



| ICAO

# INTERNATIONAL CIVIL AVIATION ORGANIZATION

A UN SPECIALIZED AGENCY



# GANP Transition

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Sven Halle

Regional Officer, EUR/NAT Office

**North Atlantic (NAT) 2030 Vision Workshop**

**7-8 February 2023**

# ICAO Assembly Resolution A41-6

## ICAO global planning for safety and air navigation

A-41 endorsed the seventh edition of the Global Air Navigation Plan (GANP) and further refines in App B.....

- calls upon States, planning and implementation regional groups (PIRGs), and the aviation industry to **utilize the guidance provided in the GANP for planning and implementation activities which establish priorities, targets and indicators** consistent with globally-harmonized objectives, taking into account operational needs
- calls upon States to take into consideration the GANP guidelines, for the implementation of operational improvements as part of their national strategy to **reduce the environmental impact**, including CO2 emissions, from international aviation
- calls upon States, PIRGs, and the aviation industry to **provide timely information to ICAO, and to each other, regarding the implementation status of the GANP**, including the lessons learned from the implementation of the operational improvements outlined in the ASBU framework
- invites PIRGs to **use ICAO standardized tools, or adequate regional tools to monitor and, in collaboration with ICAO, analyze the implementation status** of air navigation systems
- urges States that are developing new air navigation plans, for their own air navigation modernisation, to coordinate with ICAO and align their plans so as to **ensure regional harmonisation, and global compatibility and interoperability**

# ICAO Global Air Navigation Plan

- 6<sup>th</sup> edition endorsed at 40<sup>th</sup> ICAO Assembly in October 2019
- New GANP web portal: <https://www4.icao.int/ganpportal/>
- Key changes:
  - **Basic Building Blocks (BBBs):** setting the baseline for operational improvements by defining essential services necessary for international civil aviation (not an evolutionary step);
  - **ASBU Threads:** key feature areas of the ANS where improvements are needed in order to achieve the vision outlined in the Global ATM Operational Concept:
    - Operational threads: ACDM, APTA, NOPS...
    - Information threads: SWIM, AMET, DAIM, FICE,...
    - Technology threads: COMS, COMI, NAVS, ASUR...
  - **Change from modules to ASBU Elements:** a specific changes in operations designed to improve the performance of the air navigation system under specified operational conditions
  - Changes in ASBU threads with addition of new ASBU elements, modification/deletion of ASBU elements, increased detail of ASBU elements, **ASBU block duration was extended from 5 to 6 years**



