Seamless ATM plan and SWIM

Outline

- Seamless ATM plan v1 (2013)
- Seamless ATM plan draft v2 (2016)
- ACSICG work programme related to SWIM

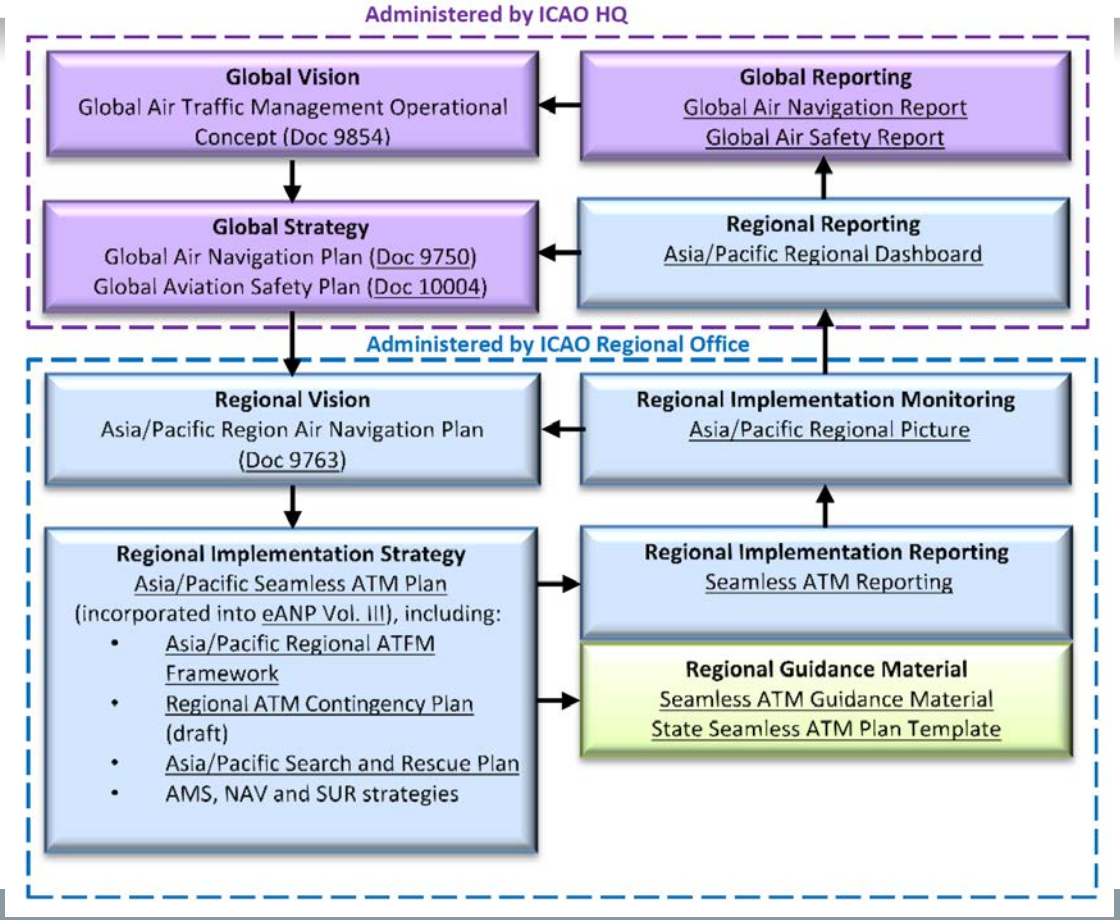
SEAMLESS ATM PLAN V1 (2013)

