Targets and Implementation Progress

5. Elements	6. Targets and implementation progress (Ground and Air)
4. CCO implementation	Dec.2017
5. PBN SIDs implementation	Dec.2017

7. ASBU B0-CCO: Implementation Challenges

Elements	Implementation Area			
	Ground System Implementation	Avionics Implementation	Procedures Availability	Operational Approvals
1. CCO implementation	Nil	Nil	Coordination procedures between ATSU _s and Training	In accordance with application requirements
2. PBN SIDs implementation	Airspace Design	Nil	Coordination procedures between ATSU _s and Training	Approvals of procedures

8. ASBU B0-CCO: Performance Monitoring and Measurement

8A. ASBU B0-CCO: Implementation Monitoring

Elements	Performance Indicators/Supporting Metrics
1. CCO implementation	Indicator: Percentage of international aerodromes with CCO implemented Supporting metric: Number of international airport with CCO implemented
2. PBN SIDs implementation	Indicator: Percentage of international aerodromes with PBN SIDs implemented Supporting metric: Number of international airport with PBN SIDs implemented

8. ASBU B0-20/CCO: Performance Monitoring and Measurement

8 B. ASBU B0-CCO: Performance Monitoring

Key Performance Areas	Metrics (if not indicate qualitative Benefits)
Access & Equity	N/A
Capacity	Increased Terminal Airspace Capacity
Efficiency	Cost savings through reduced fuel burn and efficient aircraft operating profiles. Reduction in the number of required radio transmissions
Environment	Authorization of operations where noise limitations would otherwise result in operations being curtailed or restricted. Environmental benefits through reduced emissions
Safety	More consistent flight paths. Reduction in the number of required radio transmissions. Lower pilot and air traffic control workload

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2. REGIONAL/NATIONAL PERFORMANCE OBJECTIVE – B0-CD0: Improved Flexibility and Efficiency in Descent Profiles (CDO)

Performance Improvement Area 4:

Efficient Flight Path – Through Trajectory-based Operations

3. ASBU B0-CD0: Impact on Main Key Performance Areas (KPA)

	Access & Equity	Capacity	Efficiency	Environment	Safety
Applicable	N	Y	Y	Y	Y

4. ASBU B0-CD0: Planning Targets and Implementation Progress

5. Elements	6. Targets and implementation progress (Ground and Air)
1. CDO implementation	Dec.2017
2. PBN STARS	Dec.2017

7. ASBU B0-CD0: Implementation Challenges

Elements	Implementation Area			
	Ground System Implementation	Avionics Implementation	Procedures Availability	Operational Approvals
1. CDO implementation	The ground trajectory calculation function will need to be upgraded.	Nil	Coordination procedures between ATSU's and Training	In accordance with application requirements
2. PBN STARS	Airspace Design	Nil	Coordination procedures between ATSU's and Training	

8. ASBU B0-CD0: Performance Monitoring and Measurement

8A. ASBU B0-CD0: Implementation Monitoring)

Elements	Performance Indicators/Supporting Metrics
1. CDO implementation	Indicator: % of International Aerodromes/TMA with CDO implemented Supporting Metric: Number of International Aerodromes/TMAs with CDO implemented
2. PBN STARS	Indicator: % of International Aerodromes/TMA with PBN STAR implemented Supporting Metric: Number of International Aerodromes/TMAs with PBN STAR implemented

8. ASBU B0-CDO: Performance Monitoring and Measurement

8 B. ASBU B0-CDO: Performance Monitoring

Key Performance Areas	Metrics (if not indicate qualitative Benefits)
Access & Equity	NA
Capacity	Increased Terminal Airspace Capacity
Efficiency	Cost savings through reduced fuel burn. Reduction in the number of required radio transmissions
Environment	Reduced emissions as a result of reduced fuel burn
Safety	More consistent flight paths and stabilized approach paths. Reduction in the incidence of controlled flight into terrain (CFIT

