



International Civil Aviation Organization

**NINETEENTH MEETING OF THE COMMUNICATIONS/NAVIGATION
AND SURVEILLANCE SUB-GROUP (CNS SG/19) OF APANPIRG**

Bangkok, Thailand, 20 – 24 July 2015

Agenda Item 8: Review and Updates

**8.1) Air Navigation Reporting Forms and Seamless ATM Reporting
Process**

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

(Presented by the Secretariat)

SUMMARY

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

1. INTRODUCTION

1.1. 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.

1.2. Consequently, as tools setting milestones, targets, and metrics for each of the key planning elements Air Navigation Report Forms (ANRFs) corresponding to the 18 ASBU elements 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

1.3. After the showcase of a web-based reporting tool developed 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.

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

1.5. The same type of paper was circulated to the AOP WG and will be circulated to the APANPIRG ATM and MET sub groups in 2015 so as to ensure a comprehensive and consistent approach throughout the APANPIRG bodies.

2. DISCUSSION

Status of the reporting process

2.1. As a follow-up to the Conclusion APANPIRG 25/5 a number of States/Administrations reported on their Seamless ATM implementation progress. The status of the reporting process as per 21 Jul 2015 is placed at **Appendix A**.

2.2. It shows that 18 States/Administrations have submitted at least one report online. No difficulty was reportedly encountered. 3 States/Administrations now update their progress on a regular basis, which is an excellent practice.

2.3. 2 States/Administrations have prepared an initial form but have not submitted it yet.

2.4. 24 States/Administrations have not prepared any report.

Points of Contact

2.5. As per Appendix A, 24 States/Administrations have nominated their seamless points of contact.

2.6. 20 States/Administrations have not communicated any POC yet.

Matrix of responsibilities

2.7. As part of the Conclusion APANPIRG 25/3, a responsibility matrix was adopted and is placed at **Appendix B**.

2.8. The CNS Sub Group is responsible of 15 seamless items.

Relation with the e-ANP

2.9. The adoption of the APAC e-ANP (Electronic Air Navigation Plan) is planned for end 2015. The volumes 1 and 2 will include regional requirements. The Volume 3 will include the regional objectives. While a lack of implementation of any requirement in Volumes 1 or 2 would lead to a deficiency, the objectives of the volume 3 can be considered as a regional contract of performance that the States/Administrations endeavor to meet collectively.

2.10. All regional priorities and targets adopted through the Conclusion APANPIRG 25/2 will be stated in the e-ANP volume 3. All seamless ATM objectives will likewise be incorporated in the e-ANP volume 3. All priorities, targets, metrics and supporting documents will be incorporated in the APAC main planning table in accordance with the e-ANP template adopted by the Council.

2.11. The virtue of monitoring the implementation progress is to detect where the difficulties and issues lay, and take corrective actions at APANPIRG, Sub Group, and/or Task Force levels as appropriate. However, while the ratio of reporting States/Administrations having reported is encouraging, it is still too weak to monitor and solve the difficulties of implementation, and thus ensure that the regional targets and seamless objectives will be met with sufficient confidence. It is also too weak to ensure that any implementation would be seamless, even in subparts of the region.

Regional Picture

2.12. Once it is mature enough the regional picture will be used to review the progress of States/Administrations in Asia Pacific against the GANP and e-ANP volume III objectives.

2.13. Outcomes of the reporting process after a first year are placed at **Appendix C**. The grouping of items may be changed at a later date and is only meant to ease the reading of the figures. The categories are as follows:

- Progress against the 10 APAC Regional Priorities
- Optimal capacity
- Optimal trajectories
- Airspace
- Civil/Military integration
- Performing safely
- Communications
- Information management
- Surveillance

2.14. The quality of the information reported is being continuously improved by interacting with POC and cross checking the information collected with the information available in the ICAO Regional Office: AATF State AIS AIM Transition Table, AIDC implementation table, etc.

