**Meeting of the Chairpersons of SGs on
Regional Priorities and Targets**

Hong Kong, China, 16-17 January 2014

Summary of Discussions

1.   Introduction

1.1   The meeting of the Chairpersons of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) Sub-groups and the Co-Chairs of the dissolved APSAPG was held at the Hong Kong Civil Aviation Department Headquarter in Hong Kong China, from 16 to 17 January 2014. Chairpersons of the South-East Asia ATM Coordination Group (SEACG) and the South Asia/Indian Ocean ATM Coordination Group (SAIOCG) and ATM experts nominated by the Chairpersons were also invited to attend the meeting.

1.2   Mr. Colman Ng welcomed participants to Hong Kong, China. Mr. Kuah Kong Beng agreed to chair the meeting, and thanked everyone for their participation. On behalf of the Acting ICAO Regional Director, Mr. Yoshiki Imawaka, Mr. Len Wicks thanked Hong Kong, China for hosting the meeting.

1.3   The meeting was attended by the following officials.

- Mr. Kuah Kong Beng, Chairperson of the ATM/SG, Consultant (ATM Operations), CAA Singapore;

- Mr. Lo Weng Kee, Chairperson of the CNS/SG, Deputy Director (Engineering Operations), Aeronautical Telecommunications & Engineering Division, CAA Singapore;

- Dr. Cho Ming Cheng, MET SG Vice-Chairperson, Assistant Director (Forecasting and Warning Services), Hong Kong Observatory;

- Mr. Colman Ng, Co-Chair of the dissolved APSAPG, Deputy Director-General of Civil Aviation, CAD, Hong Kong China;

- Mr. Raymond Li Kwok-chu, SEACG Chairperson, Chief Air Traffic Control Officer, CAD, Hong Kong China;

- Mr. Sylvester Israel, SAIOCG Chairperson, General Manager (ATM), Airports Authority of India;

- Mr. Edmund Heng, Assistant Chief Air Traffic Control Officer, CAA Singapore;

- Mr. Samuel Ng, Evaluation Officer, CAD, Hong Kong China;

- Mr. Len Wicks, Regional Officer, ATM, ICAO APAC Regional Office; and

- Mr. Frederic Lecat, Regional Officer, CNS, ICAO APAC Regional Office.

1.4   Mr. Kuah Kong Beng chaired the meeting for its entirety. Mr. Wicks acted as Secretary of the meeting, supported by Mr. Frederic Lecat.

2. Summary of Discussions

2.1 Agenda

2.1.1   The meeting endorsed the following Agenda (**WP01**):

Agenda Item 1: Adoption of the Agenda

Agenda Item 2: Recent activities/developments relevant to the discussion of the priorities and targets

Agenda Item 3: Priorities and Indicators

Agenda Item 4: Data collection and Targets

Agenda Item 5: Future works

Agenda Item 6: Any other business

2.2 Recent activities/developments relevant to the discussion of the priorities and targets

2.2.1   **WP05** provided a report on coordination meetings held from 04 to 15 November 2013 between ICAO Headquarters and Regional Offices, focusing on the recent developments on performance dashboards and implementation and monitoring processes. The main highlights were the identification of a group of core global indicators, and an agreement for the pilot project supporting a regional picture and online submission forms for monitoring the implementation of the Asia/Pacific Seamless ATM Plan.

2.2.2   The meeting reviewed the BETA version of the on-line Regional Performance Dashboard, and discussed its nexus to the regional metrics/indicators. The Chairs noted that the Regional Performance Dashboard was aimed primarily at high level decision-makers, while the Regional Picture was expected to be used by technical managers and the APANPIRG Contributory Bodies.

2.2.3   The meeting noted that in future, Asia/Pacific could add indicators to the Regional Performance Dashboard, which could come from sources such as the DGCA Conference. The meeting recognised that there may be a problem with too many forms. ICAO advised that the Air Navigation Reporting Form (ANRF) were meant to be reviewed by APANPIRG and its contributory bodies, and not to be completed by States; thus the submissions by States should be through the Regional Seamless ATM Reporting Form. The Chairs emphasised the need for simple information on the regional reporting and monitoring process to be circulated to all States after the SAIOACG and SEACG meetings.

2.2.4   The Chairperson noted the five preliminary global indicators, and that some additional regional-specific indicators could be added later. He also noted the two levels of monitoring, and the possible implementation of on-line reporting.

2.2.5   An initial group of global indicators common to all regions would be included in the first version of the regional dashboards, which was planned to be available on the web in March 2014. Later, there would be flexibility for a group of region-specific indicators. Four of the seven indicators suggested by Asia/Pacific were agreed to be part of the initial global indicators. The three that were not globally agreed by other regions were ASUR (surveillance), TBO (Automatic Dependent Surveillance-Contract: ADS-C and Controller Pilot Data-Link Communication: CPDLC), and FRTO-FUA (Flexible Use Airspace), so these would progress as regional 'customizations' in 2015. PBN Terminal was renamed as 'PBN approach'.

2.2.6   The group of draft core global indicators was as follows:

PBN Approach: *percentage of runways at international aerodromes (as defined in DOC7910/AIP) with APV.*

ATFM: percentage *of FIRs within which all ACCs utilise ATFM measures.*

AIM: *Status of implementation of AIM Phase I and II.*

Ground-Ground Digital Coordination/Transfer: percentage *of FIRs within which all applicable ACCs have implemented at least one interface to use AIDC/OLDI with neighbouring ACCs.*

Environmental Benefit: percentage *fuel burn reduction.**

*The IFSET tool was intended to measure the sum of the other improvements.

2.2.7   The possible future region-specific Aviation System Block Upgrade (ASBU) elements to be selected by each region included CCO, CDO, PBN En-route, ASUR, FUA, TBO, and SURF.

2.2.8   The draft ANRFs from the Asia/Pacific Regional Office were presented to the meeting. It was recognized that the ANRF was a suitable tool for the planning phase (consisting in planning objectives, targets, and identifying the implementation challenges, indicators and metrics), but more efficient and dynamic tools could be used for monitoring.

2.2.9   The added value of having two levels of monitoring (the high level regional dashboard and the process orientated regional picture, focusing on the 42 Seamless ATM elements) to steer the air navigation improvements was shared and acknowledged in the discussions.

