



International Civil Aviation Organization

**THE SECOND MEETING OF ASIA/PACIFIC ATS INTER-FACILITY
DATA COMMUNICATION (AIDC) IMPLEMENTATION TASK FORCE
(APA TF/2) OF APANPIRG**

Bangkok, Thailand, 16 - 18 March 2016

Agenda Item 2: Review of outcomes of relevant meetings

**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 into the environment and specificity of the region, therefore the regional plan had to be created. The first version of the regional plan 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.

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 depicted in Figure 1 below, and detailed in **Appendix A**.

2.2 **A total of 23 States/Administrations, i.e. 55% of the APAC States/Administrations,** have submitted one or more report(s) on the ICAO Seamless ATM Reporting portal. Among those 23 States/Administrations, **10** update their progress on a regular basis, which is an excellent practice.

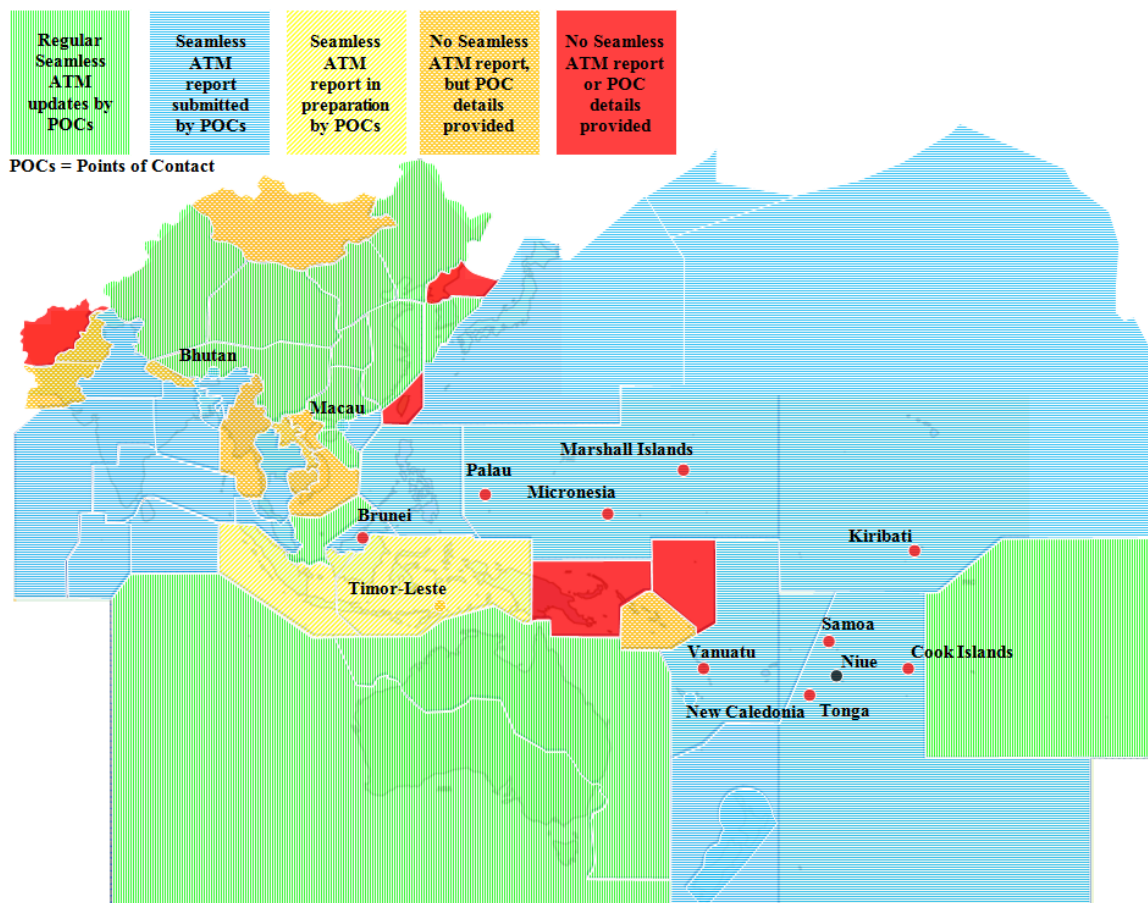


Figure 1: Status of the Seamless ATM Reporting (18 March 2016)

2.3 One administration has a report in preparation.

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 **30** States/Administrations have nominated their seamless Points of Contact. **13** States/Administration have not nominated any Point of Contact.