Future evolutions

2.15. The reporting process will have to evolve and remain aligned with the new items being incorporated in the targets/objectives that will stem from ASBU block 1 elements (2018 - 2023) and from the future versions of the Seamless ATM Plan (the next version being planned for 2016).

2.16. Some items may also need a refined measurement, or need to be integrated with the existing practices. As an example, the PBN reporting form has been reviewed by PBNICG with the view to integrate it into the seamless web-based reporting process if feasible.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) review the regional picture, specifically the 15 items under the CNS SG responsibility;
- c) urge States not having done so yet to nominate their POC and/or submit their first report online before APANPIRG/26; and
- d) discuss any relevant matters as appropriate.

Status of the Seamless ATM reporting process (21 July 2015)

State/Administration	Points of contact nominated	Status	Latest submission
Australia	Yes	Submitted Regular updates	Q 2015-3
Bangladesh	Yes	Submitted	Q 2015-2
Bhutan	Yes	Submitted	Q 2015-2
China	Yes	Submitted	Q 2014-1
Fiji	Yes	Submitted	Q 2015-3
French Polynesia, France	Yes	Submitted	Q 2014-1
Hong Kong, China	Yes	Submitted	Q 2014-1
India	Yes	Submitted Second update in preparation	Q 2014-4
Japan	Yes	Submitted	Q 2014-4
Macao, China	Yes	Submitted	Q 2014-4
Malaysia	Yes	Submitted	Q 2015-2
Maldives	Yes	Submitted	Q 2015-3
New Caledonia, France	Yes	Submitted	Q 2015-2
Philippines	Yes	Submitted	Q 2015-3
Singapore	Yes	Submitted Regular updates	Q 2015-3
Sri Lanka	Yes	Submitted	Q 2014-3
Thailand	Yes	Submitted Regular updates	Q 2014-4
United States	Yes	Submitted	Q 2015-1
New Zealand	Yes	In preparation	-
Republic of Korea	Yes	In preparation	-
Afghanistan	No	No report	-
Brunei Darussalam	No	No report	-
Cambodia	No	No report	-

State/Administration	Points of contact nominated	Status	Latest submission
Cook Islands	No	No report	-
Democratic People's Republic of Korea	No	No report	-
Indonesia	No	No report	-
Kiribati	No	No report	-
Lao People's Democratic Republic	No	No report	-
Marshall Islands	No	No report	-
Micronesia (Federated States of)	No	No report	-
Mongolia	No	No report	-
Myanmar	Yes	No report	-
Nauru	No	No report	-
Nepal	Yes	No report	-
Pakistan	No	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	No	No report	-
Wallis and Futuna Islands, France	No	No report	-

CNS SG/19 - APPENDIX B

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

CNS SG/19 - APPENDIX B

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	CNS SG
ATS Surveillance	180	1	B0-ASUR	Initial Capability for Ground Surveillance	CNS SG
Airspace classification	190	2	Regional	-	ATM SG