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2. REGIONAL/NATIONAL PERFORMANCE OBJECTIVE –B0-OPFL: Improved Access to Optimum Flight Levels through Climb/Descent Procedures using ADS B Performance Improvement Area 3:Optimum Capacity and Flexible Flights					
3. ASBU B0-OPFL: Impact on Main Key Performance Areas (KPA)					
	Access & Equity	Capacity	Efficiency	Environment	Safety
Applicable	N	Y	Y	Y	Y

4. ASBU B0-OPFL: Planning Targets and Implementation Progress	
5. Elements	6. Targets and implementation progress (Ground and Air)
1. ADS-B equipped aircraft	Dec 2018
2.	

7. ASBU B0-OPFL: Implementation Challenges				
Elements	Implementation Area			
	Ground System Implementation	Avionics Implementation	Procedures Availability	Operational Approvals
1. ADS-B equipped aircrafts	NIL	Lack of ADS-B equipped aircraft	Update of procedures	Lack of training
2.				

8. ASBU B0-OPFL: Performance Monitoring and Measurement	
8A. ASBU B0-OPFL: Implementation Monitoring	
Elements	Performance Indicators/Supporting Metrics
1. ITP Implementation	Percentage of States with ITP implemented
2.	

8. ASBU B0-OPFL: Performance Monitoring and Measurement	
8 B. ASBU B0-OPFL: Performance Monitoring	
Key Performance Areas	Metrics (if not indicate qualitative Benefits)
Access & Equity	NA
Capacity	Improvement in capacity on a given air route.
Efficiency	Increased efficiency on oceanic and potentially continental en-route
Environment	Reduced emissions
Safety	A reduction of possible injuries for cabin crew and passengers

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2. REGIONAL/NATIONAL PERFORMANCE OBJECTIVE – B0-SURF					
Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)					
Performance Improvement Area 1:					
Airport operation					
3. ASBU B0-SURF: Impact on Main Key Performance Areas (KPA)					
	Access & Equity	Capacity	Efficiency	Environment	Safety
Applicable	Y	Y	Y	Y	Y

4. B0-SURF: Planning Targets and Implementation Progress	
5. Elements	6. Targets and implementation progress (Ground and Air)
1. Surveillance system for ground surface movement (PSR, SSR, ADS B or Multilateration)	Dec. 2017 Service provider
2. Surveillance system on board (SSR transponder, ADS B capacity)	Dec. 2017 Service Provider
3. Surveillance system for vehicle	Dec. 2017 Service Provider
4. Visual aids for navigation	December 2015 Service Provider
5. Wild life strike hazard reduction	December 2015 Aerodrome operator/wildlife committee
6. Display and processing information	Dec. 2017 Service Provider

7. ASBU B0-SURF: Implementation Challenges

Elements	Implementation Area			
	Ground System Implementation	Avionics Implementation	Procedures Availability	Operational Approvals
1. Surveillance system for ground surface movement (PSR, SSR, ADS B or Multilateration)	Lack of adequate financial resources	NIL	Lack of procedures and training	Lack of inspector for approvals operations
2. Surveillance system on board (SSR transponder , ADS B capacity)	NIL	Lack of surveillance system on board (ADS B capacity) On general aviation and some commercial aircraft	Lack of procedures and training	Lack of guidance materials for inspectors Lack of inspectors
3. Surveillance system for vehicle	Lack of adequate financial resources	NIL	Lack of procedures and training	Lack of guidance materials for inspectors Lack of inspectors
4. Visual aids for navigation	Implementation of new technologies (such as LED) not compliant with Annex 14	NIL	NIL	Lack of calibration capability
5. Wild life strike hazard reduction	Implementation of new technologies	NIL	Lack of Wildlife hazard management Committee Conflict between aviation law and state environment laws. Lack of training. Lack of local community support	NIL

