International Civil Aviation Organization

THE THIRD MEETING OF PERFORMANCE BASED NAVIGATION

IMPLEMENTATION COORDINATION GROUP (PBNICG/3)

Bangkok, Thailand, 08 – 10 March 2016

Agenda Item 3: Review of related global/regional plans, priorities and targets

**UPDATE ON THE SEAMLESS ATM REPORTING PROCESS
AND REGIONAL PICTURE**

(Presented by the Secretariat)

SUMMARY

This paper presents the status of the Seamless ATM Reporting process since November 2014, and the regional picture as of 16 February 2016 reflecting the implementation progress of Air Navigation Improvements in APAC Region against the objectives set forth by the GANP ASBU Block 0 and Seamless ATM plan v1.

1.   INTRODUCTION

1.1   ICAO Doc.9750 Global Air Navigation Plan (2013-2028) contains the vision of an integrated, harmonized, and globally interoperable ATM System beyond 2028. To achieve this objective the involvement and active participation of States from each of the 7 ICAO Regions in the world is essential. To facilitate the process each region is responsible for the adaptation of the GANPs global requirements in to the environment and specificity of the region, therefore the regional plan had to been created. The first version was published in 2013 as Asia/Pacific Seamless ATM Plan V1.0 and assumed the implementation of the GANPs ASBU Block 0 module together with regional needs.

1.2   The Asia/Pacific Seamless ATM Reporting process (implemented since November 2014) together with the regional picture as of 16 February 2016 is monitoring the implementation progress of Air Navigation Improvements in APAC Region against the objectives set forth by the GANP ASBU Block 0 and Seamless ATM plan v1.0.

1.3   In 2014, the APANPIRG/25 Meeting adopted Regional Priorities and Targets for the APAC Region through the following Conclusion:

Conclusion APANPIRG 25/2 – APAC Regional Air Navigation Priorities and Targets

That, the Regional Priorities and Targets contained in Appendix A to this Report on Agenda Item 3.0 be endorsed by APANPIRG.

1.4   Therefore milestones, targets and metrics of each key planning elements for Air Navigation Report Forms (ANRFs) were adopted by APANPIRG, with the exception of B0-OPFL and B0-WAKE:

Conclusion APANPIRG 25/3 – Air Navigation Report Forms (ANRFs) and Responsibility Matrix

That, the ANRF regarding the Block 0 ASBUs (except B0-RSEQ, B0-OPFL, and B0-WAKE) provided in the APANPIRG/25/WP26 Appendices A to P together with the matrix of responsibilities placed at Appendices B and C to the Report on Agenda Item 3.0 be adopted for the APAC Region.

1.5   Following the building up of a web-based reporting tool by ICAO, the meeting adopted the following Conclusion:

Conclusion APANPIRG 25/5 – Web-based Seamless ATM Implementation Progress Reporting Process

That, States/Administrations be urged to report on their Seamless ATM implementation progress at least once a year through the ICAO online reporting process from November 2014 onwards.

1.6   The ICAO Regional Office also encouraged APAC States/Administrations to nominate their Points of Contact (POC) as requested by ICAO state letter. The Points of Contact are responsible for submitting and updating their respective State's progress of implementing the Seamless ATM Plan.

1.7   This paper presents the status of the reporting process, the outcomes of the first year of reporting.

2.   DISCUSSION

Status of the reporting process

2.1   As a follow-up to the Conclusion APANPIRG 25 a number of States/Administrations reported on their Seamless ATM implementation progress. The status of the reporting process as per **16 February 2016** is placed at **Appendix A**.

2.2   **A total of 22 States/Administrations, i.e. 52% of the APAC States/Administrations,** have submitted one or more report(s) on the ICAO Seamless ATM Reporting portal. Among those 22 States/Administrations, **9** update their progress on a regular basis, which is an excellent practice.
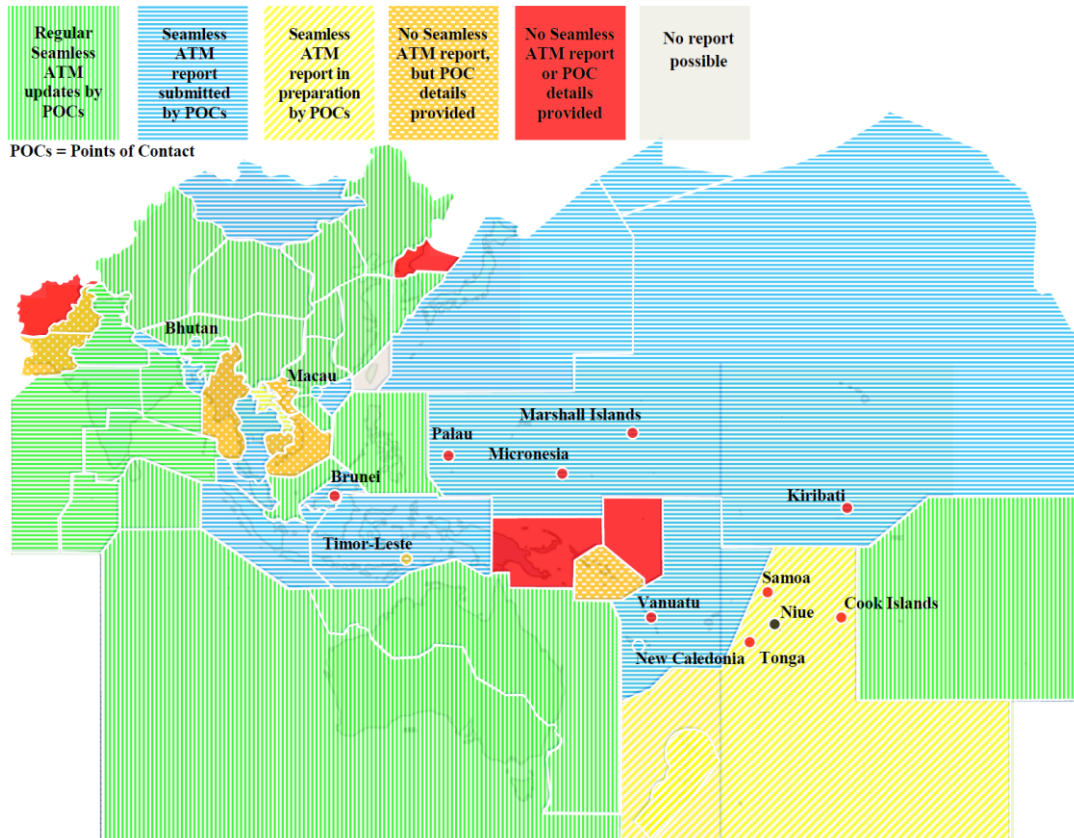
Figure1: Status of the Seamless ATM Reporting (16 February 2016)

2.3   One State/Administration has prepared a first report but not submitted it yet.

2.4   A total of **19** States/Administrations have not prepared Seamless ATM reports.

2.5   Some States have experienced difficulty in their interaction with the online reporting function, mainly for access authorization. The ICAO Regional Office has provided the concerned users with information and assistance.

         Points of Contact

2.6   As per **Appendix A**, a total of **29** States/Administrations have nominated their seamless Points of Contact. However **13** States/Administration have not reported the nomination of their Points of Contact (POC).

         Matrix of responsibilities

2.7   As part of Conclusion APANPIRG 25/3, a responsibility matrix was adopted (**Appendix B**). Since then, as per IP/06 regarding the outcomes of the coordination meeting between APANPIRG & RASG APAC held on 21st May 2015, RASG–APAC stressed the need to continue with the lead responsibility for the implementation of TCAS II; APANPIRG would provide results of monitoring collected through the seamless ATM online reporting process to RASG–APAC.

Relation with the e-ANP

2.8   The introduction of the APAC e-ANP (Electronic Air Navigation Plan) took place at the
end of 2015. Volumes 1 and 2 include regional requirements; while the draft Volume 3 included the
regional objectives.