CNS SG/19 - APPENDIX B

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

CNS SG/19 - APPENDIX B

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

CNS SG/19 - APPENDIX B

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



ANS implementation in Asia-Pacific: Regional Picture as of 21 July 2015

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

Seamless Item	ASBU	Target
Network Operations	B0-NOPS	<p>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> <i>a) South Asia: Delhi, Mumbai;</i> <i>b) Southeast Asia: Bangkok, Hanoi, Ho Chi Minh, Jakarta, Kota Kinabalu, Manila, Sanya, Singapore, Vientiane; and</i> <i>c) East Asia: Beijing, Fukuoka, Guangzhou, Hong Kong, Kunming, Incheon, Shanghai, Shenyang, Taipei, Wuhan.</i> <i>[APANPIRG Conclusion 22/8 and 23/5 refer]</i></p>
PBN	B0-APTA	<p>2. <u>Approach</u>: 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></p>
Ground Surveillance	B0-ASUR	<p>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.</p>
Ground Surveillance	B0-ASUR	<p>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.</p>
Trajectory-Based Operations-Data Link En-Route	B0-TBO	<p>5. Within Category R airspace, ADS-C surveillance and CPDLC should be enabled to support PBN-based separations.</p>
Flight and Flow Information for a Collaborative Environment	B0-FICE	<p>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.</p>
Aeronautical Information Management	B0-DATM	<p>7. ATM systems should be supported by digitally-based AIM systems through implementation of Phase 1 and 2 of the AIS-AIM Roadmap.</p>
Civil/Military	B0-FRTO	<p>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.</p>
Civil/Military	Strategic Civil Military coordination (Regional)	<p>9. Enhanced En-Route Trajectories: All States should ensure that a national civil/military body coordinating strategic civil-military activities is established.</p>
Civil/Military	Tactical Civil Military coordination (Regional)	<p>10. Enhanced En-Route Trajectories: All States should ensure that formal civil military liaison for tactical response is established.</p>

Nov. 2015

Seamless Item	Air Traffic Flow Management/ Collaborative Decision-Making (ATFM/CDM)	Performance-based Navigation (PBN) Approach	Ground-based Surveillance	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
	80	110	180	270	280	220	300	360	370	380
ASBU	B0-NOPS	B0-APTA	B0-ASUR	B0-ASUR	B0-TBO	B0-FICE	B0-DATM	B0-FRTO	Regional	Regional

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

Country	Year	ATFM/CDM	PBN Approach	Ground-based Surveillance	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
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	2014 - 1	77.7%	100%	11.1%	100%	N/A	100%	38.5%	N/A	100%	100%
Fiji	2015 - 3	No data	70%	100%	100%	100%	100%	7.7%	N/A	N/A	N/A
French Polynesia, France	2014 - 1	N/A	50%	100%	No data	No data	100%	No data	No data	N/A	N/A
Hong Kong, China	2014 - 1	100%	100%	0%	No data	N/A	0%	No data	100%	N/A	100%
India	2014 - 4	0%	100%	N/A	80%	100%	75%	100%	100%	100%	100%
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 - 2	50%	0%	0%	100%	50%	100%	76.9%	100%	100%	100%
Maldives	2015 - 3	80%	100%	0%	100%	100%	0%	0%	No data	No data	No data
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	2015 - 3	No data	100%	0%	50%	100%	0%	46.2%	100%	100%	0%
Singapore	2015 - 2	0%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Sri Lanka	2014 - 3	No data	No data	100%	100%	100%	100%	84.6%	100%	100%	100%
Thailand	2014 - 4	0%	No data	0%	100%	N/A	0%	0%	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 scheduled operations in excess of 100,000/year)	% 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? (1- yes, 0- no)	Have you established a formal civil military liaison for tactical response? (1- yes, 0-no)
---	---	--	---	---	--	--	---------------------------------------	--	--