2.2.10   It was decided at the meeting at ICAO Headquarters (ICAOHQ) that the first regional picture would be in the Asia/Pacific Region, based on the ICAO Geographic Information System (GIS). The regional picture would reflect the status of the implementation for each seamless item. The indicators for PBN Approach and Environmental Benefit would use an external source of data; thus no regional data collection would be needed. ATFM, AIM and Ground-Ground Digital Coordination/Transfer indicators would require a regional data collection, preferably through a simple online form if time allowed. In order to avoid any duplicated work for States/Administrations or ICAO, a cross-check was being performed between available data in ICAO's 'Datamart' (an existing database at ICAOHQ which integrates both internal and external data sources) and the data needed for the monitoring.

2.2.11   It was envisaged that the monitoring tools (regional picture and performance dashboard) could serve a more streamlined project-oriented process for the Asia/Pacific Region by identifying issues, challenges or risks and speeding up the decision–making process to take corrective actions and adapt plans.

2.2.12   The target date for the incorporation of regional priorities and targets into the Regional Performance Dashboard was September 2014, after APANPIRG/25.

2.2.13   **WP06** provided a report from the Second Meeting of the eANP Working Group (eANP-WG). The ICAO Air Navigation Bureau (ANB) established the eANP-WG, a Secretariat working group, with a task to make proposals for changes to the *Regional Air Navigation Plans* (ANP) which included the development of a new structure, format and content of the ANP, harmonization of the tables contained in the current *Facilities and Services Implementation Documents* (FASID) to support the implementation of the ASBUs and an implementation monitoring and reporting process. The eANP-WG was composed of representatives from each Regional Office and ICAOHQ.

2.2.14   A revised structure, format and Table of Contents of the eANP was agreed taking into account the ASBU methodology. In this regard, it was agreed that the eANP should be composed of three volumes:

a) Volume I should contain stable plan elements whose amendment necessitated approval by the Council;

b) Volume II should contain dynamic plan elements, the amendment of which did not necessitate approval by the Council; and

c) Volume III should contain dynamic/flexible plan elements, the amendment of which did not need approval by the Council, such as elements related to the implementation of air navigation systems, based mainly on the ASBU modules endorsed at regional or sub-regional level.

2.2.15   It was agreed by the eANP WG/2 meeting that the information contained in Volume III should be related to implementation planning, monitoring, and/or guidance. It was further agreed that the draft Part 0 [Introduction] and Part I [General Planning Aspects] should be reviewed and finalised by the end of January 2014.

2.2.16   The eANP-WG meeting agreed that a table should be developed for inclusion in Part I, Volume III to define a minimum set of High-Level Implementation Indicator(s) for each of the 18 ASBU Block 0 Modules and include other information, as deemed necessary, for use by all the ICAO Regions. The eANP-WG meeting agreed that the details related to the monitoring of the ASBU Modules, including the design of supporting enablers (tables/databases) should be left to the Regions/PIRGs.   The eANP-WG meeting agreed that the management of Volume III should be under the responsibility of the PIRGs and that any amendment of Parts 0 and I of Volume III should go through an inter-regional coordination mechanism.

2.2.17   The ANP Template (which included the new amendment procedure of the eANP) was expected to be submitted to the Council for approval in June 2014. After the approval of the ANP Template by the Council, the approval of the eANP by each Region would be accomplished in accordance with the procedure for amendment. The eANP WG recommended that Regional Offices begin the formal process of population and development of proposals for amendments based on the approved ANP Template for endorsement by PIRGs and States by the third quarter of 2014, and aim to complete the entire process by end of 2015.

2.2.18   The Chairs noted that Vol. III was intended to be updated regularly by APANPIRG and was non-binding in nature.

2.3   Priorities and Indicators

2.3.1   APANPIRG/24 (June 2013) agreed Conclusion 24/2 — Establishing Regional Priorities and Targets. **WP02** presented the proposed regional priorities and indicators that were developed at the teleconferences with the APANPIRG Sub-Group Chairpersons and the dissolved APASPG Chairs for review and endorsement. The teleconferences had previously agreed that the six ASBU modules selected by APANPIRG/23 as priority implementation should be included in the regional priorities. In addition to six ASBU modules, PBN implementation was included by the Chairpersons in the regional priorities, so the initial regional priorities would be:

- PBN Terminal (SIDs, STARs and APV– this is the only Seamless ATM priority 2 element);
- ATFM/A-CDM (B0-NOPS);
- AIM (B0-DATM);
- AIDC (B0-FICE);
- FUA (B0-FRTO);
- Surveillance (B0-ASUR); and
- Data-link ADS-C and CPDLC (B0-TBO)

2.3.2   The Chairpersons considered that indicators should be meaningful and data collectable from States. At the 30 October 2013 teleconference, the Chairpersons agreed the following indicators:

- PBN Terminal

  Percentage of international aerodromes with RNAV SID/STAR and APV.

- ATFM

  Percentage of FIRs within which all ACCs utilise ATFM systems (that determine airspace/aerodrome capacity and using inputs from airspace users, meteorological and military agencies, and initiate measures to balance capacity with demand).

- AIM

  Percentage of States with all Phase I and Phase II AIM Roadmap elements implemented.

- AIDC

  Percentage of FIRs within which all applicable ACCs with neighbouring ACCs have the capability to utilise AIDC (using the messages ABI, EST, ACP, TOC, AOC as far as practicable).

- FUA

  Percentage of FIRs within which all ACCs utilise Flexible Use Airspace (FUA) techniques for operation of Special Use Airspace (SUA) with strategic and tactical civil/military liaison capability.

- Surveillance

  Percentage of FIRs within which ACCs utilise ADS-B or SSR or MLAT to provide coverage within all category S airspace (serviced [or potentially serviced] en-route airspace – by direct [not dependent on a CSP] ATS communications and surveillance).

- Data-link (ADS-C and CPDLC)

  Percentage of FIRs within which ACCs utilise ADS-C and CPDLC to provide service within all category R airspace (remote en-route airspace within ATS communications and surveillance coverage dependent on a third-party CSP).

2.4   Data Collection and Targets

2.4.1   The meeting reviewed **WP03**, which discussed reporting by States of the implementation status of the proposed priorities and the monitoring of the Seamless ATM implementation. The Seamless ATM Plan was developed by the Seamless ATM Planning Group (APSAPG) and endorsed by APANPIRG/24 (Conclusion 24/54).

2.4.2   A Regional Seamless ATM Reporting Form had been drafted to assist States reporting their progress to the Regional Office, which was presented to the APSAPG/4 meeting (held in June 2013). The APSAPG/4 meeting provided input into the format of the reporting, noting that it was intended that States report by 01 March 2014 to indicate progress in Seamless ATM Planning to APANPIRG contributory bodies.