ICAO GANP PORTAL

Global Strategic ▾ Global Technical ▾ Regional ▾ National ▾

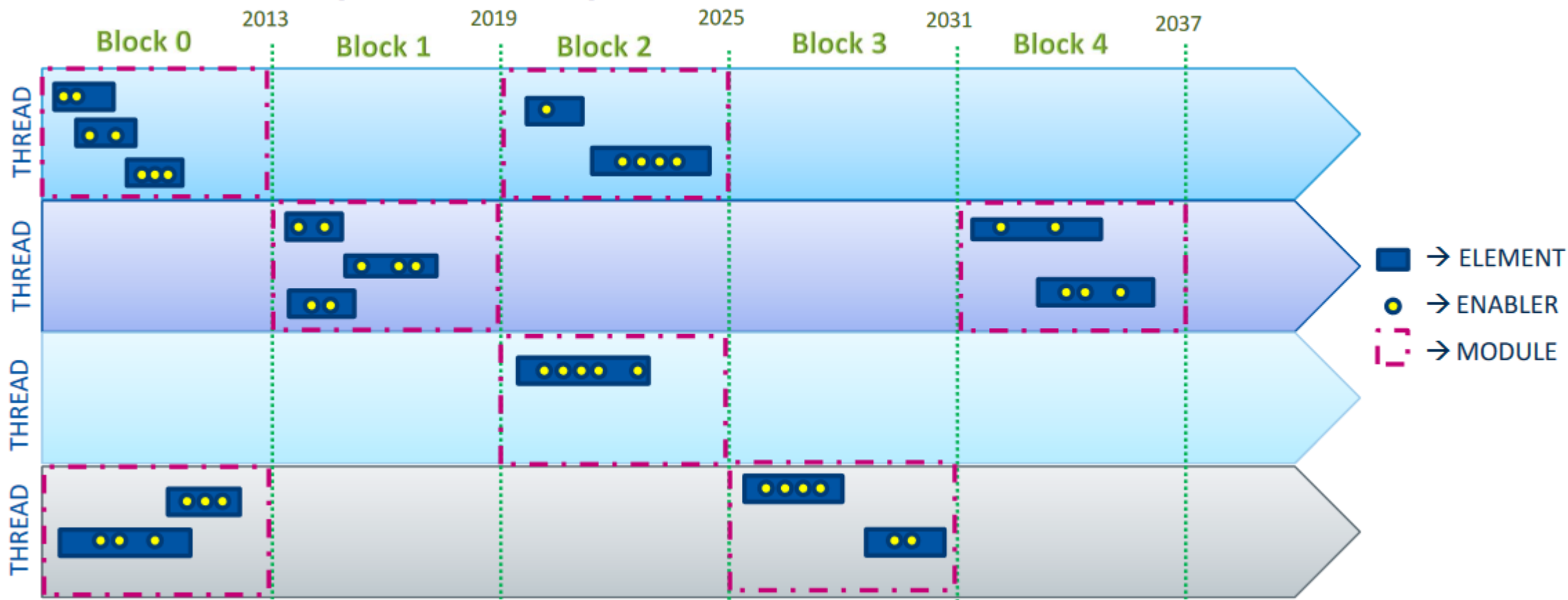
## WELCOME TO THE GLOBAL AIR NAVIGATION PLAN PORTAL

The GANP Portal is a web portal where all aviation stakeholders will be able to find the most relevant information related to the GANP



# ICAO Global Air Navigation Plan

- 7<sup>th</sup> edition endorsed at 41<sup>th</sup> ICAO Assembly in October 2022 with minor changes
  - ACDM-B1/1 on Airport Operations Plan has been moved to Block 2 and it is now ACDM-B2/1
  - ACDM-B1/2 on Airport Operations Centre has been also moved to Block 2 and it is now ACDM-B2/2
  - APTA-B1/3 on Performance based aerodrome operating minima – Advanced aircraft with Synthetic Vision Guidance Systems has moved to Block 2 as APTA-B2/4 (no data collected as the Element is still in standardisation phase)
  - RATS-B1/1 became DATS-B1/1 as the “Remotely Operated” turned into “Digital” towers.
- Some elements still need to be further refined, such as
  - FRTO-B1/2 on RNP Routes
  - NAVS-B1/1 on Extended GBAS
  - SURF-B0/1 on Basic ATCO tools to manage traffic during ground operations
  - the whole DAIM Block
- A comprehensive review of the GANP is planned for the next ICAO Assembly in 2025.

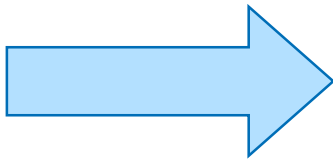


# GANP 2016

ASBU module	Covered by MPL3
B0-APTA	Yes
B0-WAKE	No
B0-RSEQ	Yes
B0-SURF	Yes
B0-ACDM	Yes
B0-FICE	Yes
B0-DATM	Yes
B0-AMET	No
B0-FRTO	Yes
B0-NOPS	Yes
B0-ASUR	Yes
B0-ASEP	No
B0-OPFL	No
B0-ACAS	Yes
B0-SNET	Yes
B0-CDO	Yes
B0-TBO	Yes
B0-CCO	Yes
COVERAGE	78%