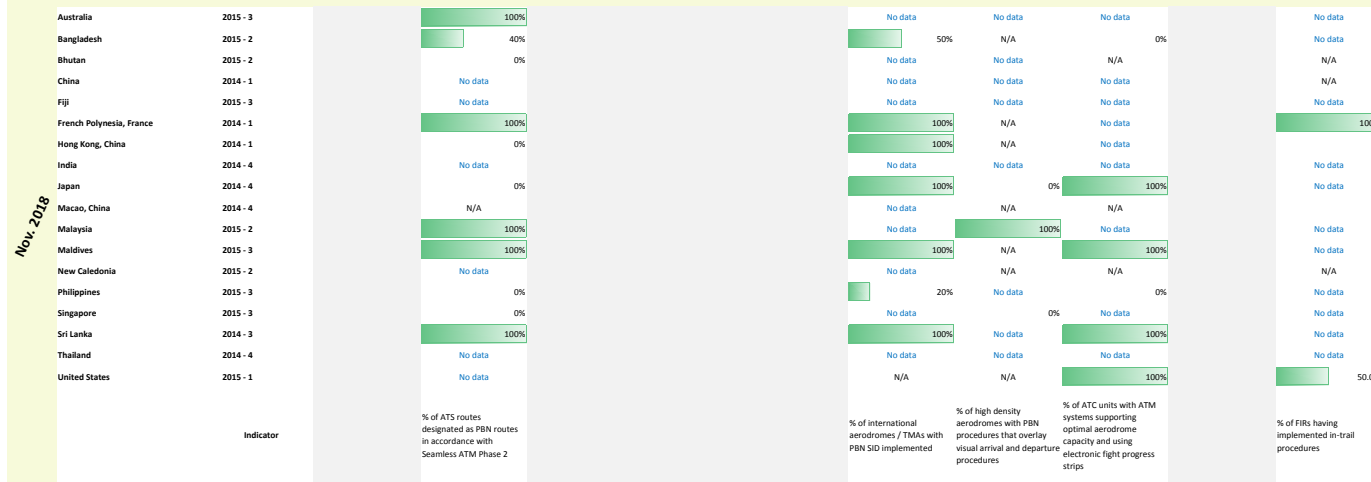
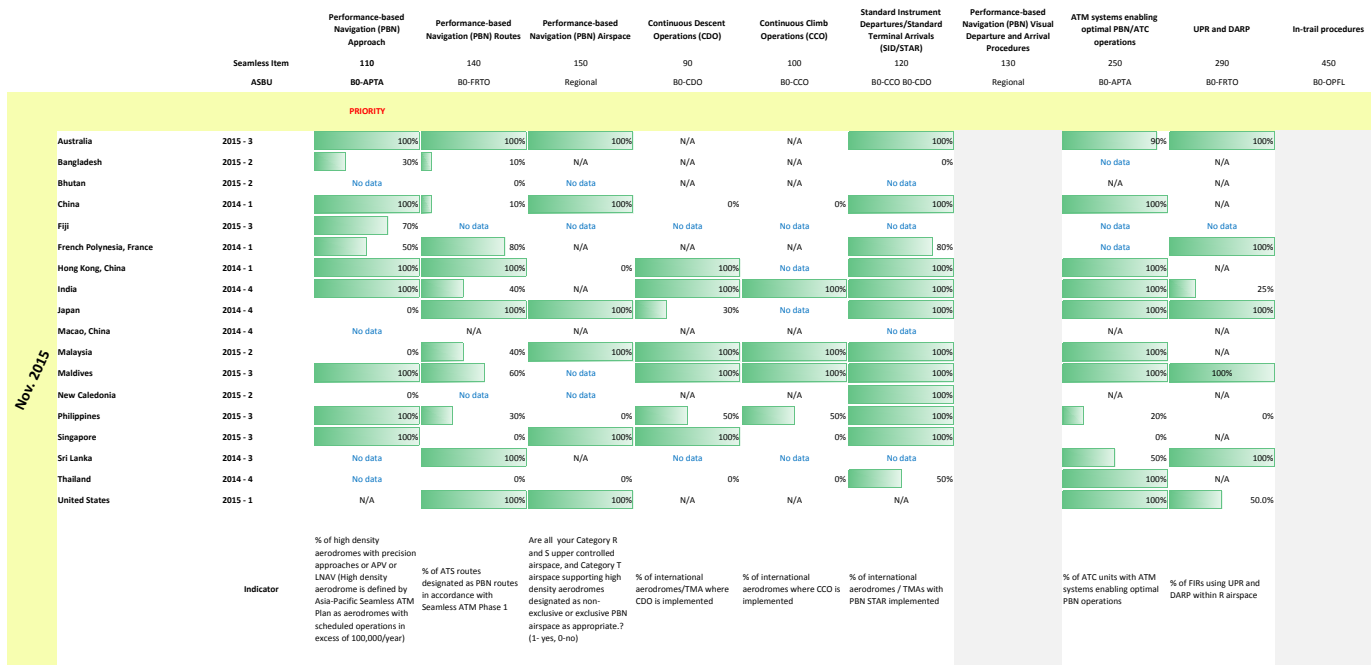
Progress against the 10 APAC Regional Priorities