2.4.3   The Chairpersons discussed the proposed reporting form, prepared by the Secretariat, in line with APANPIRG Conclusion 24/55 c), to measure the implementation progress of elements contained in the Seamless ATM Plan. In order to track the progress of the implementation of the Seamless ATM Plan, 42 implementation elements had been identified in the Plan. The proposed Regional Seamless ATM Reporting Form for the 42 Seamless ATM implementation elements is attached at **Appendix A**.

2.4.4   The Chairpersons suggested that the reporting form should be as simple as possible, so that States did not spend undue time inputting data. The objective for the proposed reporting form was to have an automated and simple on-line submission process.

2.4.5   The ANRF was the revised version of Performance Framework Form (PFF) that was being used by PIRGs/States until recently. The ANRF was a customized tool for Aviation System Block Upgrades (ASBU) modules, which were recommended for application in setting planning targets, monitoring implementation, identifying challenges, measuring implementation/performance and reporting. Sample Template and Guidance for ANRFs are attached at **Appendix B**.

2.4.6   The Seamless ATM Plan had detailed Preferred Aerodrome/Airspace and Route Specifications (PARS) and Preferred ATM Services Levels (PASL). PARS and PASL were the services and procedures expected to be implemented by States by 12 November 2015 (Phase 1) and by 8 November 2018 (Phase 2) respectively.

2.4.7   In discussing targets, it is considered that targets should be realistic and able to be achieved by States. APANPIRG may need to discuss and consider PIRG action plans to assist States to meet the targets.

2.4.8   The Chairs noted that ANRF should be called an Air Navigation 'Planning' Form, rather than a 'reporting' form as it was being used primarily for planning. Meeting participants noted that any suggested improvements in the draft ANRF should be sent to the Secretariat.

2.4.9   There was a need to ensure that any elements not already in the Seamless ATM Plan subsequently approved by APANPIRG would have to be entered into the next iteration of the Seamless ATM Plan (nominally, 2016). The Secretariat would add Seamless ATM Plan linkages to the targets in the ANRF. The Chairs agreed that only APANPIRG-endorsed elements would be shown in the ANRF. The Chairs noted that the B0-NOPS ANRF would need alignment with the work of the ATFM/SG.

2.4.10   A demonstration of the early draft on-line Seamless ATM reporting form was provided to the meeting. The Chairs provided feedback to the Secretariat on the form for possible improvements, including the re-submission of forms. The meeting expressed its appreciation to ICAO for the work being done in developing the early on-line reporting tool.

2.4.11   Hong Kong, China made a presentation on their analysis of the Regional Seamless ATM Reporting Form. The Secretariat took note and would check any inconsistency in the forms and the Seamless ATM Plan.

2.4.12   **WP07** (Considerations in Setting Regional Targets) discussed matters that might be considered in formulating regional Air Navigation Services (ANS) targets.

2.4.13   A key to any effective implementation was to reduce complexity to ensure the maximum understanding and involvement by all concerned parties. In the case of the ASBU/Seamless ATM planning, a number of States and Administrations had expressed concern about the need to minimise the burden of data gathering and reporting. This was a concern not just for administrations and States, but also for the Regional Office to manage, especially with the Regional Dashboard creating another layer of results to consider on top of the regional targets/metrics.

2.4.14   The 42 elements in the Seamless ATM Plan were recognised as targets already, thus lending themselves to incorporation into the ANRF. It was likely that there would be extra items to consider for targets such as Search and Rescue and extra CNS enablers (which would be discussed at the CNS Sub-Group) but as the new performance monitoring regime would be iterative, changing and evolving year by year, there was no need to include all elements immediately in 2014. This was consistent with the step-by-step process being used by ICAOHQ to develop the Regional Performance Dashboards.

2.4.15   The Chairs noted that there was also some confusion about the terms 'targets' and 'metrics' which were used almost interchangeably in communications with States and Administrations. The Chairs also noted that the creation of a number of new 'targets' created in an ad hoc manner even by experts without data to support the choice was not desirable. Moreover, the number of targets and the complexity of data collection and reporting to support them within the ASBU/Seamless process should be minimised to ensure State buy-in and understanding, as well as minimise workload to States concerned. The meeting agreed that the targets should leverage off already established work – the Seamless ATM reporting process.

2.4.16   The Chairs discussed the proposed highest level targets that would be the focus of the Regional Dashboard, reducing the number to ten based on Phase 1 Seamless ATM elements. They noted that the other Seamless ATM elements would be part of the Regional Picture, and thus reviewed by the technical bodies reporting to APANPIRG. The draft highest priority targets were agreed by the Chairs and are summarised at **Appendix C**.

2.4.17   The Chairs cross-checked the priorities allocated in the Seamless ATM plan version 1.0 against the seven priorities agreed by the 30 October 2013 teleconference, seeking global consistency. The review resulted in a final proposal of priorities for the Asia/Pacific region at **Appendix D**.

2.5   *Future work*

2.5.1   **WP04** proposed a course of the action for endorsement of proposed priorities and targets by APANPIRG.   At teleconferences with the Chairpersons, it was recommended that proposed regional priorities and targets should be submitted to the South-East Asia ATM Coordination Group (SEACG) meeting and the South Asia/Indian Ocean ATM Coordination Group (SAIOCG) meeting in February 2014 for review.

2.5.2   It was proposed that the proposed regional priorities and targets developed by the Chairpersons and reviewed by SEACG and SAIOCG be submitted to ICAO HQ by May 2014, with a note that they were not yet endorsed by APANPIRG. It was also proposed that the draft regional priorities and targets, regional reporting form and ANRFs be presented to the ATM SG, CNS SG, MET SG and AOP WG at their meetings in June/July/August 2014 for review and to the APANPIRG/25 meeting in September 2014 for endorsement. The APANPIRG endorsed version should be submitted to ICAO HQ in September 2014.

Action	Responsible	Date
Review the proposed regional priorities and targets	SAIOCG/4- SEACG/21	February 2014
Submit the proposed regional priorities and targets to ICAO HQ	APAC RO	May 2014
Review the submitted regional priorities and targets	AOP WG/2	1-4 June 2014
Review the submitted regional priorities and targets	MET SG/18	2-5 June 2014
Review the submitted regional priorities and targets	CNS SG/18	14-18 July 2014
Review the submitted regional priorities and targets	ATM SG/2	4-8 August 2014
Endorse the regional priorities and targets	APANPIRG/25	8-11 September 2014
Submit the endorsed regional priorities and targets to ICAO HQ	APAC RO	September 2014

2.6   *Any other business*

2.6.1   The meeting noted the following tasks:

1. The Secretariat would develop a paper for the SAIOACG and SEACG meetings and a 'circular' on the regional reporting and monitoring process to be sent to all States.