# GANP 2019

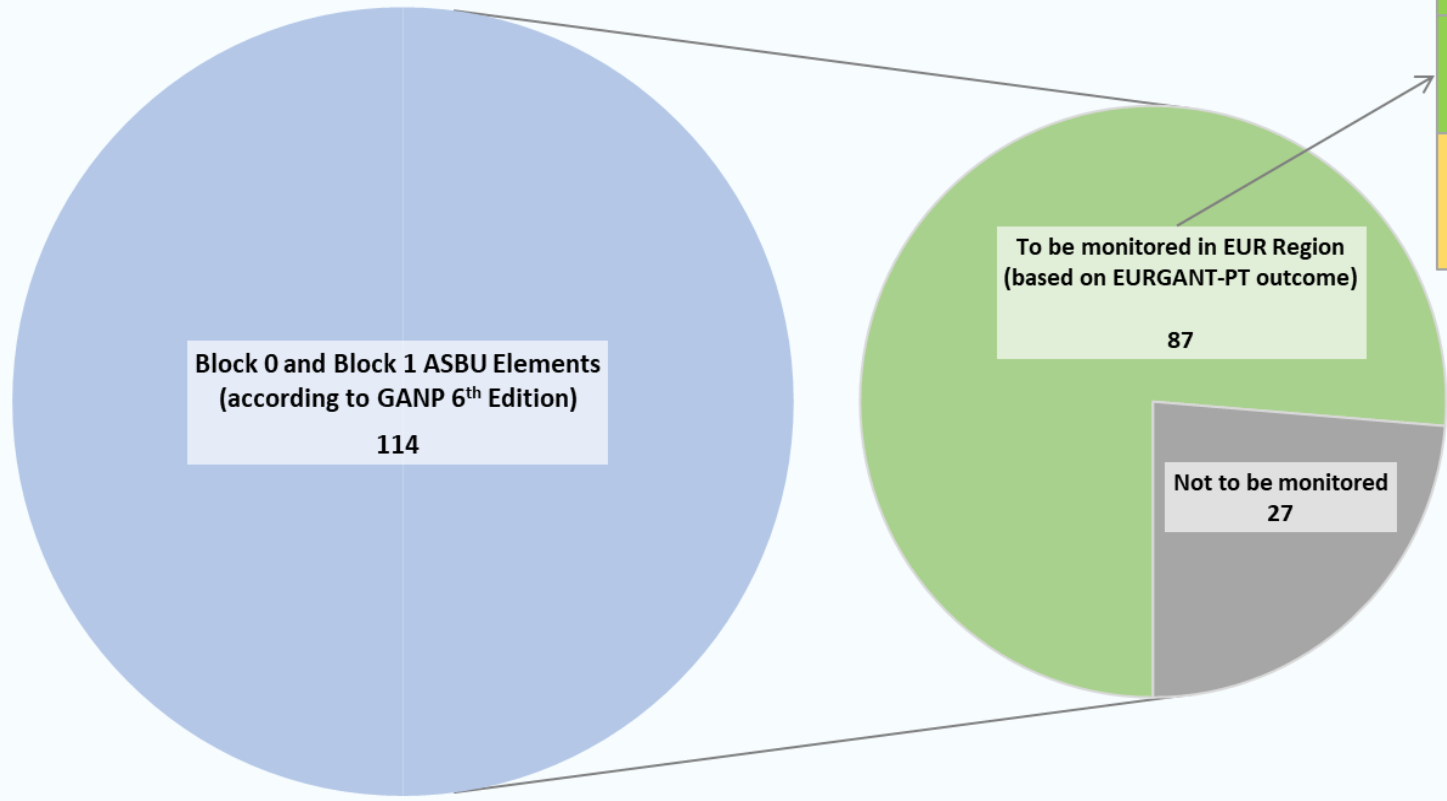
ASBU Thrac	Block	ASBU Element	ASBU Element Name	Maturity level	Category	MPL3 Objective	Comment
ACDM	B0	ACDM-B01	Asport CDM Information Sharing (ACS)	Ready	Operational		implied by ACDM-B02 (for LSSIP States)
ACDM	B0	ACDM-B02	Integration with ATM Network function	Ready	Operational	AOP05	covered
AMET	B0	AMET-B01	Meteorological observations products	Ready	Information		not (yet) in the scope of ATM MPL3 (MET info)
AMET	B0	AMET-B02	Meteorological forecast and warning products	Ready	Information		not (yet) in the scope of ATM MPL3 (MET info)
AMET	B0	AMET-B03	Climatological and historical meteorological products	Ready	Information		not (yet) in the scope of ATM MPL3 (MET info)
AMET	B0	AMET-B04	Dissemination of meteorological products	Ready	Information		not (yet) in the scope of ATM MPL3 (MET info)
AFTA	B0	AFTA-B01	PBN Approaches (with basic capabilities)	Ready	Operational	NAV10	covered
AFTA	B0	AFTA-B02	PBN SID and STAR procedures (with basic capabilities)	Ready	Operational	NAV51	covered
AFTA	B0	AFTA-B03	SBAS/QBAS CAT1 precision approach procedures	Ready	Operational		no objective in MPL3 yet
AFTA	B0	AFTA-B04	CCO (Basic)	Ready	Operational	EN101	covered
AFTA	B0	AFTA-B05	CCO (Basic)	Ready	Operational	EN103	covered
AFTA	B0	AFTA-B06	PBN Helicopter Point in Space (PinS) Op	Ready	Operational		
AFTA	B0	AFTA-B07	Performance based aerodrome operating	Ready	Operational	ATC16	covered
AFTA	B0	AFTA-B08	Performance based aerodrome operating	Ready	Operational		future
ASUR	B0	ASUR-B01	Automatic Dependent Surveillance - Broad	Standardization	Operational		future
ASUR	B0	ASUR-B02	Multilateration cooperative surveillance system	Standardization	Information		not (yet) in the scope of ATM MPL3 (MET info)
ASUR	B0	ASUR-B03	Cooperative Surveillance Radar Downlink	Standardization	Information		not (yet) in the scope of ATM MPL3 (MET info)
COMI	B0	COMI-B01	Aircraft Communication Addressing and F	Standardization	Information		not (yet) in the scope of ATM MPL3 (MET info)