Asia/Pacific Seamless ATM Plan

GANP → ASBU → APAC Seamless ATM Plan

e ANP

Planning
+
Implementation
+
Monitoring

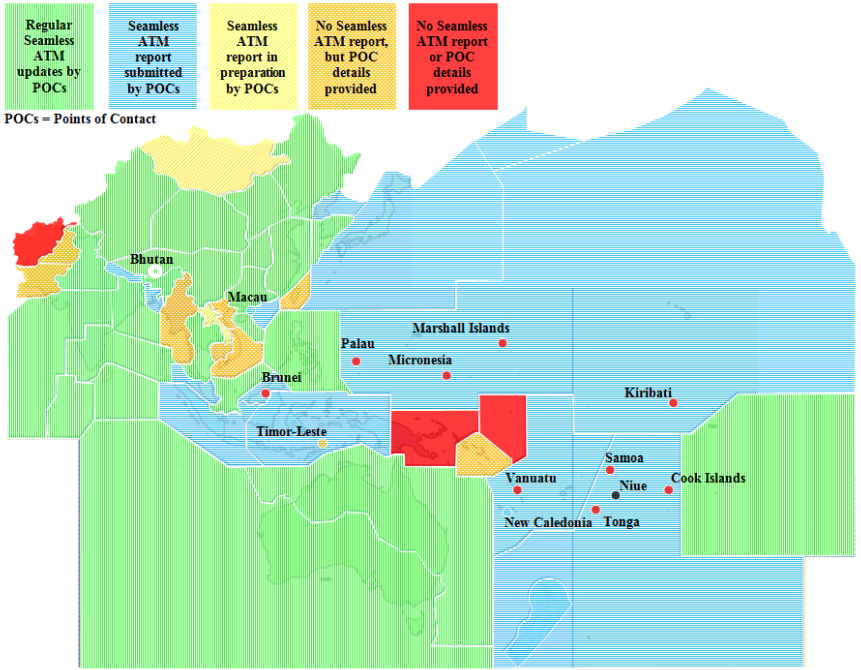

Administered by ICAO HQ
Global Vision
Global Air Traffic Management Operational Concept (Doc 9854)
Global Reporting
Global Air Navigation Report
Global Air Safety Report
Global Strategy
Global Air Navigation Plan (Doc 9750)
Global Aviation Safety Plan (Doc 10004)
Regional Reporting
Asia/Pacific Regional Dashboard
Administered by ICAO Regional Office
Regional Vision
Asia/Pacific Region Air Navigation Plan (Doc 9763)
Regional Implementation Monitoring
Asia/Pacific Regional Picture
Regional Implementation Strategy
Asia/Pacific Seamless ATM Plan
(incorporated into eANP Vol. III), including:
• Asia/Pacific Regional ATFM Framework
• Regional ATM Contingency Plan (draft)
• Asia/Pacific Search and Rescue Plan
• AMS, NAV and SUR strategies
Regional Implementation Reporting
Seamless ATM Reporting
Regional Guidance Material
Seamless ATM Guidance Material
State Seamless ATM Plan Template