2. Chairperson's Meeting participants would send any suggested improvements in the draft ANRF to the Secretariat (Mr. Lecat).

3. The Secretariat (Mr. Lecat) would add Seamless ATM Plan linkages to the targets in the ANRF and check any inconsistency between the forms and the Seamless ATM Plan.

4. The Secretariat would consult with the ATFM/SG Secretary to align the NOPS ANRF text where possible.

5. The Secretariat would review the Seamless ATM Reporting Form and the 42 Seamless ATM elements for consistency.

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APAC Regional Seamless ATM Reporting Form

Administration:

of report:

Number of FIR:
Number of high density FIR:
Number of international aerodromes:
Number of high density international aerodromes:

General comment (optional)

#	Paragraph	Item	Regional/ ASBU reference	Applicable or not	Target Nov. 2015	Date of complete implementation (planned or actual)	Progress against this target		Target Nov. 2018	Date of complete implementation (planned or actual)	Progress against this target	Remarks (e.g. project scope, FIRs or routes concerned by implementation, etc)	Issues encountered/expected
	Refers to the paragraph(s) of Seamless plan v1	Example	Refers to ASBU element name, or "Regional" if not an ASBU	Applicable	Gives the target that should be reached at the end of the phase I (Nov. 2015) according to the seamless plan v1.0. The date may be in the past if your State reached the target in the past, or may be the future	15-Jan-12	Refer to this column to know what to input in the next column. Example for item 80, the progress is measured in terms of number of FIRs	2 FIR	Gives the target that should be reached at the end of the phase II (Nov. 2018) according to the seamless plan v1.0	30-Jun-18	Refer to this column to know what to input in the next column. Example for item 110 the box is greyed so no input is needed		
10	7.1	Apron Management	Regional		All high density international aerodromes (100,000 scheduled movements per annum or more) should provide an appropriate apron management service in order to regulate entry of aircraft into and coordinate exit of aircraft from the apron;		Percentage of high density international aerodromes (100,000 scheduled movements per annum or more) providing an appropriate apron management service						
20	7.1	ATM-Aerodrome Coordination	Regional		All high density international aerodromes (100,000 scheduled movements per annum or more) should have appropriate ATM coordination on airport development and maintenance planning; coordination with local authorities regarding environmental, noise abatement, and obstacles; and ATM/PBN procedures for the aerodrome		Percentage of high density international aerodromes having appropriate ATM coordination in accordance with the Seamless ATM Plan						
30	7.1; 7.10	Aerodrome capacity	Regional		All high density international aerodromes (100,000 scheduled movements per annum or more) should have a declared airport terminal and runway capacity		Percentage of high density international aerodromes having declared capacity in accordance with the Seamless ATM Plan Phase 1		All high density aerodromes should have a declared airport terminal and runway capacity		Percentage of high density aerodromes having declared capacity in accordance with the Seamless ATM Plan Phase 2		
40	7.1	Safety and Efficiency of Surface Operations	BO-SURF		All high density international aerodromes (100,000 scheduled movements per annum or more) should have provide electronic surface movement guidance and control.		Percentage of high density international aerodromes with electronic surface movement guidance and control in accordance with the Seamless ATM Plan Phase 1						
50	7.29; 7.05	Arrival Manager/Departure Management (AMAN/DMAN)	BO-RSEQ		All high density aerodromes should have AMAN/DMAN facilities		Percentage of high density airports with AMAN/DMAN		All AMAN systems should take into account airport gates for runway selection and allow aircraft departures from adjacent gates that may affect arriving aircraft		Percentage of AMAN/DMAN systems in accordance with Seamless ATM Phase 2		
60	7.46; 7.50	ATC Sector Capacity	Regional						All all enroute ATC sectors and terminal ATC Sectors should have a nominal aircraft capacity figure based on a scientific capacity study and safety assessment, to ensure safe and efficient aircraft operations.		Percentage of ATC sectors with capacity figures in accordance with Seamless ATM Phase 2		
70	7.2	Airport Collaborative Decision-Making (ACDM)	BO-ACDM		Airport CDM at all high density aerodromes.		Percentage of high density airports with Airport CDM						
80	7.27; 7.07	Air Traffic Flow Management/Collaborative Decision-Making (ATFM/CDM)	BO-NOPS		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.		Number of high density FIRs supporting the busiest Asia/Pacific traffic flows and high density aerodromes having ATFM incorporating CDM using operational ATFM platform/s.		All FIRs supporting Major Traffic Flows should implement ATFM incorporating CDM to enhance capacity, using bi-lateral and multi-lateral agreements		Number of FIRs supporting Major Traffic Flows that have implemented ATFM incorporating CDM		
90	7.3	Continuous Descent Operations (CDO)	BO-CDO		All high density international aerodromes implement CCO and CDO operations where States have assessed it applicable		Percentage of high density international aerodromes implementing CDO operations						
100	7.3	Continuous Climb Operations (CCO)	BO-CCO		All high density international aerodromes implement CCO and CDO operations where States have assessed it applicable		Percentage of high density international aerodromes implementing CCO operations						
110	7.5 ; 7.14 ; 7.16	Performance-based Navigation (PBN) Approach	BO-APTA		Where practicable, all high density aerodromes with instrument runways serving aeroplanes should have precision approaches or APV or LNAV		Measured through the Regional Performance Dashboard (no input needed here)		Where practicable, all aerodromes with instrument runways serving aeroplanes should have precision approaches or APV or LNAV		Measured through the Regional Performance Dashboard (no input needed here)		
120	7.4; 7.55	Standard Instrument Departures/Standard Terminal Arrivals (SID/STAR)	BO-CCO BO-CDO		All international high density aerodromes should have RNAV 1 (ATS surveillance environment) or RNP 1 (ATS surveillance and non-ATS surveillance environments) SID/STAR		Number of FIRs having international high density aerodromes implementing Standard Instrument Departures/Standard Terminal Arrivals (SID/STAR)		All international aerodromes should have RNAV 1 (ATS surveillance environment) or RNP 1 (ATS surveillance and non-ATS surveillance environments) SID/STAR		Number of FIRs having international high density aerodromes implementing Standard Instrument Departures/Standard Terminal Arrivals (SID/STAR)		
130	7.19	Performance-based Navigation (PBN) Visual Departure and Arrival Procedures	Regional						PBN procedures that overlay visual arrival and departure procedures should be established where this provided an operational advantage		Number of high density aerodromes with PBN procedures that overlay visual arrival and departure procedures		
140	7.5; 7.22	Performance-based Navigation (PBN) Routes	BO-FRTO		All ATS routes should be designated with a navigation performance specification for category R airspace RNP 4 or RNP 10 (RNAV 10) or RNP 2 oceanic; and for Category S airspace RNAV 2 or RNP 2		Percentage of ATS routes designated as PBN routes in accordance with Seamless ATM Phase 1		All ATS routes should be designated with a navigation performance specification RNP 2		Percentage of ATS routes designated as PBN routes in accordance with Seamless ATM Phase 2		
150	7.8	Performance-based Navigation (PBN) Airspace	Regional		All Category R and S upper controlled airspace, and Category T airspace supporting high density aerodromes should be designated as non-exclusive or exclusive PBN airspace as appropriate		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. 7 (1-yes, 0-no)						
160	7.52; 7.54	Safety Nets	BO-SNET						ATM systems providing services within Category R airspace should enable appropriate ATC capabilities including CPAR, which is a key enabler for UPR and DARP operations		Percentage of ACCs using CPAR in R airspace in accordance with Seamless ATM Phase 2		
170	7.7; 7.51	Airborne Safety Systems	BO-ACAS		All Category R and S upper controlled airspace, and Category T airspace supporting high density aerodromes should require the carriage of ACAS and Terrain Awareness Warning Systems (TAWS), unless approved by ATC		Does your State/Administration require the carriage of ACAS and TAWS for all Category R and S upper controlled airspace and Category T airspace supporting high density aerodromes? (1- yes, 0-no)		All Category R and S upper controlled airspace, and Category T airspace should, unless approved by the State, require the carriage of an operable ACAS and TAWS		Does your State/Administration require the carriage of ACAS and TAWS for all Category T airspace ? (1- yes, 0-no)		