COMI	B0	COMI-B02	Aeronautical Telecommunication Network	Standardization	Information	INF09	covered
COMI	B0	COMI-B03	VHF Data Link (VDL) Mode 2 Basic	Standardization	Operational	NAV10	covered
COMI	B0	COMI-B04	VHF Data Link (VDL) Mode 2 Basic	Standardization	Operational	NAV32	covered
COMI	B0	COMI-B05	Satellite communications (SATCOM) Cla	Standardization	Operational		not (yet) in the scope of ATM MPL3 because dealing only with AUs
COMI	B0	COMI-B06	High Frequency Data Link (HFDL)	Standardization	Operational		beneficiary of PEN operations - ENV3 TED
COMI	B0	COMI-B07	ATS Message Handling System (AMHS)	Standardization	Operational		beneficiary of PEN operations - ENV3 TED
COMS	B0	COMS-B01	CPL/CLC (FANS WA & ATN B1) for domestic	Standardization	Technology		future
COMS	B0	COMS-B02	ADS-C (FANS WA) for procedural airspace	Standardization	Technology	COM12	covered
FICE	B0	FICE-B01	Automated basic inter facility data exchange	Ready	Technology	ITV-AGDL	covered
FRTO	B0	FRTO-B01	Direct routing (DCT)	Ready	Technology		not applicable for EUR region
FRTO	B0	FRTO-B02	Airspace planning and Flexible Use of Airsp	Ready	Technology		no objective in MPL3 yet
FRTO	B0	FRTO-B03	Pre-validated and coordinated ATS routes	Ready	Technology		not applicable for EUR region
FRTO	B0	FRTO-B04	Basic conflict detection and conformance	Ready	Technology		not applicable for EUR region
NAVS	B0	NAVS-B01	Ground Based Augmentation Systems (GB	Ready	Technology		not applicable for EUR region
NAVS	B0	NAVS-B02	Satellite Based Augmentation Systems (SB	Ready	Operational		not (yet) in the scope of ATM MPL3 because dealing only with AUs
NAVS	B0	NAVS-B03	Aircraft Based Augmentation Systems (AB	Ready	Operational		not (yet) in the scope of ATM MPL3 because dealing only with AUs
NAVS	B0	NAVS-B04	Navigation Minimal Operating Network (N	Standardization	Operational		not (yet) in the scope of ATM MPL3 because dealing only with AUs
NOPS	B0	NOPS-B01	Initial integration of collaborative airspace	Standardization	Operational		not (yet) in the scope of ATM MPL3 because dealing only with AUs