8. ASBU B0-SURF: Performance Monitoring and Measurement

8A. ASBU B0-SURF: Implementation Monitoring

Elements	Performance Indicators/Supporting Metrics
1. Surveillance system for ground surface movement (PSR, SSR, ADS B or Multilateration)	Indicator: Percentage of international aerodromes with SMR/ SSR Mode S/ ADS-B Multilateration for ground surface movement Supporting metric: Number of international aerodrome with SMR/ SSR Mode S/ ADS-B Multilateration for ground surface movement
2. Surveillance system on board (SSR transponder ,ADS B capacity)	Indicator: Percentage of surveillance system on board (SSR transponder, ADS B capacity) Supporting metric: Number of aircraft with surveillance system on board (SSR transponder ,ADS B capacity)
3. Surveillance system for vehicle	Indicator Percentage of international aerodromes with a cooperative transponder systems on vehicles Supporting metric: Number of vehicle with surveillance system installed
4. Visual aids for navigation	Indicator: Percentage of international aerodromes complying with visual aid requirements as per Annex 14 Supporting metric: Number of international aerodromes complying with visual aid requirements as per Annex 14
5. Wild life strike hazard reduction	Indicator: Percentage of reduction of wildlife incursions Supporting metric: Number of runway incursions due to wild life strike

8. ASBU B0-SURF: Performance Monitoring and Measurement
8 B. ASBU B0-SURF: Performance Monitoring

Key Performance Areas	Metrics (if not indicate qualitative Benefits)
Access & Equity	Improves portions of the manoeuvring area obscured from view of the control tower for vehicles and aircraft. Ensures equity in ATC handling of surface traffic regardless of the traffic's position on the international aerodrome
Capacity	Sustained level of aerodrome capacity during periods of reduced visibility
Efficiency	Reduced taxi times through diminished requirements for intermediate holdings based on reliance on visual surveillance only. Reduced fuel burn
Environment	Reduced emissions due to reduced fuel burn
Safety	Reduced runway incursions. Improved response to unsafe situations. Improved situational awareness leading to reduced ATC workload

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2. REGIONAL/NATIONAL PERFORMANCE OBJECTIVE – B0-ACAS: ACAS Improvements
Performance Improvement Area3: Optimum Capacity and Flexible Flights –
Through Global Collaborative ATM

3. ASBU B0-ACAS: Impact on Main Key Performance Areas (KPA)

	Access & Equity	Capacity	Efficiency	Environment	Safety
Applicable	N	N	Y	N	Y

4. ASBU B0-ACAS: Planning Targets and Implementation Progress

5. Elements	6. Targets and implementation progress (Ground and Air)
1. ACAS II (TCAS Version 7.1)	Dec 2018 States

7. ASBU B0-ACAS: Implementation Challenges

Elements	Implementation Area			
	Ground System Implementation	Avionics Implementation	Procedures Availability	Operational Approvals
1. ACAS II (TCAS Version 7.1)	NIL	Equipage	NIL	NIL

8. ASBU B0-ACAS: Performance Monitoring and Measurement

8A. ASBU B0-ACAS: Implementation Monitoring

Elements	Performance Indicators/Supporting Metrics
1. ACAS II (TCAS Version 7.1)	Indicators: percentage of aircrafts that are equipped Metrics: Reduction in number RA incidents

8. ASBU B0-ACAS: Performance Monitoring and Measurement

8 B. ASBU B0-ACAS: Performance Monitoring

Key Performance Areas	Metrics (if not indicate qualitative Benefits)
Access & Equity	NA
Capacity	N/A
Efficiency	ACAS improvement will reduce unnecessary resolution advisory (RA) and then reduce trajectory deviations
Environment	N/A
Safety	Reduced number of potential AIR- PROX

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2. REGIONAL/NATIONAL PERFORMANCE OBJECTIVE – B0-SNET: Increased Effectiveness of Ground-Based Safety Nets

Performance Improvement Area3: Optimum Capacity and Flexible Flights – Through Global Collaborative ATM