Matrix of responsibilities

2.7 As part of Conclusion APANPIRG 25/3, a responsibility matrix was adopted as per **Appendix B**. Since then, 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 also 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 Seamless POCs on an ongoing basis and cross checks the information available in the ICAO Regional Office from other sources of collection such as the **ATN/AMHS/AIDC Implementation Status in the APAC Region for AIDC**, PBN detailed reports from States, State AIS AIM transition table, etc and challenging the submitted reports where necessary.

2.16 Regarding AIDC (item 220), the cross check with ATN/AMHS/AIDC Implementation Status in the APAC Region for AIDC shows that the progress should read 50% for China and 50% for India considering that 5 of 10 FIRs and 2 of 4 FIRs respectively have at least one interface using AIDC with neighbouring ACCs.

Regional Performance dashboard

2.17 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>.

2.18 The Regional Performance Dashboard includes an indicator to measure the progress of Implementation of Ground/ground digital coordination/transfer. However no value is indicated yet as the collection of data in 2015 was not mature enough across all ICAO regions. In 2016 such indicator in APAC will be based on data maintained by the APA TF.

Future Plans

2.19 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).

2.20 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.

2.21 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) ensure systematic cross checking regarding AIDC data with the Seamless Points of Contact; and
- c) discuss any relevant matters as appropriate.

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

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

APPENDIX A - rev

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

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
Continuous Descent Operations (CDO)	90	2	B0-CDO	Improved Flexibility and Efficiency in Descent Profiles using Continuous Descent Operations (CDOs)	CNS SG

Seamless ATM Specification title	Seamless Reference	Regional Priority	Regional/ ASBU Module	ASBU - Module title	Endorsing body
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
ADS-B airspace	180	1	B0-ASUR	Initial Capability for Ground Surveillance	CNS SG

Seamless ATM Specification title	Seamless Reference	Regional Priority	Regional/ ASBU Module	ASBU - Module title	Endorsing body
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
ATS surveillance with data integrated	270	1	B0-ASUR	Initial Capability for Ground Surveillance	CNS SG

Seamless ATM Specification title	Seamless Reference	Regional Priority	Regional/ ASBU Module	ASBU - Module title	Endorsing body
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
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

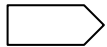
Seamless ATM Specification title	Seamless Reference	Regional Priority	Regional/ ASBU Module	ASBU - Module title	Endorsing body
Strategic Civil Military coordination	370	1	Regional	Improved Operations through Enhanced En-Route Trajectories	ATM SG
Tactical Civil Military coordination	380	1	Regional	Improved 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 nav aids 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
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



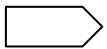
ICAO

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

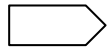
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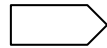
the ten Asia-Pacific Regional Priorities adopted by APANPIRG/25, 2014



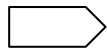
the implementation status of those ten Regional Priorities



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**



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. <i>Note: High Density FIRs are defined as:</i> 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, Taipei, 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. <i>Note 1: High density aerodrome is defined by Asia-Pacific Seamless ATM Plan as aerodromes with scheduled operations in excess of 100,000/year.</i> <i>Note 2: the Asia/Pacific PBN Plan Version 3 required RNP APCH with Baro-VNAV or APV in 100% of instrument runways by 2016</i>
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 (Regional)	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.



Seamless Item	Air Traffic Flow Management/ Collaborative Decision-Making	Performance-based Navigation (PBN) Approach	ADS-B airspace	ATS surveillance with data integrated	ADS-C and CPDLC	ATS Inter-facility Data-link Communications (AIDC)	Aeronautical Information Management	Civil Military use of SUA	Strategic Civil Military coordination	Tactical Civil Military coordination
ASBU	80	110	180	270	280	220	300	360	370	380
	BO-NOPS	BO-APTA	BO-ASUR	BO-ASUR	BO-TBO	BO-FICE	BO-DATM	BO-FRTO	Regional	Regional

THE 10 ASIA-PACIFIC REGIONAL PRIORITIES (APANPIRG/25, 2014)

Nov. 2015

Australia	2015 - 3	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%	0%	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?
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N/A: Not Applicable

Implementation status of the 10 Regional Priorities (APANPIRG)

(Regional Picture 16 Feb. 2016)