NOPS	B0	NOPS-B02	Collaborative Network Flight Updates	DAM	Information		future
NOPS	B0	NOPS-B03	Network Operation Planning basic features	DAM	Information		already implemented
NOPS	B0	NOPS-B04	Initial Airport/ATM slots and A-CDM Net	DAM	Information	INF07	covered
NOPS	B0	NOPS-B05	Dynamic ATM slot allocation	DAM	Information		covered
OPFL	B0	OPFL-B01	In-Trip Procedures (ITP)	DAM	Information		no objective in MPL3 yet
RSEQ	B0	RSEQ-B01	Arrival Management	DAM	Information		no objective in MPL3 yet
RSEQ	B0	RSEQ-B02	Departure Management	DAM	Information	INF09	covered
RSEQ	B0	RSEQ-B03	Point merge	FRTO	Operational	ACM212	covered
SNET	B0	SNET-B01	Short Term Conflict Alert (STCA)	FRTO	Operational		no objective in MPL3 yet, ref to PEN portal
SNET	B0	SNET-B02	Minimum Safe Altitude Warning (MSAW)	FRTO	Operational	ACM19	covered
SNET	B0	SNET-B03	Area Proximity Warning (APW)	FRTO	Operational	ATC12	covered
SNET	B0	SNET-B04	Approach Path Monitoring (APM)	FRTO	Operational		covered
SURF	B0	SURF-B01	Basic ATCO tools to manage traffic during	FRTO	Operational	ATC18	covered
SURF	B0	SURF-B02	Comprehensive situational awareness of a	FRTO	Operational		future
SURF	B0	SURF-B03	Initial ATCO alerting service for surface op	GADS	Operational		no objective in MPL3 yet
TBO	B0	TBO-B01	Introduction of time-based management of	NAVS	Operational	NAV11	covered
				NAVS	Technology	FCM04	covered
				NOPS	Operational		not applicable for EUR region
				NOPS	Operational	FCM05	covered
				NOPS	Operational	FCM06	covered
				NOPS	Operational	FCM07	covered
				NOPS	Operational	FCM08	covered
				NOPS	Operational	FCM09	covered
				NOPS	Operational	ATC15	covered
				NOPS	Operational	ATC16	covered
				NOPS	Operational	ATC17	covered
				NOPS	Operational	ATC18	covered
				NOPS	Operational	ATC19	covered
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				NOPS	Operational	ATC94	covered
				NOPS	Operational	ATC95	covered
				NOPS	Operational	ATC96	covered
				NOPS	Operational	ATC97	covered
				NOPS	Operational	ATC98	covered
				NOPS	Operational	ATC99	covered
				NOPS	Operational	ATC100	covered