3. ASBU B0-SNET: Impact on Main Key Performance Areas (KPA)

	Access & Equity	Capacity	Efficiency	Environment	Safety
Applicable	N	N	N	N	Y

4. ASBU B0-SNET: Planning Targets and Implementation Progress

5. Elements	6. Targets and implementation progress (Ground and Air)
1. Short Term Conflict Alert (STCA)	2013-2018
2. Area Proximity Warning (APW)	2013-2018
3. Minimum Safe Altitude Warning (MSAW)	2013-2018
4. Dangerous Area Infringement Warning (DAIW)	2013-2018

7. ASBU B0-SNET: Implementation Challenges

Elements	Implementation Area			
	Ground System Implementation	Avionics Implementation	Procedures Availability	Operational Approvals
1. Short Term Conflict Alert (STCA)	Funding	NIL	NIL	NIL
2. Area Proximity Warning (APW)	Funding	NIL	NIL	NIL
3. Minimum Safe Altitude Warning (MSAW)	Funding	NIL	NIL	NIL
4. Dangerous Area Infringement Warning (DAIW)	Funding	NIL	NIL	NIL

8. ASBU B0-SNET: Performance Monitoring and Measurement

8A. ASBU B0-SNET: Implementation Monitoring

Elements	Performance Indicators/Supporting Metrics
1. Short Term Conflict Alert (STCA)	Indicator Percentage of ATS units with ground based safety nets (STCA,) implemented Metric Support Number of safety NET (STCA) implemented
2. Area Proximity Warning (APW)	Indicator Percentage of ATS units with ground based safety nets (APW) implemented Metric Support Number of safety NET (APW) implemented
3. Minimum Safe Altitude Warning (MSAW)	Indicator Percentage of ATS units with ground based safety nets (MSAW) implemented Metric Support: Number of Safety NET (MSAW)
4. Dangerous Area Infringement Warning (DAIW)	Indicator Percentage of ATS units with ground based safety nets (DAIW) implemented Metric Support: Number of Safety NET (DAIW)

8. ASBU B0-SNET: Performance Monitoring and Measurement	
8 B. ASBU B0-SNET: Performance Monitoring	
Key Performance Areas	Metrics (if not indicate qualitative Benefits)
Access & Equity	NA
Capacity	NA
Efficiency	NA
Environment	NA
Safety	Significant reduction of the number of major incidents

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2. REGIONAL/NATIONAL PERFORMANCE OBJECTIVE – B0-TBO:					
Improved Safety and Efficiency through the initial application of Data Link En-Route					
Performance Improvement Area4: Efficient Flight Path – Through Trajectory-based Operations					
3. ASBU B0-TBO : Impact on Main Key Performance Areas (KPA)					
	Access & Equity	Capacity	Efficiency	Environment	Safety
Applicable	N	Y	Y	Y	Y

4. ASBU B0-TBO: Planning Targets and Implementation Progress	
5. Elements	6. Targets and implementation progress (Ground and Air)
3. ADS-C over oceanic and remote areas	June 2018 Service provider
4. Continental CPDLC	June 2018 Service provider

7. ASBU B0-TBO: Implementation Challenges				
Elements	Implementation Area			
	Ground System Implementation	Avionics Implementation	Procedures Availability	Operational Approvals
3. ADS-C over oceanic and remote areas	Funding and limited link service provider and infrastructure	Implementation of ADS in general aviation pending	NIL	Lack of duly trained inspectors for approval of operations
4. Continental CPDLC	Funding and limited link service provider and infrastructure	Implementation of CPDLC in general aviation pending	NIL	Lack of duly trained inspectors for approval of operations

8. ASBU B0-TBO: Performance Monitoring and Measurement	
8A. ASBU B0-TBO: Implementation Monitoring	
Elements	Performance Indicators/Supporting Metrics
3. ADS-C over oceanic and remote areas	Indicators: Percentage of FIRs with ADS C implemented Supporting metric: Number of ADS C approved procedures over oceanic and remote areas