**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



Nov. 2015

Country	Seamless Item ASBU	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	
		10	40	110	340	350	310	160	170		
		Regional	BO-SURF	BO-APTA	Regional	Regional	BO-AMET	BO-SNET	BO-ACAS - TCAS 7.1	Regional - TAWS	
Indicator	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%	

N/A: Not Applicable

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)



		Air Traffic Flow Management/ Collaborative Decision-Making (ATFM/CDM)	Apron Management	Aerodrome capacity	Safety and Efficiency of Surface Operations	ATM-Aerodrome Coordination	Airport Collaborative Decision-Making (ACDM)	Arrival Manager/Departure Management (AMAN/DMAN)	ATC Horizontal separation	ATC Sector Capacity	Automated Transfer of Control	Optimized wake turbulence separation	Performance-based Navigation (PBN) Approach	Performance-based Navigation (PBN) Routes
		80	10	30	40	20	70	50	260	60	230	440	110	140
		BO-NQPS	Regional	Regional	BO-SURF	Regional	BO-ACDM	BO-RSEQ	Regional	Regional	Regional	BO-WAKE	BO-AFTA	BO-FRTO
SEAMLESS ITEM		PRIORITY 1												
Nov. 2015	Australia	2015-3	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%	100%	100%
	Bangladesh	2015-2	N/A	10%	No data	N/A	50%	N/A	N/A	100%	N/A	No data	30%	10%
	Bhutan	2015-2	N/A	N/A	N/A	N/A	0%	N/A	N/A	No data	No data	No data	No data	0%
	China	2015-3	77.70%	100%	100%	100%	100%	100%	50%	100%	100%	100%	100%	10%
	Fiji	2015-3	100%	60%	No data	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%	100%	80%
	Hong Kong, China	2014-1	100%	100%	100%	0%	100%	0%	0%	100%	100%	100%	100%	100%
	India	2015-4	0%	100%	100%	100%	100%	50%	100%	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	No data	30%	No data
	Japan	2014-4	100%	100%	40%	50%	100%	0%	0%	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	No data	N/A
	Malaysia	2015-4	50%	100%	100%	100%	100%	30%	10%	20%	100%	60%	0%	40%
	Maldives	2016-1	No data	No data	No data	No data	No data	No data	N/A	100%	100%	100%	100%	60%
	Mongolia	2016-1	100%	N/A	N/A	No data	N/A	0%	N/A	100%	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	No data	20%
	New Caledonia	2015-2	N/A	N/A	N/A	No data	N/A	N/A	N/A	100%	100%	N/A	0%	No data
	Philippines	2016-1	100%	100%	100%	No data	100%	0%	0%	100%	50%	100%	100%	30%
	Republic of Korea	2015-3	100%	100%	100%	100%	100%	No data	No data	100%	100%	100%	No data	70%
	Singapore	2015-3	0%	100%	100%	100%	100%	0%	100%	100%	100%	100%	100%	0%
	Sri Lanka	2015-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100%	100%	100%	100%	50%
Thailand	2015-4	0%	100%	100%	50%	100%	0%	0%	100%	0%	100%	80%	20%	
United States	2015-1	50%	N/A	N/A	N/A	N/A	N/A	N/A	100%	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 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 ATC sectors with automated hand-off procedures in accordance with Seamless ATM Plan Phase 1	% of applicable international 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 Phase 1	