CONTINUAL IMPROVEMENT
PLAN
DO
CHECK
ACT

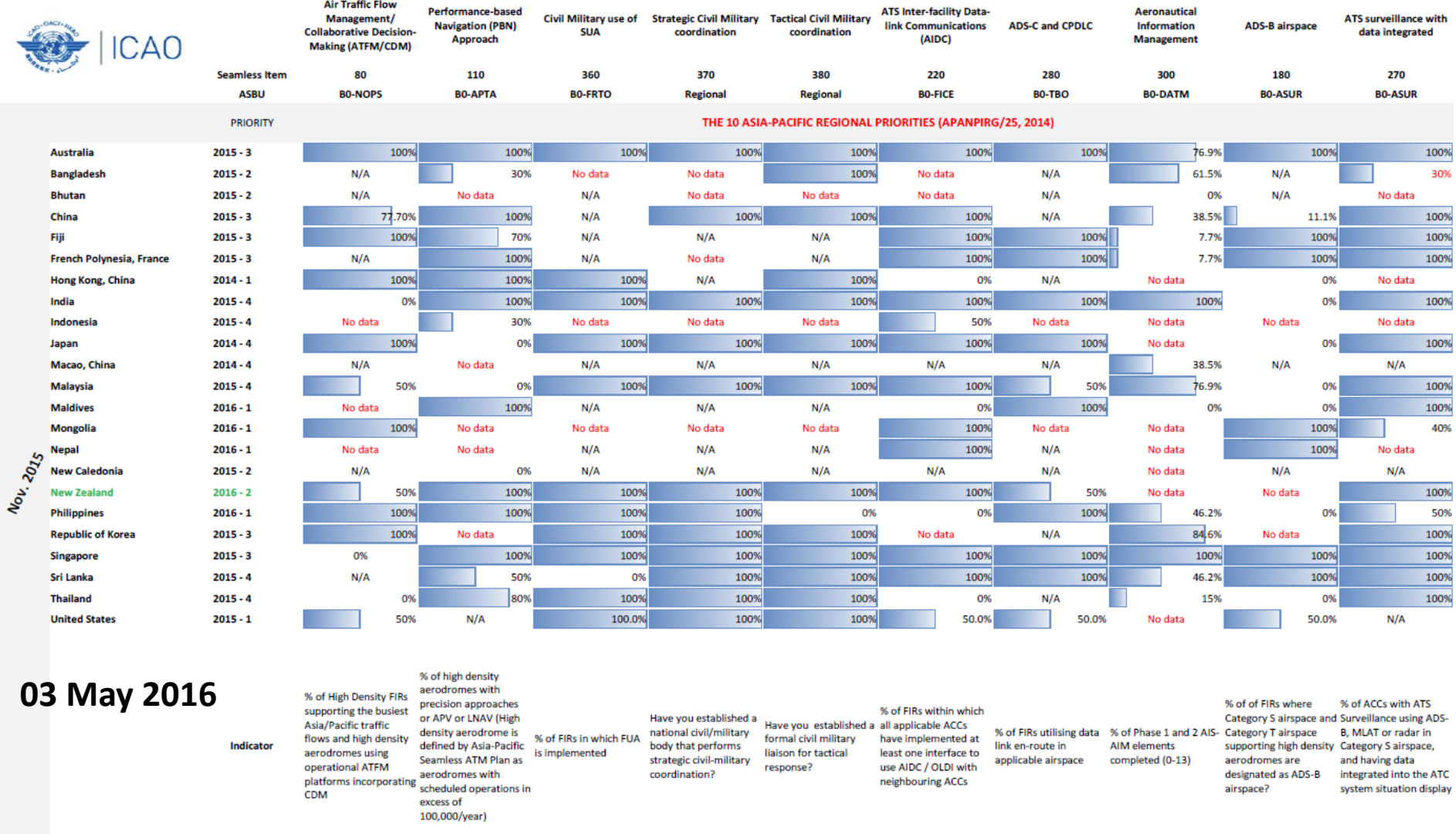
Monitoring the implementation

03 May 2016:

23 Asia/Pacific States (55%) report on their ANS implementation



http://www.icao.int/APAC/Pages/ATMReport.aspx

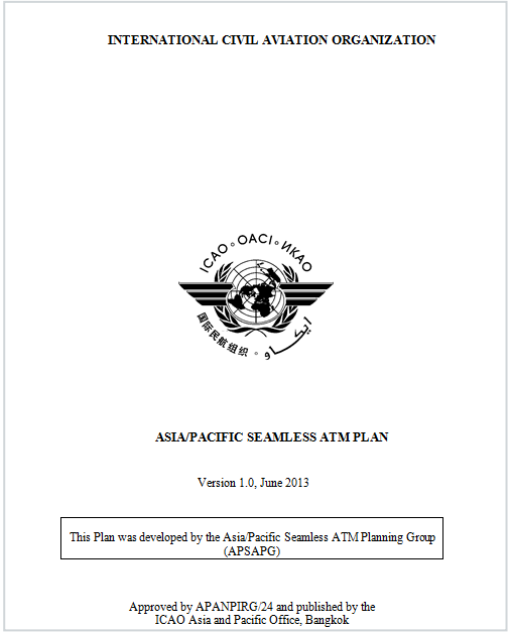


03 May 2016

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 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?	% 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 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

Asia/Pacific Seamless ATM Plan

- Adopted in June 2013 by APANPIRG
- 3 years revision cycle
- Provide harmonized and consistent ATM Service by introduction of the Aviation System Block Upgrades (ASBU)
- Strengthen human performance
- Enhance civil/military cooperation



INTERNATIONAL CIVIL AVIATION ORGANIZATION

ASIA/PACIFIC SEAMLESS ATM PLAN

Version 1.0, June 2013

This Plan was developed by the Asia/Pacific Seamless ATM Planning Group (APSAPG)

Approved by APANPIRG/24 and published by the ICAO Asia and Pacific Office, Bangkok

Asia/Pacific Seamless ATM Plan

- 2013 version - 45 objectives 2 phases
  - Phase 1: November 2015
  - Phase 2: November 2018
- Draft version 2016
  - Based on a gap analysis/decision matrix
  - Addresses new regional needs/B1 enablers or modules as necessary
  - Phase 2: November 2018 2019 (aligned with GANP 2016)
  - Plans additional objectives for Phase 2
  - Considers objectives for Phase 3: November 2022

http://www.icao.int/APAC/Documents/edocs/Asia%20Pacific%20Seamless%20ATM%20Plan%20V1.0.pdf

SEAMLESS ATM PLAN
DRAFT V2 (2016)

ASIA-PACIFIC GAP ANALYSIS OF ASBU B1 (DRAFT)