180	7.6; 7.25 ; 7.26	Ground-based Surveillance	BO-ASUR		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		Number of FIRs with airspace supporting high density aerodromes having Category S upper controlled airspace and Category T airspace designated as non-exclusive or exclusive as appropriate requiring operation of ADS-B		All Category S upper controlled airspace and Category T airspace should be designated as non-exclusive or exclusive as appropriate ADS-B airspace requiring operation of ADS-B using 1090ES with DO-260/260A and 260B capability, to ensure robust ADS-B based surveillance		Number of FIRs where carriage of ADS-B OUT using 1090ES with DO260/60A and 260b is prescribed or mandatory		
190	7.28	Airspace classification	Regional		Harmonization of upper airspace classification should be 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.		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.? (1- yes, 0-no)						
200	7.13	Flight Level Orientation Schemes (FLOS)	Regional		The ICAO Table of Cruising Levels based on feet as contained in Appendix 3a to Annex 2 should be used.		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)						
210	7.36; 7.60	Flight Level Allocation Schemes (FLAS)	Regional		Priority for FLAS level allocations should be given to higher density ATS routes over lower density ATS routes. Any aircraft that does not meet specified equipage requirements should receive a lower priority.		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 ? (1- yes, 0-no)						
220	7.35; 7.09	ATS inter-facility Data-link Communications (AIDC)	BO-FICE		ATM systems should enable AIDC between ATC units where transfers of control are conducted. As far as practicable, the AIDC messages types ABI, EST, ACP, TOC, AOC should be implemented.		Percentage of ACCs with AIDC capability in accordance with Seamless ATM Phase 1		Implement full AIDC messaging, or alternate communication standard.		Percentage of ACCs with AIDC capability in accordance with Seamless ATM Phase 2		
230	7.29; 7.06	Automated Transfer of Control	Regional		Where practicable, all ATC Sectors within the same ATC unit with ATS surveillance capability should have automated hand-off procedures that allow the TOC of aircraft without the necessity for voice communications, unless an aircraft requires special handling		Percentage of ATC sectors with automated hand-off procedures in accordance with Seamless ATM Plan Phase 1		Where practicable, all ATC Sectors with adjacent ATC Centres using ATS surveillance capability should have automated hand-off procedures that allow the TOC of aircraft without the necessity for voice communications, unless an aircraft requires special handling		Percentage of ATC sectors with automated hand-off procedures in accordance with Seamless ATM Plan Phase 2		
240	7.34; 7.08	ATS Surveillance data sharing	Regional		Subject to appropriate filtering, ATS surveillance data, particularly from ADS-B, should be shared with neighbouring ATC units within high density FIRs		Percentage of ACCs within high density FIRs (as per the Seamless ATM Plan) sharing ATS surveillance data		Subject to appropriate filtering, ATS surveillance data, particularly from ADS-B, should be shared with all neighbouring ATC units		Percentage of ACCs sharing ATS surveillance data		
250	7.37 ; 7.33 ; 7.55	ATM systems enabling optimal PBN/ATC operations	BO-APTA		ATM systems, including communication and ATS surveillance systems and the performance of those systems, should support the capabilities of PBN navigation specifications and ATC separation standards applicable within the airspace concerned		Percentage of ATC units with ATM systems enabling optimal PBN operations		ATM system design should be planned and implemented to support optimal aerodrome capacity expectations for the runway(s) concerned. Electronic flight progress strips should be utilised wherever practicable		Percentage of ATC units with ATM systems supporting optimal aerodrome capacity and using electronic flight progress strips		
260	7.30	ATC Horizontal separation	Regional		All ATC units should authorise the use of the horizontal separation minima stated in ICAO Doc 4444 (PANS ATM), or as close to the separation minima as practicable.		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)						
270	7.32	ATS surveillance with data integrated	BO-ASUR		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		Percentage of ACCs with ATS Surveillance using ADS-B, MLAT or radar for Category S airspace and data integrated into the ATC system situation display						
280	7.33	ADS-C and CPDLC	BO-TBO		Within Category R airspace (remote en-route airspace within ATS communications and surveillance coverage dependent on a third-party CSP), ADS-C surveillance and CPDLC should be enabled to support PBN-based separations		Number of FIRs utilising ADS-C and CPDLC to provide service within all category R airspace						
290	7.33	UPR and DARP	BO-FRTO		Within Category R airspace, UPR and DARP should be enabled to support PBN-based separations		Percentage of ACCs using UPR and DARP within R airspace						
300	7.38; 7.51	Aeronautical Information Management	BO-DATM		ATM systems should be supported by digitally-based AIM systems through implementation of Phase 1 and 2 of the AIS-AIM Roadmap		Total number of Phase 1 and 2 AIS-AIM elements completed (0-13)		ATM systems should be supported by digitally-based AIM systems through implementation of Phase 3 of the AIS-AIM Roadmap		Total number of Phase 3 AIS-AIM elements completed (0-8)		
310	7.26; 7.56	Meteorological Information	BO-AMET		All high density aerodromes should provide meteorological forecasts, aerodrome warnings and alerts that support efficient terminal operations. ATM systems should be supported by implementation of appropriate meteorological information reporting systems.		Percentage of high density aerodromes providing meteorological forecasts, aerodrome warnings and alerts						
320	7.41 ; 7.55	ATM Managers' Performance	Regional		Human performance training for all ANSP managers, including management of risks related to human capabilities and limitations; effective participation in a team and team management, effective safety reporting systems, human factors in air safety investigation, fatigue management approaches		Does your Operations Manual require the human performance training for all ANSP managers? (1- yes, 0-no)		Prevention of fatigue systems should be established to support human performance in the delivery of a Seamless ATM service		Is the prevention of fatigue systems established to support human performance in the delivery of your ATM services? (1- yes, 0-no)		
330	7.41	ATC simulators performance	Regional		Enhancement and improved application of ATC simulation should be established to support human performance in the delivery of a Seamless ATM service		Do you have a programme for enhancement and improved application of ATC simulators ? (1- yes, 0-no)						
340	7.41	Safety assessment of changes	Regional		Safety teams comprising multidisciplinary operational staff and managers which review safety performance and assess significant proposals for change to ATM systems should be established to support human performance in the delivery of a Seamless ATM service		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)						
350	7.41	ATM Operators' performance	Regional		Human performance-based training and procedures for staff providing ATS should be established to support human performance in the delivery of a Seamless ATM service		Do you have human performance-based training and procedures for staff providing ATS? (1-yes, 0-no)						
360	7.11	Civil Military use of SUA	BO-FRTO		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		Has your State/Administration made arrangements to effectively manage the designation, size, activation and operation of military/State SUA? (1- yes, 0-no)						
370	7.42	Strategic Civil Military coordination	Regional		All States should ensure that a national civil/military body coordinating strategic civil-military activities is established		Number of FIRs with which all ACCs utilise FUA techniques for operation of SUA with strategic civil/military liaison capability						
380	7.42	Tactical Civil Military coordination	Regional		All States should ensure that formal civil-military liaison for tactical responses is established		Number of FIRs with which all ACCs utilise FUA techniques for operation of SUA with tactical civil/military liaison capability						
390	7.42	Civil Military system integration	Regional		Civil and military ATM systems integrated using joint procurement, and sharing of ATS surveillance data (especially from ADS-B systems) should be provided as far as practicable		Are civil ATS and military systems integrated? 1-yes, 0-no						
400	7.42	Civil Military navaids joint provision	Regional		Joint provision of civil/military navigation aids should be encouraged;		Are there joint civil and military navigation aids? 1-yes, 0-no						
410	7.42	Civil Military common training	Regional		Common training should be conducted between civil and military ATM units in areas of common interest;		Is Civil Military common training conducted in areas of common interest? 1-yes, 0-no						
420	7.42	Civil Military common procedures	Regional		Civil and military ATM units should utilise common procedures as far as practicable		Are there common procedures for Civil Military operations where appropriate? 1-yes, 0-no						