		Air Traffic Flow Management/ Collaborative Decision-Making (ATFM/CDM)	Apron Management	Aerodrome capacity	Safety and Efficiency of Surface Operations	ATM-Aerodrome Coordination	Airport Collaborative Decision-Making (ACDM)	Arrival Manager/Departure Management (AMAN/DMAN)	ATC Horizontal separation	ATC Sector Capacity	Automated Transfer of Control	Optimized wake turbulence separation	Performance-based Navigation (PBN) Approach	Performance-based Navigation (PBN) Routes
		80	10	30	40	20	70	50	260	60	230	440	110	140
		BO-NQPS	Regional	Regional	BO-SURF	Regional	BO-ACDM	BO-RSEQ	Regional	Regional	Regional	BO-WAKE	BO-AFTA	BO-FRTO
SEAMLESS ITEM		PRIORITY 1												
Nov. 2019	Australia	2015-3	No data	No data	No data	20%	No data	No data	No data	100%	No data	No data	No data	100%
	Bangladesh	2015-2	N/A	No data	No data	N/A	N/A	N/A	N/A	No data	No data	No data	No data	40%
	Bhutan	2015-2	N/A	N/A	N/A	N/A	N/A	N/A	No data	No data	No data	No data	No data	0%
	China	2015-3	78%	100%	100%	100%	100%	0%	100%	100%	100%	100%	100%	0%
	Fiji	2015-3	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	No data
	French Polynesia, France	2015-3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	70%	N/A	N/A	N/A	100%
	Hong Kong, China	2014-1	No data	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%
	India	2015-4	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
	Japan	2014-4	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%
	Macao, China	2014-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No data	N/A
	Malaysia	2015-4	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	No data	100%
	Maldives	2016-1	No data	No data	No data	No data	No data	N/A	N/A	No data	0%	No data	No data	100%
	Mongolia	2016-1	No data	N/A	N/A	N/A	N/A	N/A	N/A	No data	No data	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	No data	0%
	New Caledonia	2015-2	N/A	N/A	N/A	No data	N/A	N/A	N/A	N/A	N/A	100%	No data	No data
	Philippines	2016-1	100%	100%	100%	100%	100%	0%	0%	0%	0%	No data	No data	0%
	Republic of Korea	2015-3	100%	100%	100%	No data	100%	No data	No data	No data	No data	No data	No data	No data
	Singapore	2015-3	0%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%
	Sri Lanka	2015-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	60%	100%	100%	100%	100%
Thailand	2015-4	0%	100%	100%	50%	100%	0%	0%	100%	0%	100%	100%	0%	
United States	2015-1	50%	N/A	N/A	N/A	N/A	N/A	N/A	100%	100%	100%	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 high density international aerodromes having declared capacity in accordance with the Seamless ATM Plan Phase 2	% 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 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)



Seamless Item	ASBU	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
		150	90	100	120	130	250	290	450	
	Regional	BO-CDO	BO-CCO	BO-CCO/BO-CDO	Regional	BO-APTA	BO-APTA	BO-APTA	BO-APTA	BO-OPFL
<p>Nov - 2015</p> <p>PRIORITY</p>										
Australia	2015 - 3	100%	N/A	N/A	No data	100%	100%	100%	100%	100%
Bangladesh	2015 - 2	N/A	N/A	N/A	50%	0%	No data	N/A	N/A	N/A
Bhutan	2015 - 2	No data	N/A	N/A	No data	No data	No data	N/A	N/A	N/A
China	2015 - 3	100%	0%	0%	No data	100%	100%	100%	N/A	N/A
Fiji	2015 - 3	No data	No data	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%	50%	100%	100%	100%	100%
Hong Kong, China	2014 - 1	0%	100%	0%	100%	100%	100%	100%	N/A	N/A
India	2015 - 4	0%	100%	100%	100%	100%	100%	100%	25%	25%
Indonesia	2015 - 4	No data	No data	No data	No data	20%	No data	No data	No data	No data
Japan	2014 - 4	100%	30%	0%	100%	100%	100%	100%	100%	100%
Macao, China	2014 - 4	N/A	N/A	N/A	No data	No data	N/A	N/A	N/A	N/A
Malaysia	2015 - 4	100%	100%	100%	0%	100%	100%	100%	100%	100%
Maldives	2016 - 1	No data	100%	100%	100%	100%	100%	100%	100%	100%
Mongolia	2016 - 1	0%	10%	10%	No data	10%	10%	10%	10%	10%
Nepal	2016 - 1	No data	No data	N/A	N/A	N/A	20%	N/A	N/A	N/A
New Caledonia	2015 - 2	No data	N/A	N/A	No data	100%	N/A	N/A	N/A	N/A
Philippines	2016 - 1	0%	50%	50%	30%	100%	20%	0%	0%	0%
Republic of Korea	2015 - 3	No data	30%	0%	No data	No data	100%	N/A	N/A	N/A
Singapore	2015 - 3	100%	100%	0%	No data	100%	0%	N/A	N/A	N/A
Sri Lanka	2015 - 4	N/A	70%	70%	70%	70%	100%	100%	100%	100%
Thailand	2015 - 4	0%	20%	20%	40%	50%	100%	N/A	N/A	N/A
United States	2015 - 1	100%	N/A	N/A	N/A	N/A	100%	100%	50.0%	50.0%
<p>Are all your Category R and S upper controlled airspace, and Category T airspace supporting high density aerodromes, and Category T airspace designated as non-exclusive or exclusive PBN airspace as appropriate? (1- yes, 0- no)</p>										
Indicator		% of international aerodromes where CDO is implemented	% of international aerodromes/TMAA where CDO is implemented	% of international aerodromes where CCO is implemented	% of international aerodromes / TMAAs with PBN SID implemented	% of international aerodromes / TMAAs with PBN STAR implemented	% of ATC units with ATM systems enabling optimal PBN operations	% of ATC units with ATM systems enabling optimal PBN operations	% of FIRs using UPR and DARP within R airspace	% of FIRs using UPR and DARP within R airspace
<p>Nov - 2019</p>										
Australia	2015 - 3				No data	No data	No data	No data	No data	No data
Bangladesh	2015 - 2				N/A	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	No data	0%			No data
Republic of Korea	2015 - 3				No data	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	No data	0%			No data
United States	2015 - 1				N/A	100%				50.0%
Indicator					% of high density aerodromes with PBN procedures that overlap visual arrival and departure procedures	% of ATC units with ATM systems supporting optimal aerodrome capacity and using electronic flight progress strips	% of ATC units with ATM systems supporting optimal aerodrome capacity and using electronic flight progress strips	% of ATC units with ATM systems supporting optimal aerodrome capacity and using electronic flight progress strips	% of FIRs having implemented in-trail procedures	% 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)