## Block 0

## Block 1

# The EUR Region example



Covered by ATM Master Plan Level 3 Plan/LSSIP	54
Covered by other data sources	16
No data source yet	17
<i>Current edition</i>	



**!** Mapping will be reviewed every year, following regular updates of the ATM MP L3 Implementation Plan.

Copy of GANP2019 framework vs MPL3\_v5.xlsx - Excel

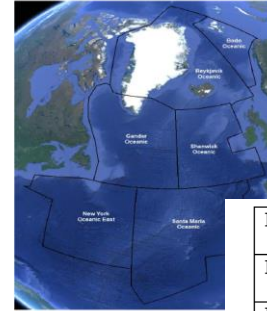
Halle, Sven

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	ASBU Thread	Block	ASBU Element	ASBU Element Name	Maturity level	Category	MPL3 Objective	Comment					
2	ACAS	B1	ACAS-B1/1	ACAS Improvements	Ready	Operational	ATC16	covered					
3	ACAS	B2	ACAS-B2/1	New collision avoidance system	Standardization	Operational		future					
4	ACAS	B2	ACAS-B2/2	New collision avoidance capability as part of an overall detect and avoid system for RPAS	Validation	Operational		future					
5	ACDM	B0	ACDM-B0/1	Airport CDM Information Sharing (ACIS)	Ready	Operational		implied by ACDM-B0/2 (for LSSIP States)					
6	ACDM	B0	ACDM-B0/2	Integration with ATM Network function	Ready	Operational	AOP05	covered					
7	ACDM	B1	ACDM-B1/1	Airport Operations Plan (AOP)	Standardization	Operational		future					
8	ACDM	B1	ACDM-B1/2	Airport Operations Centre (APOC)	Standardization	Operational		future					
9	ACDM	B2	ACDM-B2/1	Total Airport Management (TAM)	Validation	Operational		future					
10	ACDM	B3	ACDM-B3/1	Full integration of ACDM and TAM in TBO	Concept	Operational		future					
11	AMET	B0	AMET-B0/1	Meteorological observations products	Ready	Information		not (yet) in the scope of ATM MP L3 (MET info)					
12	AMET	B0	AMET-B0/2	Meteorological forecast and warning products	Ready	Information		not (yet) in the scope of ATM MP L3 (MET info)					
13	AMET	B0	AMET-B0/3	Climatological and historical meteorological products	Ready	Information		not (yet) in the scope of ATM MP L3 (MET info)					
14	AMET	B0	AMET-B0/4	Dissemination of meteorological products	Ready	Information		not (yet) in the scope of ATM MP L3 (MET info)					
15	AMET	B1	AMET-B1/1	Meteorological observations information	Standardization	Information		not (yet) in the scope of ATM MP L3 (MET info)					
16	AMET	B1	AMET-B1/2	Meteorological forecast and warning information	Standardization	Information		not (yet) in the scope of ATM MP L3 (MET info)					
17	AMET	B1	AMET-B1/3	Climatological and historical meteorological information	Standardization	Information		not (yet) in the scope of ATM MP L3 (MET info)					
18	AMET	B1	AMET-B1/4	Dissemination of meteorological information	Standardization	Information	INF09	covered					
19	AMET	B2	AMET-B2/1	Meteorological observations information	Validation	Information		not (yet) in the scope of ATM MP L3 (MET info)					
20	AMET	B2	AMET-B2/2	Meteorological forecast and warning information	Validation	Information		not (yet) in the scope of ATM MP L3 (MET info)					
21	AMET	B2	AMET-B2/3	Climatological and historical meteorological information	Validation	Information		not (yet) in the scope of ATM MP L3 (MET info)					
22	AMET	B2	AMET-B2/4	Meteorological information service in SWIM	Validation	Information	INF08.1	covered					
23	AMET	B3	AMET-B3/1	Meteorological observations information	-	Information		not (yet) in the scope of ATM MP L3 (MET info)					
24	AMET	B3	AMET-B3/2	Meteorological forecast and warning information	-	Information		not (yet) in the scope of ATM MP L3 (MET info)					
25	AMET	B3	AMET-B3/3	Climatological and historical meteorological information	-	Information		not (yet) in the scope of ATM MP L3 (MET info)					
26	AMET	B3	AMET-B3/4	Meteorological information service in SWIM	-	Information		not (yet) in the scope of ATM MP L3 (MET info)					
27	AMET	B4	AMET-B4/1	Meteorological observations information	-	Information		not (yet) in the scope of ATM MP L3 (MET info)					
28	AMET	B4	AMET-B4/2	Meteorological forecast and warning information	-	Information		not (yet) in the scope of ATM MP L3 (MET info)					
29	AMET	B4	AMET-B4/3	Climatological and historical meteorological information	-	Information		not (yet) in the scope of ATM MP L3 (MET info)					
30	AMET	B4	AMET-B4/4	Meteorological information service in SWIM	-	Information		not (yet) in the scope of ATM MP L3 (MET info)					
31	APTA	B0	APTA-B0/1	PBN Approaches (with basic capabilities)	Ready	Operational	NAV10	covered					
32	APTA	B0	APTA-B0/2	PBN SID and STAR procedures (with basic capabilities)	Ready	Operational	NAV03.1	covered					
33	APTA	B0	APTA-B0/3	SBAS/GBAS CAT I precision approach procedures	Ready	Operational		no objective in MPL3 yet					
34	APTA	B0	APTA-B0/4	CDO (Basic)	Ready	Operational	ENV03	covered					
35	APTA	B0	APTA-B0/5	CCO (Basic)	Ready	Operational	ENV01	covered					
36	APTA	B0	APTA-B0/6	PBN Helicopter Point in Space (PiNS) Operations	Ready	Operational	NAV12	covered					
37	APTA	B0	APTA-B0/7	Performance based aerodrome operating minima – Advanced aircraft	Ready	Operational		not (yet) in the scope of ATM MP L3 because dealing only with AIC					