HIGHER COSTS/COMPLEXITY

2019: • B1-SURF (high density) • B1-RSEQ (high density) • CRV implementation • B1-TBO(only DCL) • Pre VoIP • B1-NOPS (high density)	**2022** • B1-RPAS (high density) • B1-APTA (high density) • B1-FICE (all) • B1-ASEP(high density) • B1-SURF (all) • B1-RSEQ (all) • B1-TBO(all) • B1-FRTO (all)*	**2025 or may not universally implemented:** • B1-RATS
2019: • B1-CDO • B1-SAR	**2022:** • B1-AMET (all) • B1-SWIM (all) • B1-SNET • VoIP	**2022:** • B1-WAKE
2019: • B1-ACDM (high density) • Language Proficiency • Ballistic rocket launch/space re-entry • Airport Master Plan *The dynamic trajectories may not be implemented globally	**2019:** • B1-DATM (all)	**2019:**

URGENCY

DRAFT SEAMLESS PLAN 2016

ADDITIONAL OBJECTIVES FOR PHASE 2 (NOV. 2019)

Seamless ATM Plan reference, paragraph	Aerodrome	Terminal	En-route	Specification title	ASBU module
460	√			Optimized Airport Operations through Airport -CDM	B1-ACDM
470	√			Improved Airport Operations through Departure, Surface and Arrival Management	B1-RSEQ
480	√			Enhanced Safety and Efficiency of Surface Operations – SURF, SURF 1A and Enhanced Vision Systems (EVS)	B1-SURF
490	√	√	√	Initial trajectory-based Operations	B1-TBO
500	√	√		Continuous descent Operations using VNAV	B1-CDO
510			√	Rocket launches coordination	Regional
520	√	√	√	Human performance – language proficiency	Regional
530	√	√	√	SAR Regulatory and Coordination Mechanisms (B1-SAR)	Regional
540	√	√	√	SAR Facilities and Assets (B1-SAR)	Regional
550	√	√	√	SAR Information (B1-SAR)	Regional
560	√	√	√	SAR Improvement (B1-SAR)	Regional
570	√			Airport Master Plans	Regional
580			√	**Common aeRonautical Virtual private network (CRV)**	**Regional**
590			√	Voice communications over IP between ATS units (VoIP)	Regional

7.XX All ACC serving high density FIR should be connected to CRV (Common aeRonautical Virtual private network) and CRV interconnected with EUR, MID and AFI regions.

2019 Review

- Review in 2019 for potential inclusion in phase 3 objectives (target Nov. 2022):
  - B1-SWIM
  - B1-APTA
  - B1-SNET
  - B1-FICE
  - B1-RPAS
  - B1-AMET
  - B1-DTAM
  - B1-ASEP
  - B1-RATS

Text envisaged for Seamless Plan

- PASL Phase III (expected implementation by **November 2022**)

- **ATM Systems**
- The System Wide Information Management (SWIM) components: Flight Object-enabled ATM; AIXM capable and AIM systems, should be implemented in the high density FIRs and High density international aerodromes.

- PASL Phase IV (expected implementation by **November 2025**)

- **ATM Systems**
- The System Wide Information Management (SWIM) components: Flight Object-enabled ATM; AIXM capable and AIM systems, should be implemented in all FIRs and international aerodromes.