(Regional Picture 21 Jul 2015)

Seamless Item	ASBU	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
		80	10	30	40	20	70	50	260	60	230	440
		BO	BO-NOPS	Regional	Regional	BO-SURF	Regional	BO-ACDM	BO-RSEQ	Regional	Regional	Regional
PRIORITY												
Australia	2015-3	100%	100%	100%	100%	100%	100%	0%	100%		100%	
Bangladesh	2015-2	N/A	10%	No data	N/A	50%	N/A	N/A	100%		N/A	
Bhutan	2015-2	N/A	N/A	N/A	N/A	0%	N/A	N/A	No data		No data	
China	2014-1	77.7%	100%	100%	100%	100%	100%	50%	100%		100%	
Fiji	2015-3	No data	60%	No data	No data	No data	No data	No data	No data		No data	
French Polynesia, France	2014-1	N/A	No data	N/A	N/A	N/A	10%	N/A	100%		No data	
Hong Kong, China	2014-1	100%	100%	100%	0%	100%	0%	0%	100%		0%	
India	2014-4	0%	100%	100%	100%	100%	50%	50%	100%		100%	
Japan	2014-4	100%	100%	40%	50%	100%	0%	0%	100%		100%	
Macao, China	2014-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	
Malaysia	2015-2	50%	100%	100%	100%	90%	10%	20%	100%		60%	
Maldives	2015-3	No data	No data	No data	No data	No data	No data	N/A	100%		100%	
New Caledonia	2015-2	N/A	N/A	N/A	No data	N/A	N/A	N/A	100%		N/A	
Philippines	2015-3	No data	100%	100%	No data	100%	0%	0%	100%		30%	
Singapore	2015-3	0%	100%	100%	100%	100%	0%	100%	100%		100%	
Sri Lanka	2014-3	No data	N/A	N/A	N/A	N/A	N/A	N/A	100%		100%	
Thailand	2014-4	0%	0%	100%	50%	100%	0%	0%	100%		0%	
United States	2015-1	50.0%	N/A	N/A	N/A	N/A	N/A	N/A	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 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? (1= yes, 0=no)		% of ATC sectors with automated hand-off procedures in accordance with Seamless ATM Plan Phase 1	
Nov - 2018												
Australia	2015-3	No data		No data		20%		No data	No data	No data		
Bangladesh	2015-2	N/A		No data		N/A		N/A	N/A	N/A	No data	
Bhutan	2015-2	N/A		N/A		N/A		No data	No data	N/A	No data	
China	2014-1	No data		No data		No data		No data	No data	No data	No data	
Fiji	2015-3	No data		No data		No data		No data	No data	No data	No data	
French Polynesia, France	2014-1	N/A		N/A		N/A		N/A	No data	No data	No data	
Hong Kong, China	2014-1	No data		No data		No data		100%	100%	0%	0%	
India	2014-4	No data		No data		No data		No data	No data	No data	No data	
Japan	2014-4	100%		100%		No data		100%	100%	100%	No data	
Macao, China	2014-4	N/A		N/A		N/A		N/A	N/A	N/A	No data	
Malaysia	2015-2	100%		No data		100%		90%	100%	90%	No data	
Maldives	2015-3	No data		No data		N/A		No data	100%	100%	No data	
New Caledonia	2015-2	N/A		N/A		N/A		N/A	N/A	N/A	100%	
Philippines	2015-3	No data		100%		0%		0%	0%	0%	No data	
Singapore	2015-3	0%		100%		100%		0%	No data	No data	No data	
Sri Lanka	2014-3	No data		N/A		N/A		50%	100%	100%	No data	
Thailand	2014-4	No data		No data		No data		No data	No data	No data	No data	
United States	2015-1	50%		N/A		N/A		100%	No data	No data	N/A	
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

Meeting the Seamless ATM objectives - Optimal capacity

(Regional Picture 21 Jul 2015)