2.9   All regional priorities and targets adopted through the Conclusion APANPIRG 25/2 are
contained in the e-ANP volume 3. Likewise, all seamless ATM objectives are incorporated in the
draft e-ANP volume 3. All priorities, targets, metrics and supporting documents are incorporated in
the APAC main planning table in accordance with the e-ANP template adopted by the Council.

Regional Picture

2.10   The purpose of monitoring the implementation progress is to find out where the
difficulties and issues lay, and take corrective actions at APANPIRG, Sub Group, and/or Task Force
levels as appropriate.

2.11   The regional picture depicts the progress of States/Administrations in Asia Pacific
against the GANP and e-ANP Volume III objectives. This picture is to be used as a tool by the
different APANPIRG bodies (as per Responsibility matrix) to steer their action and take corrective
actions as needed to ensure full implementation of the objectives.

2.12   The regional picture as of 16 February 2016 can be found here:
http://www.icao.int/APAC/Pages/ATMReport.aspx and is placed at **Appendix C**. The regional
picture shows the progress of implementation against the indicators as per the APAC main planning
table and adopted ANRF.

2.13   APAC States/Administrations are presented in alphabetical order. The date of the latest
report submitted is given in the second column to indicate the freshness of information; the changes to
the regional picture since its previous issuance are indicated in green. N/A means that the reporting
State found this item Not Applicable in its national plans, as a result of its gap analysis. No data
indicates that no data was provided by the reporting State, meaning that either the whole item was not
yet analyzed or had been analyzed but no progress was indicated.

2.14   There would be an interest to present this information geographically to detect for
examples non seamless areas along Main Traffic Flows; however the limited resources at ICAO HQ
prevented progress of this undertaking.

2.15   In order to improve the quality of the picture, the ICAO APAC Office interacts with
POCs on an ongoing basis and cross checks the information available in the ICAO Regional Office
from other sources of collection (such as PBN detailed reports from States, State AIS AIM transition
table, AIDC table, etc) and challenging the submitted reports where necessary. The cross check with
PBN detailed reports shows that the Seamless Points of Contact and PBN Points of Contact are not
systematically crossing their data, which should be improved in the future.

Regional Performance dashboard

2.16   The Regional Performance Dashboard aims to provide a glance of both Safety and Air
Navigation Capacity and Efficiency strategic objectives, using a set of indicators and targets based on
the regional implementation of the Global Aviation Safety Plan (GASP) and the Global Air
Navigation Plan (GANP). It can be found at http://www.icao.int/safety/pages/regional-targets.aspx.
The source for PBN Types and Runway Ends is from Jepessen combined with ICAO data.

2.17   The Regional Performance Dashboard as of 16 Feb. 2016 as per Figure 2 shows that in APAC region that 21 States are above the 2014 objective of 70% of international runways at international aerodromes with APV or LNAV-only procedures.

2.18   8 States are still behind the 2014 objective of 70% of international runways at international aerodromes with APV or LNAV-only procedures

- Singapore (66.67%)
- Fiji (66.67%)
- Pakistan (60%)
- Malaysia (57.14%)
- Maldives (50%)
- Thailand (55.56%)
- Japan (41.3%)
- Indonesia (37.14%)

2.19   8 States are still behind 2010 objectives of 30% of international runways at international aerodromes with APV or LNAV-only procedures:

- Philippines (26.67%)
- Bangladesh (25%)
- Viet Nam (7.69%)
- India (1.85%)
- Bhutan (0%)
- Brunei Darussalam (0%)
- China (0%)
- Sri Lanka (0%)
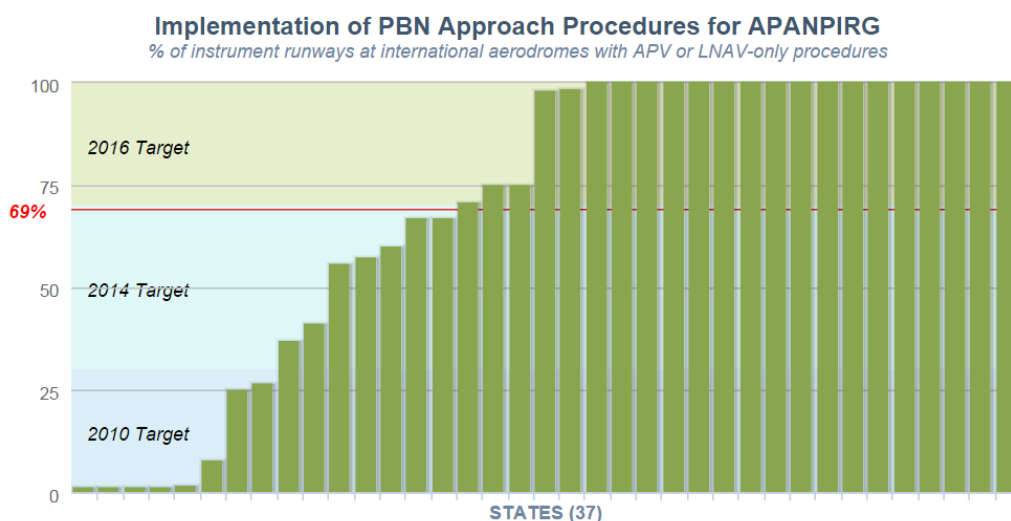
**Figure 2: ICAO Regional Performance Dashboard,
APANPIRG grouping, PBN Approach (16 February 2016)**

2.20   The figure 3 shows the breaking down into the different types of procedures.
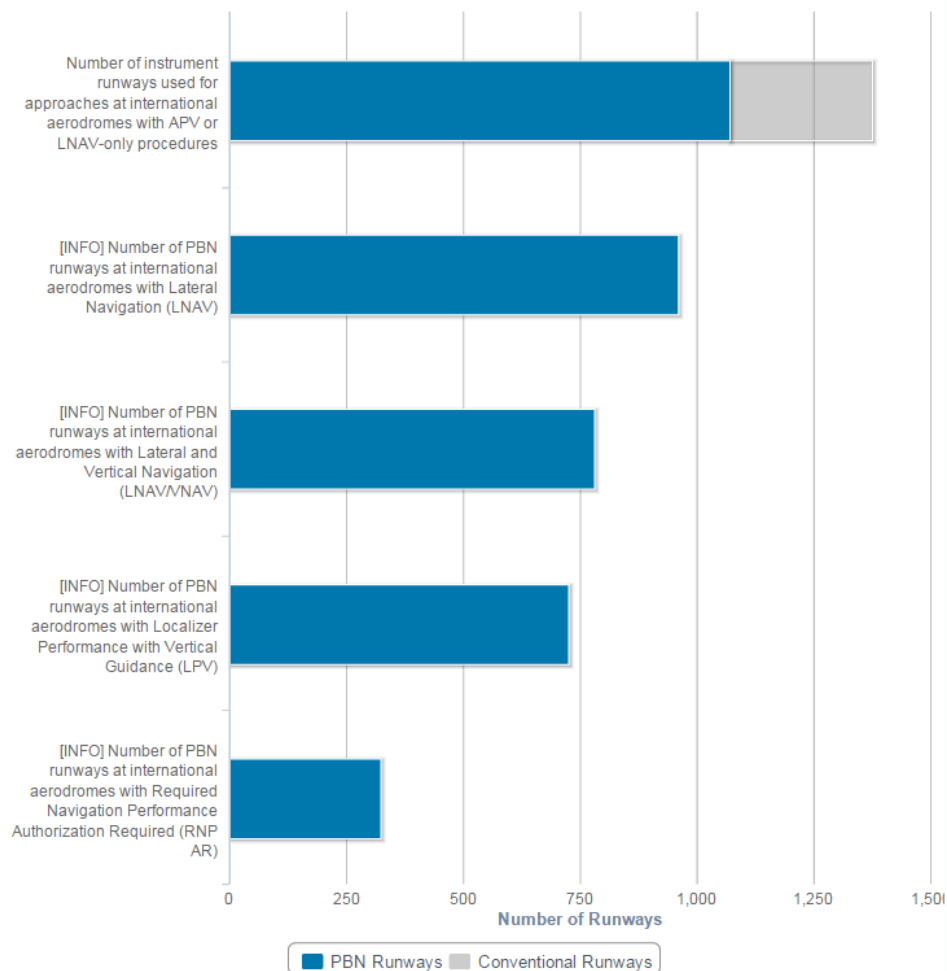
**Figure 3: ICAO Regional Performance Dashboard,
APANPIRG grouping, PBN Approach (16 February 2016)**

Future Plans

2.21   The reporting process will develop and induce the new items being incorporated in the targets/objectives that will stem from ASBU Block 1 elements (2019 - 2023) and from the next versions of the Seamless ATM Plan (the updated version being planned for 2016).