8. ASBU B0-TBO: Performance Monitoring and Measurement	
8A. ASBU B0-TBO: Implementation Monitoring	
Elements	Performance Indicators/Supporting Metrics
4. Continental CPDLC	Indicators: Percentage of CPDLC implemented at oceanic and remote area FIRs Supporting metric: Number of CPDLC approved procedures over oceanic and remote areas

8. ASBU B0-TBO: Performance Monitoring and Measurement	
8 B. ASBU B0-TBO: Performance Monitoring	
Key Performance Areas	Metrics (if not indicate qualitative Benefits)
Access & Equity	NA
Capacity	Number of aircrafts in a defined airspace for a period of time.
Efficiency	Kilograms of fuel saved per flight Reduction of separation
Environment	Reduced emissions as a result of reduced fuel burn
Safety	Increased situational awareness.

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2. REGIONAL/NATIONAL PERFORMANCE OBJECTIVE – ASBU B0-ASUR:					
Initial capability for ground surveillance					
Performance Improvement Area3: Optimum Capacity and Flexible Flights – Through Global Collaborative ATM					
3. ASBU B0ASURF: Impact on Main Key Performance Areas (KPA)					
	Access & Equity	Capacity	Efficiency	Environment	Safety
Applicable	N	Y	N	N	Y

4. ASBU B0-ASURF: Planning Targets and Implementation Progress	
5. Elements	6. Targets and implementation progress (Ground and Air)
4. Implementation of ADS B	June 2018 Users and service provider
5. Implementation of Multilateration	June 2018 Users and service provider
6. Automation system (Presentation)	Dec 2017 Users and service provider

7. ASBU B0-ASURF: Implementation Challenges				
Elements	Implementation Area			
	Ground System Implementation	Avionics Implementation	Procedures Availability	Operational Approvals
1. Implementation of ADS B	Lack of ADS B systems implementation due to recent implementation of conventional surveillance	Lack of ADS B implementation in general aviation, and old commercial fleet	Lack of procedures	Lack of inspectors with appropriate capability

7. ASBU B0-ASURF: Implementation Challenges				
Elements	Implementation Area			
	Ground System Implementation	Avionics Implementation	Procedures Availability	Operational Approvals
	systems			
2. Implementation of multilateration	Facilities at remote stations Establishment of communications networks	NIL	NIL	Lack of inspectors with appropriate capability
3. Automation system (Presentation)	Lack of any automation functionality	NIL	NIL	NIL

8. ASBU B0-ASURF: Performance Monitoring and Measurement	
8A. ASBU B0-ASURF: Implementation Monitoring	
Elements	Performance Indicators/Supporting Metrics
1. Implementation of ADS B	Indicator: Percentage of international aerodromes with ADS-B implemented Supporting metric: Number of ADS B implemented
2. Implementation of Multilateration	Indicator: Percentage of multilateration system implemented Supporting metric: Number of multilateration system implemented
3. Automation system (Presentation)	Indicator: Percentage of ATS units with automation system implemented Supporting metric: Number of automation system implemented in ATS units

8. ASBU B0-ASURF: Performance Monitoring and Measurement	
8 B. ASBU B0-ASURF: Performance Monitoring	
Key Performance Areas	Metrics (if not indicate qualitative Benefits)
Access & Equity	NA
Capacity	Typical separation minima are 3 NM or 5 NM enabling an increase in traffic density compared to procedural minima TMA surveillance performance improvements are achieved through high accuracy, better velocity vector and improved coverage
Efficiency	NA
Environment	NA
Safety	Reduction of the number of major incidents. Support to search and rescue

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2. REGIONAL PERFORMANCE OBJECTIVE – B0-DATM: Service Improvement through Digital Aeronautical Information Management
Performance Improvement Area 2: Globally Interoperable Systems and Data – Through Globally Interoperable System Wide Information Management
3. ASBU B0-DATM: Impact on Main Key Performance Areas