Meeting the Seamless ATM objectives - Optimal trajectories

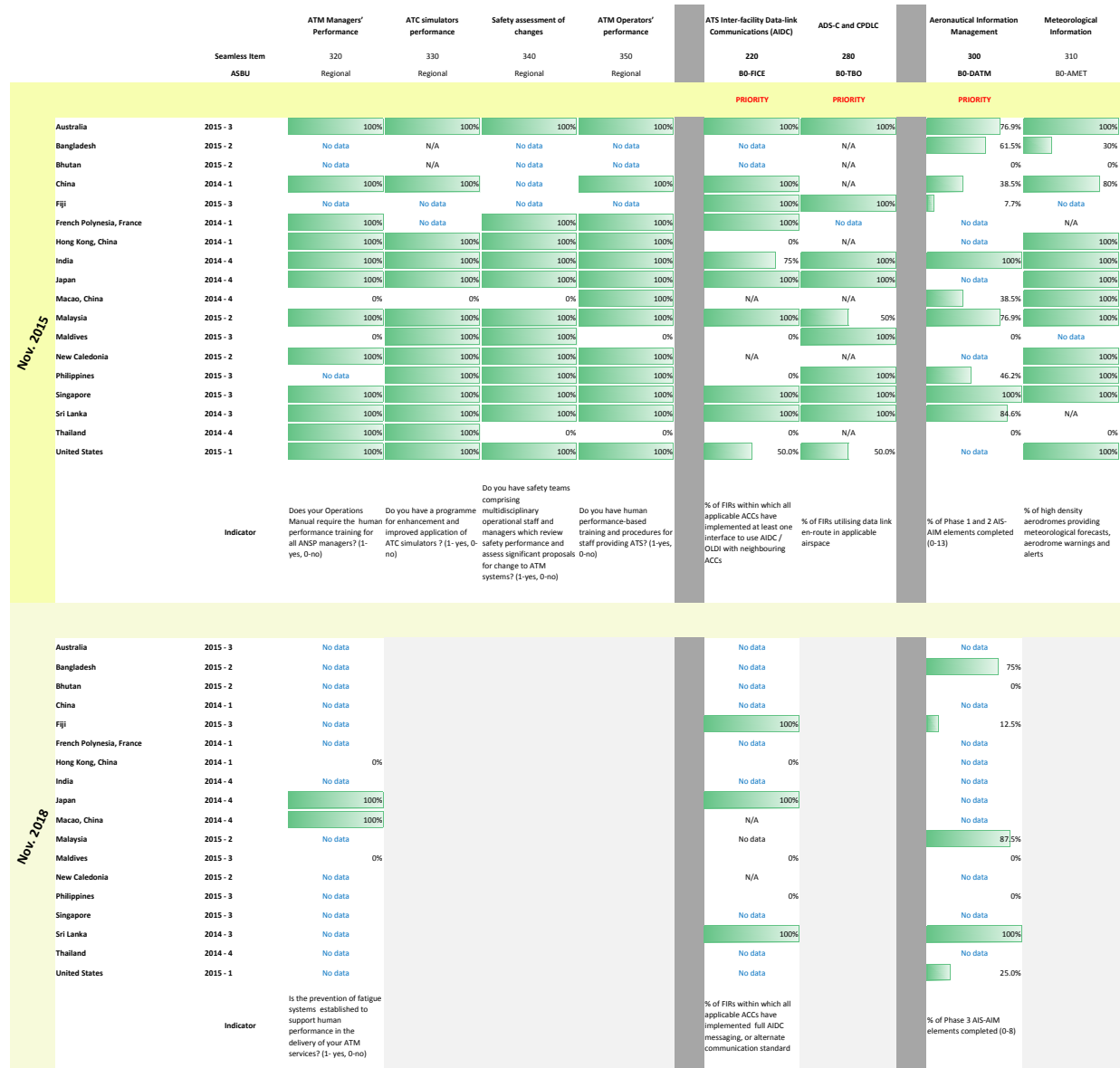
(Regional Picture 21 Jul 2015)