2.22   A significant effort has been done by the ICAO APAC Regional Office to increase the number of points of contact, reporting States/Administrations and provide assistance as required.

2.23   However, overall, the response to an important, region-wide tool and APANPIRG Conclusion 24/55 which expected States to submit the first Regional Seamless ATM Reporting Form to the ICAO Regional Office by 01 March 2014 and aforementioned conclusions 25/2, 25/3 and 25/5 was still mixed. While the ratio of reporting States/Administrations having reported was encouraging,

it was still insufficient to monitor and solve the difficulties of regional implementation, and thus ensure that the regional targets and seamless objectives would be met with sufficient confidence.

3.   ACTION BY THE MEETING

3.1   The meeting is invited to:

a) urge States/Administrations not having done so to nominate their points of contact and report on their Seamless ATM implementation progress at least once a year through the ICAO online reporting process;

b) urge Seamless Points of Contact and PBN Points of Contact to systematically cross their data before reporting;

c) analyze PBN statistics for APAC (both Regional Picture and dashboard), and consider gaps of implementation for its further action;

d) note the information contained in this paper; and

e) discuss any relevant matters as appropriate.

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Status of the Seamless ATM reporting process (16 February 2016)

State/Administration	Status	Points of contact nominated	Latest submission
Australia	Submitted Regular updates	Yes	Q 2015-3
Bangladesh	Submitted	Yes	Q 2015-2
Bhutan	Submitted Second update in preparation	Yes	Q 2015-2
China	Submitted Regular updates	Yes	Q 2015-3
Fiji	Submitted	Yes	Q 2015-3
French Polynesia, France	Submitted Regular updates	Yes	Q 2015-3
Hong Kong, China	Submitted	Yes	Q 2014-1
India	Submitted Regular updates	Yes	**Q 2015-4**
Indonesia	Submitted	Yes	**Q 2015-4**
Japan	Submitted	Yes	Q 2014-4
Macao, China	Submitted	Yes	Q 2014-4
Malaysia	Submitted	Yes	**Q 2015-4**
Maldives	Submitted Regular updates	Yes	**Q 2016-1**
Mongolia	Submitted	Yes	**Q 2016-1**
Nepal	Submitted	Yes	**Q 2016-1**
New Caledonia, France	Submitted	Yes	**Q 2015-2**
Philippines	Submitted Regular updates	Yes	**Q 2016-1**
Republic of Korea	Submitted Regular updates	Yes	Q 2015-3

State/Administration	Status	Points of contact nominated	Latest submission
Singapore	Submitted Regular updates	Yes	Q 2015-3
Sri Lanka	Submitted Regular updates	Yes	**Q 2015-4**
Thailand	Submitted Regular updates	Yes	**Q 2015-4**
United States	Submitted	Yes	Q 2015-1
New Zealand	In preparation	Yes	-
Afghanistan	No report	No	-
Brunei Darussalam	No report	No	-
Cambodia	No report	Yes	-
Cook Islands	No report	No	-
Democratic People's Republic of Korea	No report	No	-
Kiribati	No report	No	-
Lao People's Democratic Republic	In preparation	Yes	-
Marshall Islands	No report	No	-
Micronesia (Federated States of)	No report	No	-
Myanmar	No report	Yes	-
Nauru	No report	No	-
Pakistan	No report	Yes	-
Palau	No report	No	-
Papua New Guinea	No report	No	-
Samoa	No report	No	-
Solomon Islands	No report	Yes	-
Democratic Republic of Timor-	No report	Yes	-

State/Administration	Status	Points of contact nominated	Latest submission
Leste			
Tonga	No report	No	-
Vanuatu	No report	No	-
Vietnam	No report	Yes	-

Responsibility matrix for all Seamless items

Seamless ATM Specification title	Seamless Reference	Regional Priority	Regional/ ASBU Module	ASBU - Module title	Endorsing body
Apron Management	10	3	Regional	-	**ATM SG**
ATM-Aerodrome Coordination	20	3	Regional	-	**ATM SG**
Aerodrome capacity	30	3	Regional	-	**ATM SG**
Safety and Efficiency of Surface Operations	40	3	B0-SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)	**CNS SG**
Arrival Manager/Departure Management (AMAN/DMAN)	50	2	B0-RSEQ	Improve Traffic flow through Sequencing (AMAN/DMAN)	**ATM SG**
ATC Sector Capacity	60	2	Regional	-	**ATM SG**
Airport Collaborative Decision-Making (ACDM)	70	2	B0-ACDM	Improved Airport Operations through Airport-CDM	**ATM SG**
Air Traffic Flow Management/Collaborative Decision-Making (ATFM/CDM)	80	1	B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view	**ATM SG**

Seamless ATM Specification title	Seamless Reference	Regional Priority	Regional/ ASBU Module	ASBU - Module title	Endorsing body
Continuous Descent Operations (CDO)	90	2	B0-CDO	Improved Flexibility and Efficiency in Descent Profiles using Continuous Descent Operations (CDOs)	**CNS SG**
Continuous Climb Operations (CCO)	100	2	B0-CCO	Improved Flexibility and Efficiency Departure Profiles – Continuous Climb Operations (CCO)	**CNS SG**
Performance-based Navigation (PBN) Approach	110	1	B0-APTA	Optimization of Approach Procedures including vertical guidance	**CNS SG**
Standard Instrument Departures/Standard Terminal Arrivals (SID/STAR)	120	2	B0-CCO B0-CDO	Optimization of Approach Procedures including vertical guidance	**CNS SG**
Performance-based Navigation (PBN) Visual Departure and Arrival Procedures	130	3	Regional	-	**ATM SG**
Performance-based Navigation (PBN) Routes	140	2	B0-FRTO	Improved Operations through Enhanced En-Route Trajectories	**CNS SG**
Performance-based Navigation (PBN) Airspace	150	2	Regional	-	**ATM SG**
Safety Nets	160	2	B0-SNET	Increased effectiveness of ground-based safety nets	**CNS SG**
Airborne Safety Systems	170	2	B0-ACAS	Airborne Collision Avoidance Systems (ACAS) Improvements	**RASG**

Seamless ATM Specification title	Seamless Reference	Regional Priority	Regional/ ASBU Module	ASBU - Module title	Endorsing body
ADS-B airspace	180	1	B0-ASUR	Initial Capability for Ground Surveillance	**CNS SG**
Airspace classification	190	2	Regional	-	**ATM SG**
Flight Level Orientation Schemes (FLOS)	200	2	Regional	-	**ATM SG**
Flight Level Allocation Schemes (FLAS)	210	2	Regional	-	**ATM SG**
ATS Inter-facility Data-link Communications (AIDC)	220	1	B0-FICE	Increased Interoperability Efficiency & Capacity through Ground-Ground Integration	**CNS SG**
Automated Transfer of Control	230	2	Regional	-	**ATM SG**
ATS Surveillance data sharing	240	2	Regional	-	**CNS SG**
ATM systems enabling optimal PBN/ATC operations	250	2	B0-APTA	Optimization of Approach Procedures including vertical guidance	**CNS SG**
ATC Horizontal separation	260	2	Regional	-	**ATM SG**