Seamless Item ASBU	Airspace classification	Flight Level Orientation Schemes (FLOS)			Civil Military use of SUA	Strategic Civil Military coordination	Tactical Civil Military coordination	Civil Military system integration	Civil Military nav aids joint provision	Civil Military common training	Civil Military common procedures	ATM Managers' Performance	ATC simulators performance	Safety assessment of changes	ATM Operators' performance
		190 Regional	200 Regional	210 Regional	360 BO-RTTO	370 Regional	380 Regional	390 Regional	400 Regional	410 Regional	420 Regional	320 Regional	330 Regional	340 Regional	350 Regional
	PRIORITY				PRIORITY 1	PRIORITY 1	PRIORITY 1								
Australia	2015 - 3	100%	100%	100%	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	No data	N/A	N/A	No data	No data	N/A	N/A	No data	No data	No data	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	100%	100%	100%	100%	100%
Hong Kong, China	2014 - 1	100%	100%	100%	100%	N/A	100%	100%	100%	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%	100%	100%	100%	100%	100%	100%	100%	100%
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	100%	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%	100%	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%	100%	100%	100%	N/A	N/A	N/A	100%	100%	100%	100%
Indicator		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?	Does your State/Administration use the ICAO Table of Cruising Levels based on feet as contained in Appendix 3a to Annex 2?	Does your Operations Manual give priority for higher density ATS routes over lower density ATS routes, and a lower priority to any aircraft that does not meet specified equipage?	% of FIRs in which FLTA 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?	Are civil ATS and military systems integrated?	Are there joint civil and military navigation aids?	Is Civil Military common training conducted in areas of common interest?	Are there common procedures for Civil Military operations where appropriate?	Does your Operations Manual require the human performance training for all ANSP managers?	Do you have a programme for enhancement and improved application of ATC simulators?	Do you have safety teams comprising multidisciplinary operational staff and managers which review safety performance and assess significant proposals for change to ATM systems?	Do you have human performance-based training and procedures for staff providing ATS?