Seamless Item	ASBU	Airspace classification	Flight Level Orientation Schemes (FLOS)	Flight Level Allocation Schemes (FLAS)	Civil Military use of SUA	Strategic Civil Military coordination	Tactical Civil Military coordination	Civil Military system integration	Civil Military navaid/joint provision	Civil Military common training	Civil Military common procedures													
		190	200	210	360	370	380	390	400	410	420													
		Regional	Regional	Regional	BO-FRTO	Regional	Regional	Regional	Regional	Regional	Regional													
					PRIORITY	PRIORITY	PRIORITY																	
Nov- 2015	Australia	2015 - 3	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%												
	Bhutan	2015 - 2	N/A	No data	N/A	N/A	No data	No data	N/A	No data	No data													
	China	2014 - 1	N/A	N/A	No data	N/A	100%	100%	N/A	N/A	N/A													
	Fiji	2015 - 3	No data	No data	No data	N/A	N/A	N/A	N/A	N/A	N/A													
	French Polynesia, France	2014 - 1	100%	100%	N/A	No data	N/A	N/A	N/A	N/A	100%													
	Hong Kong, China	2014 - 1	100%	100%	100%	100%	N/A	100%	100%	N/A	N/A													
	India	2014 - 4	N/A	100%	100%	100%	100%	100%	0%	N/A	100%	100%												
	Japan	2014 - 4	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													
	Malaysia	2015 - 2	100%	100%	No data	100%	100%	100%	100%	100%	100%													
	Maldives	2015 - 3	100%	100%	No data	No data	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													
	Philippines	2015 - 3	100%	100%	100%	100%	100%	0%	No data	100%	100%													
	Singapore	2015 - 3	100%	100%	100%	100%	100%	100%	100%	100%	100%													
	Sri Lanka	2014 - 3	100%	100%	N/A	100%	100%	100%	N/A	N/A	100%	100%												
	Thailand	2014 - 4	100%	100%	No data	100%	100%	100%	0%	0%	0%	0%												
United States	2015 - 1	N/A	100%	N/A	100.0%	100%	100%	100%	N/A	N/A	N/A													
	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.7 (1- yes, 0-no)			Does your State/Administration use the ICAO Table of Cruising Levels based on feet as contained in Appendix 3a to Annex 2 ? (1- yes, 0-no)			Does 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 equipment ? (1- yes, 0-no)			% of FIRs in which FUA is implemented		Have you established a national civil/military body that performs strategic civil-military coordination? (1- yes, 0-no)		Have you established a formal civil military liaison for tactical response? (1- yes, 0-no)		Are civil ATS and military systems integrated? 1-yes, 0-no		Are there joint civil and military navigation aids? 1- yes, 0-no		Is Civil Military common training conducted in areas of common interest? 1- yes, 0-no		Are there common procedures for Civil Military operations where appropriate? 1-yes, 0-no	
Nov- 2018	Australia	2015 - 3																						
	Bangladesh	2015 - 2																						
	Bhutan	2015 - 2																						
	China	2014 - 1																						
	Fiji	2015 - 3																						
	French Polynesia, France	2014 - 1																						
	Hong Kong, China	2014 - 1																						
	India	2014 - 4																						
	Japan	2014 - 4																						
	Macao, China	2014 - 4																						
	Malaysia	2015 - 2																						
	Maldives	2015 - 3																						
	New Caledonia	2015 - 2																						
	Philippines	2015 - 3																						
	Singapore	2015 - 3																						
	Sri Lanka	2014 - 3																						
	Thailand	2014 - 4																						
United States	2015 - 1																							
	Indicator																							

Meeting the Seamless ATM objectives - Airspace

Meeting the Seamless ATM objectives - Civil/Military integration

(Regional Picture 21 Jul 2015)