Seamless ATM Specification title	Seamless Reference	Regional Priority	Regional/ ASBU Module	ASBU - Module title	Endorsing body
ATS surveillance with data integrated	270	1	B0-ASUR	Initial Capability for Ground Surveillance	**CNS SG**
ADS-C and CPDLC	280	1	B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route	**CNS SG**
UPR and DARP	290	3	B0-FRTO	Improved Safety and Efficiency through the initial application of Data Link En-Route	**ATM SG**
Aeronautical Information Management	300	1	B0-DATM	Service Improvement through Digital Aeronautical Information Management	**ATM SG**
Meteorological Information	310	2	B0-AMET	Meteorological information supporting enhanced operational efficiency and safety	**MET SG**
ATM Managers' Performance	320	2	Regional	-	**ATM SG**
ATC simulators performance	330	2	Regional	-	**ATM SG**
Safety assessment of changes	340	2	Regional	-	**ATM SG**

Seamless ATM Specification title	Seamless Reference	Regional Priority	Regional/ ASBU Module	ASBU - Module title	Endorsing body
ATM Operators' performance	350	2	Regional	-	**ATM SG**
Civil Military use of SUA	360	1	B0-FRTO	Improved Operations through Enhanced En-Route Trajectories	**ATM SG**
Strategic Civil Military coordination	370	1	Regional	Improved Operations through Enhanced En-Route Trajectories	**ATM SG**
Tactical Civil Military coordination	380	1	Regional	Improved Operations through Enhanced En-Route Trajectories	**ATM SG**
Civil Military system integration	390	2	Regional	Improved Operations through Enhanced En-Route Trajectories	**ATM SG**
Civil Military navaids joint provision	400	2	Regional	Improved Operations through Enhanced En-Route Trajectories	**ATM SG**
Civil Military common training	410	2	Regional	Improved Operations through Enhanced En-Route Trajectories	**ATM SG**
Civil Military common procedures	420	2	Regional	Improved Operations through Enhanced En-Route Trajectories	**ATM SG**
Nil	430	2	B0-ASEP	Air Traffic Situational Awareness (ATSA)	**CNS SG**

Seamless ATM Specification title	Seamless Reference	Regional Priority	Regional/ ASBU Module	ASBU - Module title	Endorsing body
Nil	440	3	B0-WAKE	Improved Access to Optimum Flight Levels through Climb/Descent Procedures using ADS-B	**ATM SG**
Nil	450	3	B0-OPFL	Increased Runway Throughput through Optimized Wake Turbulence Separation	**ATM SG**

ANS implementation in Asia-Pacific: Regional Picture as of 16 Feb. 2016

This document presents:
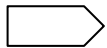
> the ten Asia-Pacific Regional Priorities adopted by APANPIRG/25, 2014
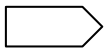
> the implementation status of those ten Regional Priorities
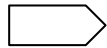
> the ASBU B0 modules and APAC Seamless ATM items acting as safety barriers to CFIT, RS and LOC-I occurrences
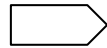
> the implementation status of ASBU B0 modules and APAC Seamless ATM items as safety barriers to CFIT, RS and LOC-I occurrences
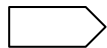
> the implementation status of the 45 objectives of the Seamless ATM plan v1 (phase 1: Nov. 15, phase 2: Nov. 18)

APAC States/Administrations are presented in alphabetical order. The date of the latest report submitted is given in the second column to indicate the freshness of information (format Year-Quarter).

No data   No data means that no data was provided by the reporting State, indicating that either the whole item was not yet analyzed or had been analyzed but no progress was indicated.

N/A   N/A means that the reporting State/Administration found this item **Not Applicable** in its national plans, as a result of its gap analysis.

⬤   **Green colour** reflects a change in the information submitted to ICAO since the previous version of the regional picture.
Example: **2016-1**

THE 10 ASIA-PACIFIC REGIONAL PRIORITIES ADOPTED BY APANPIRG/25, 2014

Seamless Item	Related ASBU module	Target
80 - Air Traffic Flow Management / Collaborative Decision-Making (ATFM/CDM)	B0-NOPS	1. **All High Density FIRs** supporting the busiest Asia/Pacific traffic flows and high-density aerodromes should implement ATFM incorporating CDM using operational ATFM platform/s. *Note: High Density FIRs are defined as:* *a) South Asia: Delhi, Mumbai;* *b) Southeast Asia: Bangkok, Hanoi, Ho Chi Minh, Jakarta, Kota Kinabalu, Manila, Sanya, Singapore, Vientiane; and* *c) East Asia: Beijing, Fukuoka, Guangzhou, Hong Kong, Kunming, Incheon, Shanghai, Shenyang, Taibei, Wuhan.* [APANPIRG Conclusion 22/8 and 23/5 refer]
110 - PBN Approach	B0-APTA	2. Approach: Where practicable, **all high- density aerodromes** with instrument runways serving aeroplanes should have precision approaches or APV or LNAV. *Note 1: High density aerodrome is defined by Asia-Pacific Seamless ATM Plan as aerodromes with scheduled operations in excess of 100,000/year.* *Note 2: the Asia/Pacific PBN Plan Version 3 required RNP APCH with Baro-VNAV or APV in 100% of instrument runways by 2016*
180 - ATS Surveillance	B0-ASUR	3. All Category S upper controlled airspace and Category T airspace supporting high density aerodromes should be designated as non-exclusive or exclusive as appropriate ADS-B airspace requiring operation of ADS-B.
270 - ATS surveillance with data integrated	B0-ASUR	4. ADS-B or MLAT or radar surveillance systems should be used to provide coverage of all Category S-capable airspace as far as practicable, with data integrated into operational ATC aircraft situation displays.
280 - ADS-C and CPDLC	B0-TBO	5. Within Category R airspace, ADS-C surveillance and CPDLC should be enabled to support PBN-based separations.
220 - ATS Inter-facility Data-link Communications (AIDC)	B0-FICE	6. All States between ATC units where transfers of control are conducted have implemented the messages ABI, EST, ACP, TOC, AOC as far as practicable.
300 - Aeronautical Information Management	B0-DATM	7. ATM systems should be supported by digitally-based AIM systems through implementation of **Phase 1 and 2 of the AIS-AIM Roadmap**.
360 - Civil Military use of SUA	B0-FRTO	8. Enhanced En-Route Trajectories: All States should ensure that SUA are regularly reviewed by the appropriate Airspace Authority to assess the effect on civil air traffic and the activities affecting the airspace.
370 - Strategic Civil Military coordination	Strategic Civil Military coordination (Regional)	9. Enhanced En-Route Trajectories: All States should ensure that a national civil/military body coordinating strategic civil-military activities is established.
380 - Tactical Civil Military coordination	Tactical Civil Military coordination (Regional)	10. Enhanced En-Route Trajectories: All States should ensure that formal civil military liaison for tactical response is established.