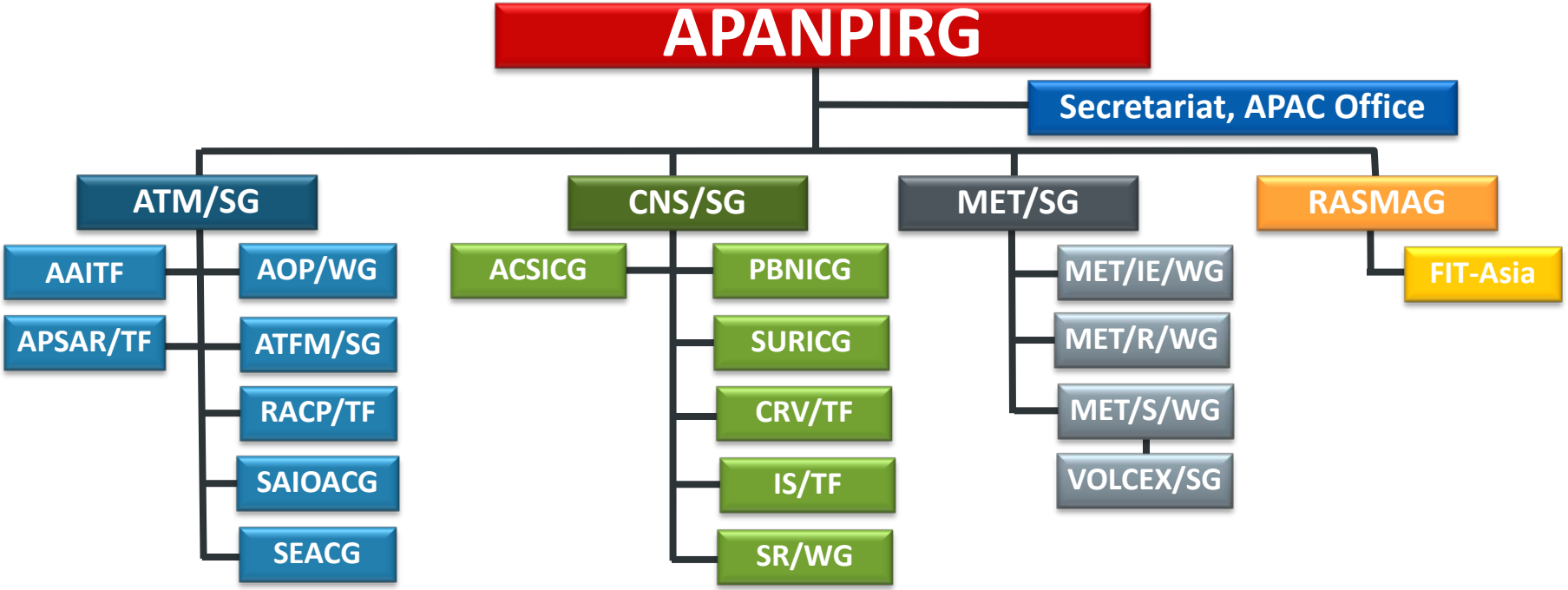
Required technology/services

- Migrate to IP-based regional network (APAC: CRV)
- Identify Publishers and Subscribers (ATFM/ATM/AIM/MET service providers) and contract appropriate data and quality in LOA/policies/contracts
- Upgrade to SWIM compliant systems (Flight Object-enabled ATM system, AIXM capable AIM system)
- Establish/update IT security policy

ACSICG WORK PROGRAMME RELATED TO SWIM

ACSICG work programme

- ACSICG: Aeronautical Communication Services Implementation Coordination Group
- Has a draft work programme regarding SWIM
- Needs to be reviewed (action ACSICG/3)
  - Inputs from the workshop are welcome


APANPIRG
Secretariat, APAC Office
ATM/SG
AAITF
APSAR/TF
AOP/WG
ATFM/SG
RACP/TF
SAIOACG
SEACG
CNS/SG
ACSICG
PBNICG
SURICG
CRV/TF
IS/TF
SR/WG
MET/SG
MET/IE/WG
MET/R/WG
MET/S/WG
VOLCEX/SG
RASMAG
FIT-Asia

Project	Task	Planned Start	Planned completion	Dependencies
AMHS Implementation	Implement AMHS transition including migration of concerned connections to SITA Type X mid 15 and updating APAC AMHS Naming Plan	2015	2017	
SWIM implementation APAC	Develop Cost Benefit Analysis to support SWIM using existing underlying ATN and IP sub-network			SWIM ConOPs and Technical Manual
	Develop SWIM implementation roadmap and B1-SWIM ANRF	2016	2017	SWIM ConOPs and Technical Manual
	Develop SWIM CONOPS refinement for APAC (FIXM. WXXM, AIXM, NOTAM) - models/infrastructure			SWIM ConOPs and Technical Manual
	Develop SWIM guidance and requirements (performance, functional, safety, security)			SWIM ConOPs and Technical Manual
	Develop SWIM governance architecture			SWIM ConOPs and Technical Manual
	Develop SWIM governance entity/procedures			SWIM ConOPs and Technical Manual
	Develop SWIM access points/services architecture and definition (iterative)			SWIM ConOPs and Technical Manual
	Support testing of SWIM based applications (FIXM, IWXXM)	2015	2017	
	Coordinate SWIM implementation and transition from existing environment to SWIM	2015		SWIM ConOPs and Technical Manual
CRV Project (under the TOR of CRV Task Force)	MSA/DOA	2014	2015	
	Cost Benefit Analysis	2014	2015	
	Users requirements (including performance and safety requirements)	2014	2015	
	RFI	2014	2016	
	Sealed Tender		2016	
	Develop/agree on CRV Design (including an IPv6 address plan)		2017	
	Implementation plan		2016	
	Set up CRV OG		2016	
CRV-OG		2016		

ICAO

THANK YOU