Appendix B to the report

SAMPLE TEMPLATE

1. AIR NAVIGATION REPORT FORM (ANRF)
(This template demonstrates how ANRF to be used.
The data inserted here refers to ASBU B0-05/CDO as an example only)

Regional and National planning for ASBU Modules

| 2. REGIONAL/NATIONAL PERFORMANCE OBJECTIVE – B0-05/CDO: Improved Flexibility and Efficiency in Descent Profiles — Performance Improvement Area 4: Efficient Flight Path – Through Trajectory-based Operations |

2. REGIONAL/NATIONAL PERFORMANCE OBJECTIVE – B0-05/CDO: Improved Flexibility and Efficiency in Descent Profiles

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

3. ASBU B0-05/CDO: Impact on Main Key Performance Areas (KPA)

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

4. ASBU B0-05/CDO: Planning Targets and Implementation Progress

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

7. ASBU B0-05/CDO: Implementation Challenges

Elements	Implementation Area			
	Ground system Implementation	Avionics Implementation	Procedures Availability	Operational Approvals
1. CDO				
2. PBN STARs				

8. Performance Monitoring and Measurement 8A. ASBU B0-05/CDO: Implementation Monitoring	
Elements	**Performance Indicators/Supporting Metrics**
1. CDO	Indicator: Percentage of international aerodromes/TMAs with CDO implemented Supporting metric: Number of international aerodromes/TMAs with CDO implemented
2. PBN STARs	Indicator: Percentage of international aerodromes/TMAs with PBN STARs implemented Supporting metric: Number of international aerodromes/TMAs with PBN STARs implemented

8. Performance Monitoring and Measurement 8 B. ASBU B0-05/CDO: Performance Monitoring	
Key Performance Areas (Out of eleven KPAs, for the present until experienced gained, only five have been selected for reporting through ANRF)	**Where applicable, indicate qualitative Benefits,**
Access & Equity	Not applicable
Capacity	Not applicable
Efficiency	Cost savings through reduced fuel burn. Reduction in the number of required radio transmissions.
Environment	Reduced emissions as a result of reduced fuel burn
Safety	More consistent flight paths and stabilized approach paths. Reduction in the incidence of controlled flight into terrain (CFIT).

9. Identification of performance metrics: It is not necessary that every module contributes to all of the five KPAs. Consequently, a limited number of metrics per type of KPA, serving as an example to measure the module(s)' implementation benefits, without trying to apportion these benefits between module, have been identified on page 5. For the family of ASBU modules selected for air navigation implementation, States/Region to choose the applicable performance (benefit) metrics from the list available on page 5. This approach would facilitate States in collecting data for the chosen performance metrics. States/Region, however, could add new metrics for different KPAs based on maturity of the system and ability to collect relevant data.