Nov. 2015

	Seamless Item / ASBU	Air Traffic Flow Management/ Collaborative Decision-Making 80 / B0-NOPS	Performance-based Navigation (PBN) Approach 110 / B0-APTA	ADS-B airspace 180 / B0-ASUR	ATS surveillance with data integrated 270 / B0-ASUR	ADS-C and CPDLC 280 / B0-TBO	ATS Inter-facility Data-link Communications (AIDC) 220 / B0-FICE	Aeronautical Information Management 300 / B0-DATM	Civil Military use of SUA 360 / B0-FRTO	Strategic Civil Military coordination 370 / Regional	Tactical Civil Military coordination 380 / Regional
		THE 10 ASIA-PACIFIC REGIONAL PRIORITIES (APANPIRG/25, 2014)									
Australia	2015 - 3	100%	100%	100%	100%	100%	100%	76.9%	100%	100%	100%
Bangladesh	2015 - 2	N/A	30%	N/A	30%	N/A	No data	61.5%	No data	No data	100%
Bhutan	2015 - 2	N/A	No data	N/A	No data	N/A	No data	0%	N/A	No data	No data
China	2015 - 3	77.7%	100%	11.1%	100%	N/A	100%	38.5%	N/A	100%	100%
Fiji	2015 - 3	100%	70%	100%	100%	100%	100%	7.7%	N/A	N/A	N/A
French Polynesia, France	2015 - 3	N/A	100%	100%	100%	100%	100%	7.7%	N/A	No data	N/A
Hong Kong, China	2014 - 1	100%	100%	0%	No data	N/A	0%	No data	100%	N/A	100%
India	2015 - 4	0%	100%	0%	100%	100%	100%	100%	100%	100%	100%
Indonesia	2015 - 4	No data	30%	No data	No data	No data	50%	No data	No data	No data	No data
Japan	2014 - 4	100%	0%	0%	100%	100%	100%	No data	100%	100%	100%
Macao, China	2014 - 4	N/A	No data	N/A	N/A	N/A	N/A	38.5%	N/A	N/A	N/A
Malaysia	2015 - 4	50%	0%	0%	100%	50%	100%	76.9%	100%	100%	100%
Maldives	2016 - 1	No data	100%	0%	100%	0%	100%	0%	N/A	N/A	N/A
Mongolia	2016- 1	100%	No data	100%	40%	No data	100%	No data	No data	No data	No data
Nepal	2016 - 1	No data	No data	100%	No data	N/A	100%	No data	N/A	N/A	N/A
New Caledonia, France	2015 - 2	N/A	0%	N/A	N/A	N/A	N/A	No data	N/A	N/A	N/A
Philippines	2016 - 1	100%	100%	0%	50%	100%	0%	46.2%	100%	100%	0%
Republic of Korea	2015 - 3	100%	No data	No data	100%	N/A	No data	84.6%	100%	100%	100%
Singapore	2015 - 3	0%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Sri Lanka	2015 - 4	N/A	50%	100%	100%	100%	100%	46.2%	0%	100%	100%
Thailand	2015 - 4	0%	80%	0%	100%	N/A	0%	15%	100%	100%	100%
United States	2015 - 1	50%	N/A	50%	N/A	50%	50%	No data	100%	100%	100%
Indicator		% of High Density FIRs supporting the busiest Asia/Pacific traffic flows and high density aerodromes using operational ATFM platforms incorporating CDM	% of high density aerodromes with precision approaches or APV or LNAV (High density aerodrome is defined by Asia-Pacific Seamless ATM Plan as aerodromes with	% of of FIRs where Category S airspace and Category T airspace supporting high density aerodromes are designated as ADS-B airspace?	% of ACCs with ATS Surveillance using ADS-B, MLAT or radar in Category S airspace, and having data integrated into the ATC system situation display	% of FIRs utilising data link en-route in applicable airspace	% of FIRs within which all applicable ACCs have implemented at least one interface to use AIDC / OLDI with neighbouring ACCs	% of Phase 1 and 2 AIS-AIM elements completed (0-13)	% of FIRs in which FUA is implemented	Have you established a national civil/military body that performs strategic civil-military coordination?	Have you established a formal civil military liaison for tactical response?

N/A: Not Applicable

Implementation status of the 10 Regional Priorities (APANPIRG)

(Regional Picture 16 Feb. 2016)

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ASBU B0 MODULES AND APAC SEAMLESS ATM ITEMS
AS SAFETY BARRIERS TO CFIT, RS AND LOC-I OCCURRENCES

	CFIT	RS	LOC-I
ASBU Modules (B0)	**B0-APTA** Optimization of Approach Procedures		**B0-ACAS** Collision Avoidance Systems
	B0-SNET Safety Nets	**B0-SURF Surface Operations**	- Nil -
	B0-AMET - Advanced Meteorological Information [1]		
APAC Seamless ATM items (Seamless ATM Plan v1)	170 - Airborne Safety Systems (TAWS)	10 - Apron Management	170 - Airborne Safety Systems (TCAS 7.1)
	- Nil -	350 - ATM Operators' Performance	- Nil -
	340 - Safety Assessment of Changes		

[1] Specifically for Runway safety: Aerodrome warnings

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		Apron Management	Safety and Efficiency of Surface Operations	Performance-based Navigation (PBN) Approach	Safety assessment of changes	ATM Operators' performance	Meteorological Information	Safety Nets	Airborne Safety Systems	
Seamless Item		10	40	**110**	340	350	310	160	170	
ASBU		Regional	B0-SURF	**B0-APTA**	Regional	Regional	B0-AMET	B0-SNET	B0-ACAS - TCAS 7.1	Regional - TAWS
		Runway Safety	Runway Safety	**PRIORITY CFIT and RS**	CFIT, RS and LOC-I	Runway Safety	CFIT, RS and LOC-I	CFIT	LOC-I	CFIT
Australia	2015 - 3	100%	100%	100%	100%	100%	100%	100%	100%	No data
Bangladesh	2015 - 2	10%	N/A	30%	No data	No data	30%	100%	0%	No data
Bhutan	2015 - 2	N/A	N/A	No data	No data	No data	0%	N/A	No data	No data
China	2015 - 3	100%	100%	100%	No data	100%	80%	100%	100%	No data
Fiji	2015 - 3	60%	No data	70%	No data	No data	No data	No data	No data	No data
French Polynesia, France	2015 - 3	N/A	N/A	100%	100%	100%	N/A	100%	100%	No data
Hong Kong, China	2014 - 1	100%	0%	100%	100%	100%	100%	0%	0%	0%
India	2015 - 4	100%	100%	100%	100%	100%	100%	100%	100%	100%
Indonesia	2015 - 4	No data	No data	30%	No data	No data	No data	No data	No data	No data
Japan	2014 - 4	100%	50%	0%	100%	100%	100%	No data	100%	100%
Macao, China	2014 - 4	N/A	N/A	No data	0%	100%	100%	N/A	N/A	N/A
Malaysia	2015 - 4	100%	100%	0%	100%	100%	100%	100%	No data	100%
Maldives	2016 - 1	No data	No data	100%	100%	0%	No data	100%	100%	100%
Mongolia	2016 - 1	N/A	No data	No data	100%	100%	90%	100%	N/A	N/A
Nepal	2016 - 1	N/A	N/A	No data	No data	No data	No data	No data	100%	No data
New Caledonia	2015 - 2	N/A	No data	0%	100%	100%	100%	N/A	No data	No data
Philippines	2016 - 1	100%	No data	100%	100%	100%	100%	100%	No data	No data
Republic of Korea	2015 - 3	100%	100%	No data	100%	100%	100%	N/A	100%	100%
Singapore	2015 - 3	100%	100%	100%	100%	100%	100%	No data	100%	100%
Sri Lanka	2015 - 4	N/A	N/A	50%	100%	100%	100%	100%	100%	100%
Thailand	2015 - 4	100%	50%	80%	100%	100%	100%	100%	0%	0%
United States	2015 - 1	N/A	N/A	N/A	100%	100%	100%	100%	No data	100%
Indicator		% of high density international aerodromes (100,000 scheduled movements per annum or more) providing an appropriate apron management service	% of applicable international aerodromes having implemented A-SMGCS Level 2	% of high density aerodromes with precision approaches or APV or LNAV (High density aerodrome is defined by Asia-Pacific Seamless ATM Plan as aerodromes with scheduled operations in excess of 100,000/year)	Do you have safety teams comprising multidisciplinary operational staff and managers which review safety performance and assess significant proposals for change to ATM systems? (1-yes, 0-no)	Do you have human performance-based training and procedures for staff providing ATS?	% of high density aerodromes providing meteorological forecasts, aerodrome warnings and alerts	Does your State implement ground-based safety-nets (STCA, APW, MSAW, etc.)?	Does your State/Administration require the carriage of ACAS (with TCAS 7.1 evolution) ?	Does your State/Administration require the carriage of TAWS?