Ready



- NAT IMG/61 decided in November 2022 to establish a NAT IMG GANP Transition Project Team. The PT should perform the transition from the currently referenced 4<sup>th</sup> edition to the latest edition of the GANP in the eANP Vol III and analyse all the ASBU threads which should be included into the NAT service development roadmap. In addition, the NAT Vision tables should be connected to the GANP/ASBU threads and elements
- However, the 7th edition of the GANP is not available on the ICAO portal
- EUROCONTROL has offered to support the PT work with an updated xls file once the new GANP is available
- GANP Transition PT should be in the starting blocks.....

 GLOBAL AIR NAVIGATION PLAN (GANP)/AVIATION  
 SYSTEM BLOCK UPGRADES (ASBU)  
 IMPLEMENTATION STATUS REPORT - NORTH  
 ATLANTIC (NAT) REGION


2019

NATSPG-56-2\_RPT\_Appro ASBU 2019RPT

<b>Project Title</b>	NAT IMG-GANP Transition Project Team
<b>Parent Group</b>	NAT IMG
<b>Project Supervisory body</b>	NAT IMG
<b>Project Period</b>	December 2023 – May 2023
<b>Project Objective</b>	To address the different aspects on the transition to the latest edition of the GANP, to analyse and develop revision proposals for NAT eANP Vol III.
<b>Project High Level Tasks</b>	<ol style="list-style-type: none"> <li>1. To perform a transition to the latest edition of the GANP and review all ASBU threads/modules for applicability in the NAT Region.</li> <li>2. To develop a new set of ASBU threads/modules which will be included into the NAT service development roadmap.</li> <li>3. To link the new set of ASBU threads/modules to the NAT vision tables.</li> <li>4. To prepare amendment proposals for NAT eANP Vol III Part 0.</li> <li>5. To prepare amendment proposals for NAT eANP Vol III Part 1 including a revised table GEN III-1.</li> </ol>
<b>Membership</b>	NAT IMG members and observers Note: Other subject matter experts may also participate, as deemed appropriate by the Project Team.
<b>Coordination Requirements</b>	PT results will be prepared for NAT IMG/62 endorsement and NAT SOG consultation.
<b>Project Outcomes</b>	<ul style="list-style-type: none"> <li>-- Amendment Proposals to NAT eANP Vol III, Part 0, Part I, Part II and Part III.</li> <li>-- Recommendations for a new set of ASBU threads/modules which will be included into the NAT service development roadmap and the NAT Vision tables in accordance with Assembly Resolution 40-1.</li> </ul>
<b>Project Lead</b>	tbd
<b>Project Secretariat Support</b>	ICAO EUR/NAT Office



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Thank You!