Seamless Item ASBU	Airspace classification	Flight Level Orientation Schemes (FLOS)			Civil Military use of SUA	Strategic Civil Military coordination	Tactical Civil Military coordination	Civil Military system integration	Civil Military nav aids joint provision	Civil Military common training	Civil Military common procedures	ATM Managers' Performance	ATC simulators performance	Safety assessment of changes	ATM Operators' performance
		190 Regional	200 Regional	210 Regional	360 BO-RTTO	370 Regional	380 Regional	390 Regional	400 Regional	410 Regional	420 Regional	320 Regional	330 Regional	340 Regional	350 Regional
Australia	2015 - 3	100%	100%	100%	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	No data	N/A	N/A	No data	No data	N/A	N/A	No data	No data	No data	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	100%	100%	100%	100%	100%
Hong Kong, China	2014 - 1	100%	100%	100%	100%	N/A	100%	100%	100%	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%	100%	100%	100%	100%	100%	100%	100%	100%
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	100%	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%	100%	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%	100%	100%	100%	N/A	N/A	N/A	100%	100%	100%	100%
Indicator		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?	Does your State/Administration use the ICAO Table of Cruising Levels based on feet as contained in Appendix 3a to Annex 2?	Does your Operations Manual give priority for higher density ATS routes over lower density ATS routes, and a lower priority to any aircraft that does not meet specified equipage?	% of FIRs in which FLTA 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?	Are civil ATS and military systems integrated?	Are there joint civil and military navigation aids?	Is Civil Military common training conducted in areas of common interest?	Are there common procedures for Civil Military operations where appropriate?	Does your Operations Manual require the human performance training for all ANSP managers?	Do you have a programme for enhancement and improved application of ATC simulators?	Do you have safety teams comprising multidisciplinary operational staff and managers which review safety performance and assess significant proposals for change to ATM systems?	Do you have human performance-based training and procedures for staff providing ATS?

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

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)



		ATS Inter-facility Data-link Communications (AIDC)	ADS-C and CPDLC	Aeronautical Information Management	Meteorological Information	ADS-B airspace	ATS surveillance with data integrated	ATS Surveillance data sharing	Safety Nets	Airborne Safety Systems	Air traffic situational awareness
		220	280	300	310	180	270	240	160	170	430
		ASBU	BO-TBO	BO-DATM	BO-AMET	BO-ASUR	BO-ASUR	Regional	BO-SNET	BO-ACAS - TCAS 7.1	BO-ASEP
PRIORITY		PRIORITY 1	PRIORITY 1	PRIORITY 1		PRIORITY 1	PRIORITY 1				
Australia	2015-3	100%	100%	76.9%	100%	100%	100%	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	No data	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%	100%	0%	No data	0%	100%	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%	No data	N/A	100%	100%
Singapore	2015-3	100%	100%	100%	100%	100%	100%	100%	No data	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 5 airspace and Category 7 airspace supporting high density aerodromes are designated as ADS-B airspace?	% of ACCs with ATS Surveillance using ADS-B, MLAT or radar in Category 5 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, MSGAW, etc.)?	Does your State/Administration require the carriage of ACAS (with TCAS 7.1 evolution)?	Does your State/Administration require the carriage of TAWS?
Australia	No data	No data	No data	100%	100%	No data	No data	No data	No data	No data
Bangladesh	No data	No data	75%	75%	N/A	N/A	10%	No data	No data	No data
Bhutan	No data	No data	0%	0%	N/A	No data	N/A	No data	No data	No data
China	No data	No data	37.5%	37.5%	77.7%	No data	No data	No data	No data	No data
Fiji	100%	100%	12.5%	100%	100%	No data	No data	No data	No data	No data
French Polynesia, France	100%	100%	100%	100%	100%	N/A	100%	100%	100%	100%
Hong Kong, China	0%	No data	No data	0%	0%	100%	0%	100%	0%	0%
India	100%	100%	100%	100%	0%	100%	50%	100%	100%	No data
Indonesia	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data
Japan	100%	100%	No data	100%	0%	N/A	0%	N/A	0%	0%
Macao, China	N/A	No data	No data	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Malaysia	No data	No data	82.5%	50%	50%	100%	100%	100%	100%	No data
Maldives	0%	0%	0%	0%	0%	50%	100%	100%	100%	100%
Mongolia	No data	No data	No data	100%	100%	No data	No data	No data	No data	No data
Nepal	100%	100%	No data	No data	No data	No data	No data	0%	No data	No data
New Caledonia	N/A	N/A	No data	N/A	N/A	N/A	N/A	0%	N/A	100%
Philippines	0%	0%	0%	0%	0%	0%	50%	0%	50%	No data
Republic of Korea	No data	No data	25%	25%	No data	No data	N/A	No data	N/A	No data
Singapore	No data	No data	No data	100%	100%	No data	0%	No data	0%	No data
Sri Lanka	100%	100%	100%	100%	0%	70%	100%	100%	100%	100%
Thailand	0%	0%	0%	0%	0%	0%	N/A	0%	N/A	No data
United States	No data	No data	25.0%	0%	0%	N/A	100%	100%	100%	100%

N/A: Not Applicable

Implementation status of Seamless ATM items relating to Communications & IM

Implementation status of Seamless ATM items relating to Surveillance