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**Implementation status of ASBU B0 modules and
APAC Seamless ATM items as safety barriers to
CFIT, RS and LOC-I occurrences**

(Regional Picture 16 Feb. 2016)

N/A: Not Applicable

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	Seamless Item / ASBU / PRIORITY	Air Traffic Flow Management/ Collaborative Decision-Making (ATFM/CDM) 80 B0-NOPS PRIORITY 1	Apron Management 10 Regional	Aerodrome capacity 30 Regional	Safety and Efficiency of Surface Operations 40 B0-SURF	ATM-Aerodrome Coordination 20 Regional	Airport Collaborative Decision-Making (ACDM) 70 B0-ACDM	Arrival Manager/Departure Management (AMAN/DMAN) 50 B0-RSEQ	ATC Horizontal separation 260 Regional	ATC Sector Capacity 60 Regional	Automated Transfer of Control 230 Regional	Optimized wake turbulence separation 440 B0-WAKE	Performance-based Navigation (PBN) Approach 110 B0-APTA PRIORITY 1	Performance-based Navigation (PBN) Routes 140 B0-FRTO
Australia	2015 - 3	100%	100%	100%	100%	100%	0%		100%		100%		100%	100%
Bangladesh	2015 - 2	N/A	10%	No data	N/A	50%	N/A	N/A	100%		N/A		30%	10%
Bhutan	2015 - 2	N/A	N/A	N/A	N/A	0%	N/A	No data			No data		No data	0%
China	2015 - 3	77.70%	100%	100%	100%	100%	100%	50%	100%		100%		100%	10%
Fiji	2015 - 3	100%	60%	No data	No data	No data	No data	No data	No data		No data		70%	No data
French Polynesia, France	2015 - 3	N/A	N/A	N/A	N/A	N/A	10%	N/A	100%		100%		100%	80%
Hong Kong, China	2014 - 1	100%	100%	100%	0%	100%	0%	0%	100%		0%		100%	100%
India	2015 - 4	0%	100%	100%	100%	100%	100%	50%	70%	100%		100%		100%	60%
Indonesia	2015 - 4	No data	No data	No data	No data	No data	No data	No data	No data		No data		30%	No data
Japan	2014 - 4	100%	100%	40%	50%	100%	0%	0%	100%		100%		0%	100%
Macao, China	2014 - 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A			N/A		No data	N/A
Malaysia	2015 - 4	50%	100%	100%	100%	90%	10%	20%	100%		60%		0%	40%
Maldives	2016 - 1	No data	No data	No data	No data	No data	No data	No data			100%		100%	60%
Mongolia	2016 - 1	100%	N/A	N/A	No data	N/A	N/A	0%	100%		No data		No data	No data
Nepal	2016 - 1	No data	N/A	N/A	N/A	N/A	N/A	N/A	No data		No data		No data	20%
New Caledonia	2015 - 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100%		N/A		No data	No data
Philippines	2016 - 1	100%	100%	100%	No data	100%	0%	0%	100%		50%		100%	30%
Republic of Korea	2015 - 3	100%	100%	100%	100%	100%	No data	No data	100%		100%		No data	70%
Singapore	2015 - 3	0%	100%	100%	100%	100%	0%		100%		100%		100%	0%
Sri Lanka	2015 - 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100%		100%		50%	100%
Thailand	2015 - 4	0%	100%	100%		50%	100%	0%	0%	100%		0%		80%	20%
United States	2015 - 1	50%	N/A	N/A	N/A	N/A	N/A	N/A	100%		100%		N/A	100%

| Indicator | % of High Density FIRs supporting the busiest Asia/Pacific traffic flows and high density aerodromes using operational ATFM platforms incorporating CDM | % of high density international aerodromes (100,000 scheduled movements per annum or more) providing an appropriate apron management service | % of high density international aerodromes having declared capacity in accordance with the Seamless ATM Plan Phase 1 | % of applicable international aerodromes having implemented A-SMGCS Level 2 | % of high density international aerodromes having appropriate ATM coordination in accordance with the Seamless ATM Plan | % of applicable international aerodromes having implemented improved airport operations through airport-CDM (applicable=high density) | % of applicable international aerodromes having implemented AMAN / DMAN (applicable = high density) | Does your AIP authorise the use of the horizontal separation minima stated in ICAO Doc 4444 (PANS ATM), or as close to the separation minima as practicable? | | % of ATC sectors with automated hand-off procedures in accordance with Seamless ATM Plan Phase 1 | | % of high density aerodromes with precision approaches or APV or LNAV (High density aerodrome is defined by Asia-Pacific Seamless ATM Plan as aerodromes with scheduled operations in excess of 100,000/year) | % of ATS routes designated as PBN routes in accordance with Seamless ATM Plan 1 |

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	Seamless Item													
Australia	2015 - 3	No data		No data					20%	No data	No data	No data		100%
Bangladesh	2015 - 2	N/A		No data					N/A	N/A	N/A	N/A		40%
Bhutan	2015 - 2	N/A		N/A					N/A	No data	No data	N/A		0%
China	2015 - 3	78%		No data					0%	100%	No data	No data		0%
Fiji	2015 - 3	100%		No data					No data	No data	No data	70%		100%
French Polynesia, France	2015 - 3	N/A		N/A					N/A	N/A	100%	N/A		100%
Hong Kong, China	2014 - 1	No data		No data					No data	100%	0%			0%
India	2015 - 4	100%		100%					100%	100%	100%	No data		100%
Indonesia	2015 - 4	No data		No data					No data	No data	No data	No data		No data
Japan	2014 - 4	100%		100%					No data	100%	100%	No data		0%
Macao, China	2014 - 4	N/A		N/A					N/A	N/A	N/A			N/A
Malaysia	2015 - 4	100%		No data					100%	100%	90%	No data		100%
Maldives	2016 - 1	No data		No data					N/A	No data	0%	No data		100%
Mongolia	2016 - 1	No data		N/A					N/A	N/A	No data	No data		No data
Nepal	2016 - 1	No data		N/A					N/A	No data	No data	No data		0%
New Caledonia	2015 - 2	N/A		N/A					N/A	N/A	N/A	100%		N/A
Philippines	2016 - 1	100%		100%					0%	0%	0%	No data		0%
Republic of Korea	2015 - 3	100%		No data					100%	No data	No data	No data		No data
Singapore	2015 - 3	0%		100%					100%	0%	No data	No data		0%
Sri Lanka	2015 - 4	N/A		N/A					N/A	60%	100%	No data		100%
Thailand	2015 - 4	0%		100%					0%	0%	0%	No data		0%
United States	2015 - 1	50%		N/A					N/A	100%	No data	N/A		No data

| Indicator | % of FIRs supporting Major Traffic Flows should implement ATFM incorporating CDM to enhance capacity, using bi-lateral and multi-lateral agreements | | % of high density aerodromes having declared capacity in accordance with the Seamless ATM Plan Phase 2 | | | | | % of applicable international aerodromes having implemented AMAN / DMAN (applicable = high density) | % of ATC sectors with capacity figures in accordance with Seamless ATM Phase 2 | % of ATC sectors with automated hand-off procedures in accordance with Seamless ATM Plan Phase 2 | % of applicable international aerodromes having implemented increased runway throughput through optimized wake turbulence separation | | % of ATS routes designated as PBN routes in accordance with Seamless ATM Phase 2 |

N/A: Not Applicable

Implementation status of Seamless ATM items relating to Optimal capacity

(Regional Picture 16 Feb. 2016)

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	PRIORITY	Performance-based Navigation (PBN) Airspace	Continuous Descent Operations (CDO)	Continuous Climb Operations (CCO)	Standard Instrument Departures (SID)	Standard Terminal Arrivals (STAR)	PBN Visual Departure and Arrival Procedures	ATM systems enabling optimal PBN/ATC operations	UPR and DARP	In-trail procedures
Seamless Item		150	90	100		120	130	250	290	450
ASBU		Regional	B0-CDO	B0-CCO		B0-CCO/B0-CDO	Regional	B0-APTA	B0-FRTO	B0-OPFL