	Access & Equity	Capacity	Efficiency	Environment	Safety
Applicable	N	N	Y	Y	Y

4. ASBU B0-DATM: Planning Targets and Implementation Progress

5. Elements	6. Targets and implementation progress (Ground and Air)
4. QMS for AIM	Dec. 2014
5. e.TOD implementation	Dec. 2016
6. WGS-84 implementation	Implemented
7. AIXM implementation	Dec. 2016
8. E-AIP implementation	Dec. 2014
9. Digital NOTAM	Dec. 2017

7. ASBU B0-DATM: Implementation Challenges

Elements	Implementation Area			
	Ground System Implementation	Avionics Implementation	Procedures Availability	Operational Approvals
1. QMS for AIM	Lack of electronic Database.	NIL	Lack of procedures to allow digital AIS data provision to all users i.e. on-board devices, in particular electronic flight bags (EFBs).	NIL
2. e-TOD implementation				
3. WGS-84 implementation				
4. AIXM implementation				
5. e-AIP implementation				
6. Digital NOTAM	Lack of electronic access based on Internet protocol services.		Lack of training for AIS/AIM personnel.	

8. ASBU B0-DATM: Performance Monitoring and Measurement

8A. ASBU B0-DATM: Implementation

Elements	Performance Indicators/Supporting Metrics
1. QMS for AIM	Indicator: % of States QMS Certified Supporting Metric: number of States with QMS Certification
2. e-TOD implementation	Indicator: % of States e-TOD Implemented Supporting Metric: number of States with e-TOD Implemented
3. WGS-84 implementation	Indicator: % of States WGS-84 Implemented Supporting Metric: number of States with WGS-84 Implemented
4. AIXM implementation	Indicator: % of States with AIXM implemented Supporting Metric: number of States with AIXM implemented
5. e-AIP implementation	Indicator: % of States with e-AIP Implemented Supporting Metric: number of States with e-AIP Implemented
6. Digital NOTAM	Indicator: % of States with Digital NOTAM Implemented Supporting Metric: number of States with Digital NOTAM Implemented

8A. ASBU B0-DATM: Performance Monitoring and Measurement

8 B. ASBU B0-DATM: Performance Monitoring

Key Performance Areas	Metrics (if not indicate qualitative Benefits)
Access & Equity	NA
Capacity	NA
Efficiency	<ul style="list-style-type: none"> Support Instrument procedure design implementation support aeronautical chart production and on-board databases

8A. ASBU B0-DATM: Performance Monitoring and Measurement

8 B. ASBU B0-DATM: Performance Monitoring

Key Performance Areas	Metrics (if not indicate qualitative Benefits)
	<ul style="list-style-type: none"> support the implementation of PBN
Environment	Reduced amount of paper for promulgation of information
Safety	Reduction in the number of possible data inconsistencies Timely dissemination of information

1. AIR NAVIGATION REPORT FORM (ANRF)

AFI Regional Planning for ASBU Modules

**2. REGIONAL/NATIONAL PERFORMANCE OBJECTIVE – Module N° B0-AMET:
Meteorological information supporting enhanced operational efficiency and safety**

**Performance Improvement Area 2:
Globally Interoperable Systems and Data – Through Globally Interoperable System Wide Information Management**

3. ASBU B0-AMET: Impact on Main Key Performance Areas (KPA)

	Access & Equity	Capacity	Efficiency	Environment	Safety
Applicable	N	Y	Y	Y	Y

4. ASBU B0-AMET: Planning Targets and Implementation Progress

5. Elements	6. Targets and implementation progress (Ground and Air)
1. WAFS	In process of implementation
2. IAVW	In process of implementation
3. Tropical cyclone watch	In process of implementation
4. Aerodrome warnings	In process of implementation
5. Wind shear warnings and alerts	50% States by December 2014
6. SIGMET	80% States by December 2014
7 Other OPMET information (including METAR/SPECI and TAF)	In process of improvement
8. QMS/MET	75% States by December 2014