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AIR NAVIGATION REPORT FORM
HOW TO USE - EXPLANATORY NOTES

1. **Air Navigation Report Form (ANRF):** This form is nothing but the revised version of Performance Framework Form that was being used by Planning and Implementation Regional Groups (PIRGs)/States until now. The ANRF is a customized tool for Aviation System Block Upgrades (ASBU) Modules which is recommended for application for setting planning targets, monitoring implementation, identifying challenges, measuring implementation/performance and reporting. Also, the PIRGs and States could use this report format for any other air navigation improvement programmes such as Search and Rescue. If necessary, other reporting formats that provide more details may be used but should contain as a minimum the elements described in this ANRF template. The results will be analysed by ICAO and aviation partners and utilized in developing the Regional Performance Dashboard and the Annual Global Air Navigation Report. The conclusions from the Global Air Navigation Report will serve as the basis for future policy adjustments, aiding safety practicality, affordability and global harmonization, amongst other concerns.

2. **Regional/National Performance objective:** In the ASBU methodology, the performance objective will be the title of the ASBU module itself. Furthermore, indicate alongside corresponding Performance Improvement area (PIA).

3. **Impact on Main Key Performance Areas:** Key to the achievement of a globally interoperable ATM system is a clear statement of the expectations/benefits to the ATM community. The expectations/benefits are referred to eleven Key Performance Areas (KPAs) and are interrelated and cannot be considered in isolation since all are necessary for the achievement of the objectives established for the system as a whole. It should be noted that while safety is the highest priority, the eleven KPAs shown below are in alphabetical order as they would appear in English. They are access/equity; capacity; cost effectiveness; efficiency; environment; flexibility; global interoperability; participation of ATM community; predictability; safety; and security. However, out of these eleven KPAs, for the present, only five have been selected for reporting through ANRF, which are Access & Equity, Capacity, Efficiency, Environment and Safety. The KPAs applicable to respective ASBU module are to be identified by marking Y (Yes) or N (No). The impact assessment could be extended to more than five KPAs mentioned above if maturity of the national system allows and the process is available within the State to collect the data.

4. **Planning Targets and Implementation Progress:** This section indicates planning targets and status of progress in the implementation of different elements of the ASBU Module for both air and ground segments.

5. **Elements related to ASBU module:** Under this section list elements that are needed to implement the respective ASBU Module. Furthermore, should there be elements that are not reflected in the ASBU Module (example: In ASBU B0-80/ACDM, Aerodrome certification and data link applications D-VOLMET, D-ATIS, D-FIS are not included; Similarly in ASBU B0-30/DAIM, note that WGS-84 and eTOD are not included) but at the same time if they are closely linked to the module, ANRF should specify those elements. As a part of guidance to PIRGs/States, every Regional ANP will have the complete list of all 18 Modules of ASBU Block 0 along with corresponding elements, equipage required on the ground and in the air as well as metrics specific to both implementation and performance (benefits).

6. **Targets and implementation progress (Ground and Air):** Planned implementation date (month/year) and the current status/responsibility for each element are to be reported in this section. Please provide as much details as possible and should cover both avionics and ground

systems. This ANRF being high level document, develop necessary detailed action plan separately for each element/equipage.

7. **Implementation challenges**: Any challenges/problems that are foreseen for the implementation of elements of the Module are to be reported in this section. The purpose of the section is to identify in advance any issues that will delay the implementation and if so, corrective action is to be initiated by the concerned person/entity. The four areas, under which implementation issues, if any, for the ASBU Module to be identified, are as follows:

- Ground System Implementation:
- Avionics Implementation:
- Procedures Availability:
- Operational Approvals:

Should be there no challenges to be resolved for the implementation of ASBU Module, indicate as "NIL".

8. **Performance Monitoring and Measurement:** Performance monitoring and measurement is done through the collection of data for the supporting metrics. In other words, metrics are quantitative measure of system performance – how well the system is functioning. The metrics fulfil three functions. They form a basis for assessing and monitoring the provision of ATM services, they define what ATM services user value and they can provide common criteria for cost benefit analysis for air navigation systems development. The Metrics are of two types:

A. **Implementation Monitoring**: Under this section, the indicator supported by the data collected for the metric reflects the status of implementation of elements of the Module. For example- Percentage of international aerodromes with CDO implemented. This indicator requires data for the metric "number of international aerodromes with CDO".

B. **Performance Monitoring**: The metric in this section allows to asses benefits accrued as a result of implementation of the module. The benefits or expectations, also known as Key Performance Areas (KPAs), are interrelated and cannot be considered in isolation since all are necessary for the achievement of the objectives established for the system as a whole. It should be noted that while safety is the highest priority, the eleven KPAs shown below are in alphabetical order as they would appear in English. They are access/equity; capacity; cost effectiveness; efficiency; environment; flexibility; global interoperability; participation of ATM community; predictability; safety; and security. However, out of these eleven KPAs, for the present until experienced gained, only five have been selected for reporting through ANRF, which are Access & Equity, Capacity, Efficiency, Environment and Safety. Where applicable, mention qualitative benefits under this section.

9. **Identification of performance metrics:** It is not necessary that every module contributes to all of the five KPAs. Consequently, a limited number of metrics per type of KPA, serving as an example to measure the module(s)' implementation benefits, without trying to apportion these benefits between module, have been identified on page 6. For the family of ASBU modules selected for air navigation implementation, States/Region to choose the applicable performance (benefit) metrics from the list available on page 6. This approach would facilitate States in collecting data for the chosen performance metrics. States/Region, however, could add new metrics for different KPAs based on maturity of the system and ability to collect relevant data.

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REFERENCE TABLE OF THE NEW AND OLD ASBU MODULES

Old ASBU Modules Numbering System	New ASBU Modules Identifiers	
65	*APTA*	*Airport Accessibility*
70	*WAKE*	*Wake Turbulence Separation*
15	*RSEQ*	*Arrival/Departure Management*
75	*SURF*	*Surface Operations*
80	*ACDM*	*Airport Collaborative Decision Making*
81	*RTWR*	*Remote Aerodrome Control Towers*
25	*FICE*	*FF/ICE*
30	*DAIM*	*Digital Aeronautical Management*
31	*SWIM*	*System Wide Information Management*
105	*AMET*	*Advanced Meteorological Information*
10	*FRTO*	*Free Routing*
35	*NOPS*	*Network Operations*
84	*ASUR*	*Initial Surveillance*
85	*ASEP*	*Airborne Separation*
86	*OPFL*	*Optimum Flight Levels*
101	*ACAS*	*Airborne Collision Avoidance Systems*
102	*SNET*	*Ground-Based Safety Nets*
05	*CDO*	*Continuous Descent Operations*
40	*TBO*	*Trajectory-Based Operations*
20	*CCO*	*Continuous Climb Operations*
90	*RPAS*	*Remotely Piloted Aircraft Systems*