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Country	PRIORITY	PBN Airspace	CDO	CCO	SID	STAR	ATM	UPR/DARP
Australia	2015 - 3	100%	N/A	N/A	No data	100%	90% / 100%	
Bangladesh	2015 - 2	N/A	N/A	N/A	50%	0%	No data	N/A
Bhutan	2015 - 2	No data	N/A	N/A	No data	No data	N/A	N/A
China	2015 - 3	100%	0%	0%	No data	100%	100%	N/A
Fiji	2015 - 3	No data	No data	No data	No data	No data	No data	No data
French Polynesia, France	2015 - 3	N/A	No data	No data	100%	80%	100% / 100%	
Hong Kong, China	2014 - 1	0%	100%	0%	100%	100%	100%	N/A
India	2015 - 4	0%	100%	100%	100%	100%	100%	25%
Indonesia	2015 - 4	No data	No data	No data	No data	20%	No data	No data
Japan	2014 - 4	100%	30%	0%	100%	100%	100% / 100%	
Macao, China	2014 - 4	N/A	N/A	N/A	No data	No data	N/A	
Malaysia	2015 - 4	100%	100%	100%	0%	100%	100%	
Maldives	2016 - 1	No data	100%	100%			100% / 100%	100%
Mongolia	2016 - 1	0%	10%	10%	No data	10%	10%	10% / 100%
Nepal	2016 - 1	No data	No data	N/A	N/A	N/A	20%	
New Caledonia	2015 - 2	No data	N/A	N/A	No data	100%	N/A	
Philippines	2016 - 1	0%	50%	50%	30%	100%	20%	0%
Republic of Korea	2015 - 3	No data	30%	0%	No data	No data	100%	N/A
Singapore	2015 - 3	100%	100%	0%	No data	100%	0%	
Sri Lanka	2015 - 4	N/A	70%	70%	70%	70%	100% / 100%	
Thailand	2015 - 4	0%	20%	20%	40%	50%	100%	
United States	2015 - 1	100%	N/A	N/A	N/A	N/A	100%	50.0%

| **Indicator** | Are all your Category R and S upper controlled airspace, and Category T airspace supporting high density aerodromes designated as non-exclusive or exclusive PBN airspace as appropriate.? (1- yes, 0- no) | % of international aerodromes/TMA where CDO is implemented | % of international aerodromes where CCO is implemented | % of international aerodromes / TMAs with PBN SID implemented | % of international aerodromes / TMAs with PBN STAR implemented | % of ATC units with ATM systems enabling optimal PBN operations | % of FIRs using UPR and DARP within R airspace |

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Country	PRIORITY	PBN Visual Departure and Arrival Procedures	ATM systems enabling optimal PBN/ATC operations	In-trail procedures
Australia	2015 - 3	No data	No data	No data
Bangladesh	2015 - 2	N/A	0%	No data
Bhutan	2015 - 2	No data	N/A	N/A
China	2015 - 3	No data	No data	N/A
Fiji	2015 - 3	No data	No data	No data
French Polynesia, France	2015 - 3	N/A	No data	N/A
Hong Kong, China	2014 - 1	N/A	No data	No data
India	2015 - 4	0%	100%	No data
Indonesia	2015 - 4	No data	No data	No data
Japan	2014 - 4	0%	100%	No data
Macao, China	2014 - 4	N/A	N/A	No data
Malaysia	2015 - 4	100%	No data	No data
Maldives	2016 - 1	N/A	100%	No data
Mongolia	2016 - 1	No data	No data	No data
Nepal	2016 - 1	No data	No data	No data
New Caledonia	2015 - 2	N/A	N/A	N/A
Philippines	2016 - 1	No data	0%	No data
Republic of Korea	2015 - 3	No data	100%	No data
Singapore	2015 - 3	0%	No data	No data
Sri Lanka	2015 - 4	100%	100%	No data
Thailand	2015 - 4	No data	0%	No data
United States	2015 - 1	N/A	100%	50.0%

| **Indicator** | % of high density aerodromes with PBN procedures that overlay visual arrival and departure procedures | % of ATC units with ATM systems supporting optimal aerodrome capacity and using electronic fight progress strips | % of FIRs having implemented in-trail procedures |

N/A: Not Applicable   **Implementation status of Seamless ATM items relating to Optimal trajectories**

(Regional Picture 16 Feb. 2016)

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	Seamless Item	Airspace classification 190 Regional	Flight Level Orientation Schemes (FLOS) 200 Regional	Flight Level Allocation Schemes (FLAS) 210 Regional	Civil Military use of SUA 360 B0-FRTO	Strategic Civil Military coordination 370 Regional	Tactical Civil Military coordination 380 Regional	Civil Military system integration 390 Regional	Civil Military navaids joint provision 400 Regional	Civil Military common training 410 Regional	Civil Military common procedures 420 Regional	ATM Managers' Performance 320 Regional	ATC simulators performance 330 Regional	Safety assessment of changes 340 Regional	ATM Operators' performance 350 Regional
	ASBU / PRIORITY				PRIORITY 1	PRIORITY 1	PRIORITY 1								
Australia	2015 - 3	100%	100%				100%	100%	100%	100%	100%	100%	100%	100%	100%
Bangladesh	2015 - 2	N/A	100%	N/A	No data	No data	100%	No data	100%	No data	100%	No data	N/A	No data	No data
Bhutan	2015 - 2	N/A	N/A	N/A	N/A	No data	No data	No data	N/A	No data	No data	100%	N/A	No data	No data
China	2015 - 3	0%	N/A	No data	N/A	100%	100%	N/A	No data	No data	N/A	100%	100%	No data	100%
Fiji	2015 - 3	No data	No data	No data	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No data	No data	No data	No data
French Polynesia, France	2015 - 3	100%	100%	N/A	N/A	No data	N/A	N/A	N/A	N/A	N/A	100%	100%	100%	100%
Hong Kong, China	2014 - 1	100%	100%	100%	100%	N/A	100%	100%	N/A	N/A	N/A	100%	100%	100%	100%
India	2015 - 4	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Indonesia	2015 - 4	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data
Japan	2014 - 4	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Macao, China	2014 - 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0%	0%	0%	100%
Malaysia	2015 - 4	100%	100%	No data	100%	100%	100%	N/A	100%	100%	100%	0%	100%	100%	0%
Maldives	2016 - 1	100%	100%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0%	100%	100%	0%
Mongolia	2016 - 1	100%	No data	100%	No data	No data	No data	No data	No data	No data	No data	100%	100%	100%	100%
Nepal	2016 - 1	N/A	100%	No data	N/A	N/A	N/A	N/A	N/A	N/A	No data	No data	No data	No data	No data
New Caledonia	2015 - 2	100%	100%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100%	100%	100%	100%
Philippines	2016 - 1	100%	100%	100%	100%	100%	0%	0%	100%	100%	100%	No data	100%	100%	100%
Republic of Korea	2015 - 3	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%
Singapore	2015 - 3	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Sri Lanka	2015 - 4	100%	100%	N/A	0%	100%	100%	0%	0%	0%	0%	100%	100%	100%	100%
Thailand	2015 - 4	100%	100%	0%	100%	100%	100%	0%	100%	0%	0%	100%	100%	100%	100%
United States	2015 - 1	N/A	100%	N/A	100.0%	100%	100%	100%	N/A	N/A	N/A	100%	100%	100%	100%

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Indicator

- Airspace classification: Has your State/Administration harmonized the upper airspace classification as follows: a) Category R controlled airspace– Class A; and b) Category S controlled airspace– Class A, or if there are high level general aviation or military VFR operations: Class B or C.?
- FLOS: Does your State/Administration use the ICAO Table of Cruising Levels based on feet as contained in Appendix 3a to Annex 2?
- FLAS: Does your Operations Manual give priority for FLAS level allocations to higher density ATS routes over lower density ATS routes, and a lower priority to any aircraft that does not meet specified equipage?
- Civil Military use of SUA: % of FIRs in which FUA is implemented
- Strategic Civil Military coordination: Have you established a national civil/military body that performs strategic civil-military coordination?
- Tactical Civil Military coordination: Have you established a formal civil military liaison for tactical response?
- Civil Military system integration: Are civil ATS and military systems integrated?
- Civil Military navaids joint provision: Are there joint civil and military navigation aids?
- Civil Military common training: Is Civil Military common training conducted in areas of common interest?
- Civil Military common procedures: Are there common procedures for Civil Military operations where appropriate?
- ATM Managers' Performance: Does your Operations Manual require the human performance training for all ANSP managers?
- ATC simulators performance: Do you have a programme for enhancement and improved application of ATC simulators?
- Safety assessment of changes: Do you have safety teams comprising multidisciplinary operational staff and managers which review safety performance and assess significant proposals for change to ATM systems?
- ATM Operators' performance: Do you have human performance-based training and procedures for staff providing ATS?