7. ASBU B0-AMET: Implementation Challenges

Elements	Implementation Area			
	Ground System Implementation	Avionics Implementation	Procedures Availability	Operational Approvals
1. WAFS	Connection to the AFS satellite and public Internet distribution systems	Nil	Prepare a contingency plan in case of public Internet failure	N/A
2. IAVW	Connection to the AFS satellite and public Internet distribution systems	Nil	Prepare a contingency plan in case of public Internet failure	N/A

7. ASBU B0-AMET: Implementation Challenges				
Elements	Implementation Area			
	Ground System Implementation	Avionics Implementation	Procedures Availability	Operational Approvals
3. Tropical cyclone watch	Connection to the AFS satellite and public Internet distribution systems	Nil	Prepare a contingency plan in case of public Internet failure	N/A
4. Aerodrome warnings	Connection to the AFTN	Nil	Local arrangements for provision of aerodrome warnings	N/A
5. Wind shear warnings and alerts	Connection to the AFTN	Nil	Local arrangements for provision of wind shear warning and alerts	N/A
6. SIGMET	Connection to the AFTN	Nil	Prepare a contingency plan in case of AFTN systems failure	N/A
7. Other OPMET Information (METAR, SPECI, TAF)	Connection to the AFTN	Nil	Prepare a contingency plan in case of AFTN systems failure	N/A
8. QMS/MET	Nil		Appropriate arrangements for establishment and implementation of QMS	Commitment of top management

8. ASBU B0-AMET: Performance Monitoring and Measurement	
8A. ASBU B0-AMET: Implementation Monitoring	
Elements	Performance Indicators/Supporting Metrics
1. WAFS	Indicator: States implementation of SADIS 2G/secure SADIS FTP Supporting metric: Number of States implementation of SADIS 2G/secure SADIS FTP
2. IAVW	Indicator: States implementation of SADIS 2G/secure SADIS FTP Supporting metric: Number of States implementation of SADIS 2G/secure SADIS FTP
3. Tropical cyclone watch	Indicator: Percentage of international aerodromes/MWOs with tropical cyclone watch procedures implemented Supporting metric: Number of international aerodromes/MWOs with tropical cyclone watch
4. Aerodrome warnings	Indicator: Percentage of international aerodromes/AMOs with Aerodrome warnings implemented Supporting metric: Number of international aerodromes/AMOs with Aerodrome warnings implemented
5. Wind shear warnings and alerts	Indicator: Percentage of international aerodromes/AMOs with wind shear warnings procedures implemented Supporting metric: Number of international aerodromes/AMOs with wind shear warnings and alerts implemented
6. SIGMET	Indicator: Percentage of international aerodromes/MWOs with SIGMET procedures implemented Supporting metric: Number of international aerodromes/MWOs with

8. ASBU B0-AMET: Performance Monitoring and Measurement**8A. ASBU B0-AMET: Implementation Monitoring**

Elements	Performance Indicators/Supporting Metrics
	SIGMET procedures implemented
7. Other OPMET Information (METAR, SPECI, TAF)	Indicator: Percentage of OPMET available at International aerodromes AMOs/MWOs Supporting metric: Number of international aerodromes/MWOs issuing required OPMET information
8. QMS/MET	Indicator: Percentage of MET Provider States with QMS/MET implemented Supporting metric: Number of MET Provider States with QMS/MET certificated

ASBU B0-AMET: Performance Monitoring and Measurement**8 B. ASBU B0-AMET: Performance Monitoring**

Key Performance Areas	Metrics (if not indicate qualitative Benefits)
Access & Equity	Not applicable
Capacity	Optimized usage of airspace and aerodrome capacity due to MET support
Efficiency	Reduced arrival/departure holding time, thus reduced fuel burn due to MET support
Environment	Reduced emissions due to reduced fuel burn due to MET support
Safety	Reduced incidents/accidents in flight and at international aerodromes due to MET support.