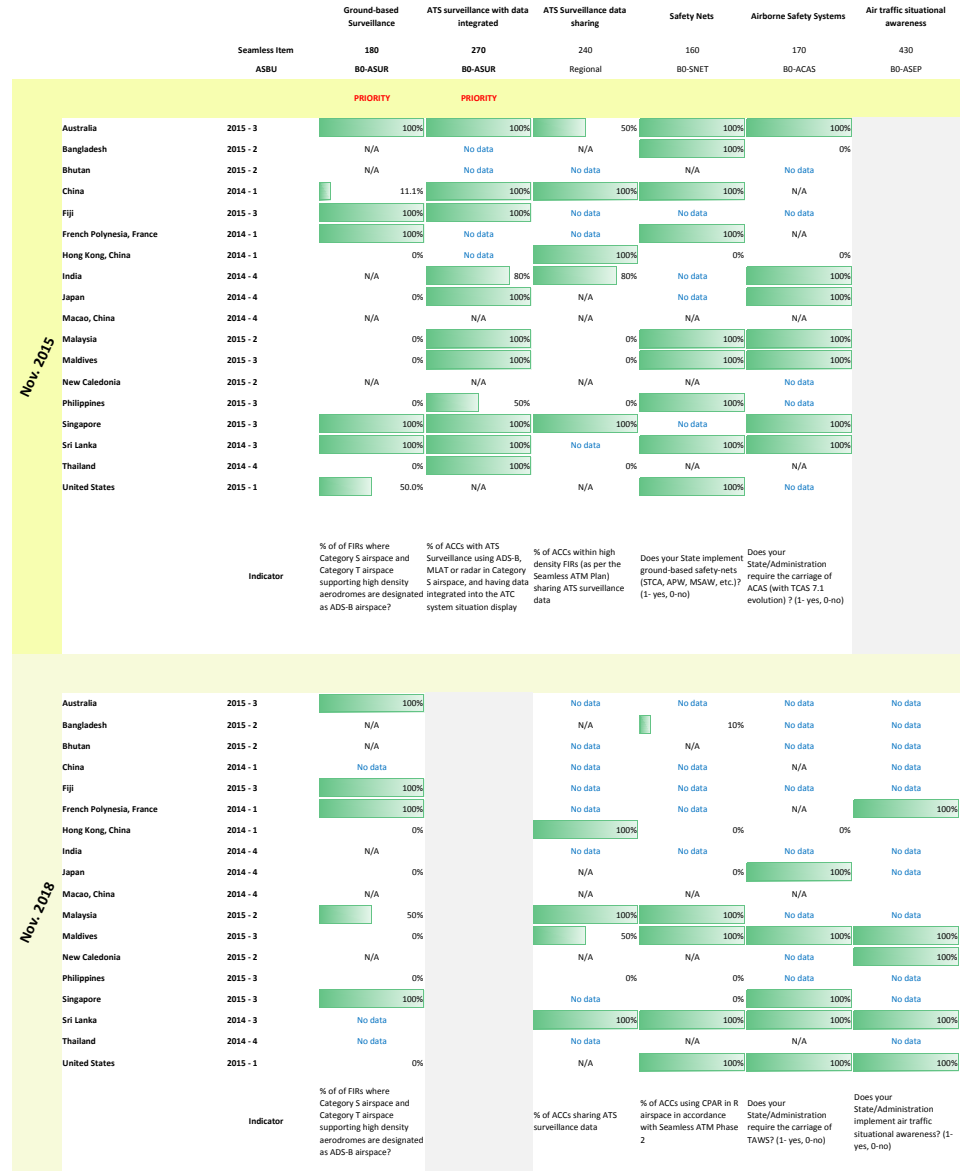


Meeting the Seamless ATM objectives - Performing safely

Meeting the Seamless ATM objectives - Communications

Meeting the Seamless ATM objectives - Information management

(Regional Picture 21 Jul 2015)



Meeting the Seamless ATM objectives - Surveillance

(Regional Picture 21 Jul 2015)