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		ATM Managers' Performance
Australia	2015 - 3	No data
Bangladesh	2015 - 2	No data
Bhutan	2015 - 2	No data
China	2015 - 3	No data
Fiji	2015 - 3	No data
French Polynesia, France	2015 - 3	0%
Hong Kong, China	2014 - 1	0%
India	2015 - 4	100%
Indonesia	2015 - 4	No data
Japan	2014 - 4	100%
Macao, China	2014 - 4	100%
Malaysia	2015 - 4	No data
Maldives	2016 - 1	No data
Mongolia	2016 - 1	No data
Nepal	2016 - 1	No data
New Caledonia	2015 - 2	No data
Philippines	2016 - 1	No data
Republic of Korea	2015 - 3	0%
Singapore	2015 - 3	No data
Sri Lanka	2015 - 4	100%
Thailand	2015 - 4	0%
United States	2015 - 1	No data

Note: No objective is planned for phase 2 (Nov. 18) for Airspace and Civil/Military integration

Indicator: Is the prevention of fatigue systems established to support human performance in the delivery of your ATM services?

N/A: Not Applicable

Implementation status of Seamless ATM items relating to Airspace

Implementation status of Seamless ATM items relating to Civil/Military integration

Implementation status of Seamless ATM items relating to: Performing safely

(Regional Picture 16 Feb. 2016)

ICAO

	Seamless Item	ATS Inter-facility Data-link Communications (AIDC) 220	ADS-C and CPDLC 280	Aeronautical Information Management 300	Meteorological Information 310	ADS-B airspace 180	ATS surveillance with data integrated 270	ATS Surveillance data sharing 240	Safety Nets 160	Airborne Safety Systems 170		Air traffic situational awareness 430
	ASBU	B0-FICE	B0-TBO	B0-DATM	B0-AMET	B0-ASUR	B0-ASUR	Regional	B0-SNET	B0-ACAS - TCAS 7.1	Regional - TAWS	B0-ASEP
	PRIORITY	PRIORITY 1	PRIORITY 1	PRIORITY 1		PRIORITY 1	PRIORITY 1					
Australia	2015 - 3	100%	100%	76.9%				50%	100%	100%	No data	
Bangladesh	2015 - 2	No data	N/A	61.5%	30%	N/A	30%	N/A	100%	0%	No data	
Bhutan	2015 - 2	No data	N/A	0%	0%	N/A	No data	No data	N/A	No data	No data	
China	2015 - 3	100%	N/A	38.5%	80%	11.1%	100%	100%	100%	100%	No data	
Fiji	2015 - 3	100%	100%	7.7%	No data	100%	100%	No data	No data	No data	No data	
French Polynesia, France	2015 - 3	100%	100%	7.7%	N/A	100%	100%	N/A	100%	100%	No data	
Hong Kong, China	2014 - 1	0%	N/A	No data	100%	0%	No data	100%	0%	0%	0%	
India	2015 - 4	100%	100%	100%	100%	0%	100%	100%	100%	100%	100%	
Indonesia	2015 - 4	50%	No data	No data	No data	No data	No data	No data	No data	No data	No data	
Japan	2014 - 4	100%	100%	No data	100%	0%	100%	N/A	No data	100%	100%	
Macao, China	2014 - 4	N/A	N/A	38.5%	100%	N/A	N/A	N/A	N/A	N/A	N/A	
Malaysia	2015 - 4	100%	50%	76.9%	100%	0%	100%	0%	100%	No data	100%	
Maldives	2016 - 1	0%	N/A	0%	No data	0%	No data	0%	100%	100%	100%	
Mongolia	2016 - 1	100%	No data	No data	90%	100%	40%	No data	100%	N/A	N/A	
Nepal	2016 - 1	100%	N/A	No data	No data	100%	No data	No data	No data	100%	No data	
New Caledonia	2015 - 2	N/A	N/A	No data	100%	N/A	N/A	N/A	N/A	No data	No data	
Philippines	2016 - 1	0%	100%	46.2%	100%	0%	50%	0%	100%	No data	No data	
Republic of Korea	2015 - 3	No data	N/A	84.6%	100%	No data	100%	100%	N/A	100%	100%	
Singapore	2015 - 3	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Sri Lanka	2015 - 4	100%	100%	46.2%	100%	100%	100%	100%	100%	100%	100%	
Thailand	2015 - 4	0%	N/A	15%	100%	0%	100%	0%	100%	0%	0%	
United States	2015 - 1	50.0%	50.0%	No data	100%	50.0%	N/A	N/A	100%	No data	100%	

| Indicator | % of FIRs within which all applicable ACCs have implemented at least one interface to use AIDC / OLDI with neighbouring ACCs | % of FIRs utilising data link en-route in applicable airspace | % of Phase 1 and 2 AIS-AIM elements completed (0-13) | % of high density aerodromes providing meteorological forecasts, aerodrome warnings and alerts | % of FIRs where Category S airspace and Category T airspace supporting high density aerodromes are designated as ADS-B airspace? | % of ACCs with ATS Surveillance using ADS-B, MLAT or radar in Category S airspace, and having data integrated into the ATC system situation display | % of ACCs within high density FIRs (as per the Seamless ATM Plan) sharing ATS surveillance data | Does your State implement ground-based safety-nets (STCA, APW, MSAW, etc.)? | Does your State/Administration require the carriage of ACAS (with TCAS 7.1 evolution) ? | Does your State/Administration require the carriage of TAWS? |

Nov. 2015

		220 / CM&IM		300		180 / Surveillance		270			430
Australia	2015 - 3	No data		No data		100%		No data	No data		No data
Bangladesh	2015 - 2	No data		75%		N/A		N/A	10%		No data
Bhutan	2015 - 2	No data		0%		N/A		No data	N/A		No data
China	2015 - 3	No data		37.5%		77.7%		No data	No data		No data
Fiji	2015 - 3	100%		12.5%		100%		No data	No data		No data
French Polynesia, France	2015 - 3	100%		100%		100%		N/A	100%		100%
Hong Kong, China	2014 - 1	0%		No data		0%		100%	0%		
India	2015 - 4	100%		100%		100%		100%	50%		No data
Indonesia	2015 - 4	No data		No data		No data		No data	No data		No data
Japan	2014 - 4	100%		No data		0%		N/A	0%		No data
Macao, China	2014 - 4	N/A		No data		N/A		N/A	N/A		
Malaysia	2015 - 4	No data		87.5%		50%		100%	100%		No data
Maldives	2016 - 1	0%		0%		0%		50%	100%		100%
Mongolia	2016 - 1	No data		No data		100%		No data	No data		No data
Nepal	2016 - 1	100%		No data		N/A		No data	0%		No data
New Caledonia	2015 - 2	N/A		No data		N/A		N/A	N/A		100%
Philippines	2016 - 1	0%		0%		0%		0%	50%		No data
Republic of Korea	2015 - 3	No data		25%		No data		No data	N/A		No data
Singapore	2015 - 3	No data		No data		100%		No data	0%		No data
Sri Lanka	2015 - 4	100%		100%		0%		70%	100%		100%
Thailand	2015 - 4	0%		0%		0%		0%	N/A		No data
United States	2015 - 1	No data		25.0%		0%		N/A	100%		100%

| Indicator | % of FIRs within which all applicable ACCs have implemented full AIDC messaging, or alternate communication standard | | % of Phase 3 AIS-AIM elements completed (0-8) | | % of of FIRs where Category S airspace and Category T airspace are designated as ADS-B airspace? | | % of ACCs sharing ATS surveillance data | % of ACCs using CPAR in R airspace in accordance with Seamless ATM Phase 2 | | | Does your State/Administration implement air traffic situational awareness? |

Nov. 2018

N/A: Not Applicable

Implementation status of Seamless ATM items relating to Communications & IM

Implementation status of Seamless ATM items relating to: Surveillance

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