— END —

V4.dated 1August 2013

Appendix C to the report

Agreed Highest Priority Regional Targets
(for the Regional Performance Dashboard)

Regional Priorities agreed 30-10-13 by Chairpersons of APANPIRG SGs and ICAO Secretariat	Highest Priority Regional Targets As agreed 16-01-14 by Chairpersons of APANPIRG SGs and ICAO Secretariat	Respective B0 module	Regional Reporting Form Item #
APV (B0-APTA)	1. Approach: Where practicable, all high density aerodromes with instrument runways serving aeroplanes should have precision approaches or APV or LNAV.	B0-APTA	110
ATFM/A-CDM (B0-NOPS)	2. Network Operations: 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.	B0-NOPS	80
AIM (B0-DATM)	3. Aeronautical Information Management: ATM systems should be supported by digitally-based AIM systems through implementation of Phase 1 and 2 of the AIS-AIM Roadmap	B0-DATM	300
AIDC (B0-FICE)	4. System Wide Information Management: All States between ATC units where transfers of control are conducted have implemented the messages ABI, EST, ACP, TOC, AOC as far as practicable.	B0-FICE	220
FUA (B0-FRTO)	5. Civil/Military- 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.	B0-FRTO	360
	6. Civil/Military- Enhanced En-Route Trajectories: All States should ensure that a national civil/military body coordinating strategic civil-military activities is established.	Regional	370
	7. Civil/Military- Enhanced En-Route Trajectories: All States should ensure that formal civil military liaison for tactical response is established.	Regional	380
Surveillance (B0-ASUR)	8. Ground Surveillance: 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.	B0-ASUR	180
	9. Ground Surveillance: 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.	B0-ASUR	270
Data-link ADS-C and CPDLC (B0-TBO)	10. Trajectory-Based Operations-Data Link En-Route: Within Category R airspace, ADS-C surveillance and CPDLC should be enabled to support PBN-based separations.	B0-TBO	280

Agreed Priorities

Chairperson's Sub Group on 17 January 2014

Reference	Specification title	Module	ASBU - Module title	Priority Seamless plan v1.0	Priority Chairperson's meeting 30 Oct. 2013	Priority agreed by Chairperson's SG 17 Jan.2014
10	Apron Management	-	-	-	-	3
20	ATM-Aerodrome Coordination	-	-	-	-	3
30	Aerodrome capacity	-	-	-	-	3
40	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)	B0-SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)	3	-	3
50	Arrival Manager/Departure Management (AMAN/DMAN)	B0-RSEQ	Improve Traffic flow through Sequencing (AMAN/DMAN)	2	-	2
60	ATC Sector Capacity	-	-	-	-	2
70	Airport Collaborative Decision-Making (ACDM)	B0-ACDM	Improved Airport Operations through Airport-CDM	2	-	2
-	-	B0-WAKE	Increased Runway Throughput through Optimized Wake Turbulence Separation	3	-	3
80	Air Traffic Flow Management/Collaborative Decision-Making (ATFM/CDM)	B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view	1	1	1
90	Continuous Descent Operations (CDO)	B0-CDO	Improved Flexibility and Efficiency in Descent Profiles using Continuous Descent Operations (CDOs)	2	-	2
100	Continuous Climb Operations (CCO)	B0-CCO	Improved Flexibility and Efficiency Departure Profiles – Continuous Climb Operations (CCO)	2	-	2
110	Performance-based Navigation (PBN) Approach	B0-APTA	Optimization of Approach Procedures including vertical guidance	2	1	1

120	Standard Instrument Departures/Standard Terminal Arrivals (SID/STAR)	B0-CCO B0-CDO	-	2	1	2
130	Performance-based Navigation (PBN) Visual Departure and Arrival Procedures	-	-	-	-	3
140	Performance-based Navigation (PBN) Routes	B0-FRTO	Improved Operations through Enhanced En-Route Trajectories	1	-	2
150	Performance-based Navigation (PBN) Airspace	-	-	-	-	2
160	Safety Nets	B0-SNET	Increased effectiveness of ground-based safety nets	2	-	2
170	Airborne Safety Systems	B0-ACAS	Airborne Collision Avoidance Systems (ACAS) Improvements	2	-	2
-	-	B0-OPFL	Improved Access to Optimum Flight Levels through Climb/Descent Procedures using ADS-B	3	-	3
180	Ground-based surveillance	B0-ASUR	Initial Capability for Ground Surveillance	1	1	1
-	-	B0-ASEP	Air Traffic Situational Awareness (ATSA)	2	-	2
190	Airspace classification	-	-	-	-	2
200	Flight Level Orientation Scheme (FLOS)	-	-	-	-	2
210	Flight Level Allocation Schemes (FLAS)	-	-	-	-	2
220	ATS Inter-facility Data-link Communications (AIDC)	B0-FICE	Increased Interoperability Efficiency & Capacity through Ground-Ground Integration	1	1	1
230	Automated Transfer of Control	-	-	-	-	2
240	ATS Surveillance data sharing	-	-	-	-	2
250	ATM systems enabling optimal PBN/ATC operations	B0-APTA	Optimization of Approach Procedures including vertical guidance	2	-	2
260	ATC Horizontal separation	-	-	-	-	2

270	Situation display integrating surveillance data	B0-ASUR	Initial Capability for Ground Surveillance	1	1	1
280	ADS-C, CPDLC	B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route	1	1	1
290	UPR and DARP	B0-FRTO	Improved Operations through Enhanced En-Route Trajectories	1		3
300	Aeronautical Information Management	B0-DATM	Service Improvement through Digital Aeronautical Information Management	1	1	1
310	Meteorological Information	B0-AMET	Meteorological information supporting enhanced operational efficiency and safety	2		2
320	ATM Managers' Performance	-	-			2
330	ATC simulators performance	-	-			2
340	Safety assessment of changes	-	-			2
350	ATM Operators' performance	-	-			2
360	Civil Military use of SUA	B0-FRTO	Improved Operations through Enhanced En-Route Trajectories	1	1	1
370	Strategic Civil Military coordination	-	-		1	1
380	Tactical Civil Military coordination	-	-		1	1
390	Civil Military system integration	-	-			2
400	Civil Military Navaids joint provision	-	-			2
410	Civil Military common training	-	-			2
420	Civil Military common procedures	-	-			2

The allocation of priority was based on factors including its importance in promoting Seamless ATM (Priority 1 = critical upgrade, Priority 2 = recommended upgrade, Priority 3 = may not be universally implemented). Source: Asia/Pacific Seamless ATM Plan V1.0.