

International Civil Aviation Organization

Sixth Meeting of the Asia/Pacific Air Traffic Management Automation System Task Force (APAC ATMAS TF/6)

Bangkok, Thailand 2-4 June 2025

Agenda Item 5: ATM Automation System Implementation Experience by States

5.1. Review ATMAS Implementation Status in APAC

REPOSITORY OF THE ATMAS IN APAC

(Presented by the Secretariat)

SUMMARY

This paper presents the updated table of the ATMAS Status in APAC region and invites States/Administrations to review and take necessary actions to make the regional repository.

1. INTRODUCTION

- 1.1 The ICAO Asia Pacific Regional ATM Automation System Symposium (APAC RATMS) was held in Nanjing, China, from 22 to 23 November 2018. The symposium recognized a need for States/Administrations to take stock of fallback systems available for all of their ATM automation systems and for the ICAO to conduct a survey on States regarding their provisions of main and fallback ATM automation systems, their functionality/capability/capacity, and any future resilience improvement plan.
- 1.2 The symposium also shared the best industry practices in proactive system maintenance arrangement, which is crucial to maintaining a smooth operation of large-scale, complex and highly integrated ATM automation systems. This included, for example, regularly monitoring and conducting trend analysis on system health status and various system resources and proactively restarting servers/workstations on a regular basis and in an orderly and timely manner as part of the housekeeping so as to keep the system in optimal running conditions.
- 1.3 The symposium noted that Space-based ADS-B would become operational in early 2019, providing quality ATC surveillance data as a service across the globe, which provides ATC radar-like service to supplement terrestrial-based surveillance and to enhance the resilience of existing surveillance systems for integration into the ATM automation system, independent of weather and natural disasters. In addition, space-based ADS-B could support the utilization of surveillance data outside individual FIRs. States/Administrations could consider its potential applications in surveillance as well as in long-range flow management.
- 1.4 Given the fruitful outcomes from the symposium, it was recommended that further workshops/symposia be organized on a regular basis to benefit the ATM automation system development and implementation. The symposium also suggested that States/Administrations consider

the establishment of a regional working group/task force under the ICAO CNS Sub-group of APANPIRG to deal with automation-related matters. The symposium agreed to formulate an action item for the 23rd Meeting of CNS Sub-group in 2019 to review and consider whether such a regional working group/task force is needed and the terms of reference in the light of the required impetus on ATM automation systems in the region and in supporting the implementation ASBU in the ICAO GANP (version 2019) and APAC regional priorities.

- 1.5 The Twenty-third Meeting of the CNS Sub-Group (CNS SG/23) of APANPIRG in September 2019 made a Decision CNS SG/23/13 for the Establishment of the ATM Automation System Task Force (ATMAS TF).
- The first Meeting of the Asia/Pacific Air Traffic Management Automation System Task Force (ATMAS TF/1) was held from 27 to 30 October 2020. In this Meeting, Indonesia presented IP/03: ATM Automation System in Indonesia and introduced the phased approach in ATMAS implementation from System plan and design system, installation and commissioning to operational transition. The Meeting recalled the proposal by the ATM Automation System Symposium held in 2018 to establish a repository of the ATM automation systems implemented by States, which was assigned as ACTION ITEM 1-1: Develop a table to list the current ATMAS status for all states for this task force.
- 1.7 This paper presents the updated table of the ATMAS status in the APAC region and invites States/Administrations to review and take necessary actions to create the regional repository.

2. DISCUSSION

- 2.1 In order to follow up the **ACTION ITEM 1-1** of ATMAS TF/1, Indonesia worked on the table design and proposed a draft Table of Current ATMAS Status in ATMAS TF/2 meeting held from *14-16 September 2021*, based on Appendix A (Recommended Functions and Performances of Air Traffic Management Automation System) of the ATMAS TF/1 report. The ATMAS TF/2 meeting further discussed the draft table and agreed to create an ad-hoc group led by Indonesia, including China, Hong Kong China, the Republic of Korea, and Singapore, with the support of the ICAO Secretariat to consider the States' suggestions and work out a revised version of the survey which resulted into **Action Item 2-2 of ATMAS TF/2**.
- 2.2 To follow up on Action Item 2-2 of ATMAS TF/2, the table of ATMAS status in the APAC region was re-designed and re-formatted by the ad-hoc group and reviewed and adopted by the ATMAS TF/3 meeting *held from 8 to 10 June 2022*. It was noted that the table can be easily filled in by selecting the choice from the drop-down list and the available options will support data statistics and analysis in the future. While filling the table, the Member States were recommended to refer to the explanation of the table and the corresponding chapter of ATMAS IGD to get further information. The ICAO Secretariat was requested to issue a State Letter to circulate the table to collect information in order to build the repository of the ATM automation systems for the APAC Region, which was recorded as Action Item 3-1.
- As a follow-up on Action Item 3-1 of ATMAS TF/3, the skeleton ATMAS repository was circulated through State Letter **Ref.:** T 8/12.18: AP139/22 (CNS) with Subject *Publication of ATM Automation System Implementation and Operations Guidance Document (ATMAS IGD Edition 1.0) and Establish the Air Traffic Management Automation System (ATMAS) Repository for APAC Region* on 21 October 2022. Twelve responses were received from Cambodia, Hong Kong China, Fiji, Lao PDR, Malaysia, New Zealand, Pakistan, Philippines, Republic of Korea, Singapore, Sir Lanka, and Thailand. The ATMAS TF/5 reviewed and updated the ATMAS Repository provided in **Appendix A** to this paper for reference and update by the Meeting.

The ATM automation system is a bridge that connects the new technologies with the controllers, and it is expected that at some point, most ATM tasks will be done by automated systems, with controller interventions being an exception. The ATM automation systems may need to be upgraded continuously to follow the guidance and requirements listed in the GANP ASBU and ICAO APAC Seamless ANS Plan to keep abreast of the latest developments, provide integrated information to air traffic controllers and enhance the safe, harmonized, and continuous ATM operation. Member States/Administrations are encouraged to update the information on ATM automation systems for the ICAO Secretariat to refine the ATMAS Repository further.

3. ACTION BY THE MEETING

- 3.1 The Meeting is invited to:
 - a) note the information contained in this paper;
 - b) review and update the information contained in the ATMAS Repository in **Appendix A**; and
 - c) discuss any relevant matter as appropriate.

Explanation of the Table of ATMAS Status in APAC Region

Note: If the ATM Automation System has the capability on certain function listed below but not implement yet, please marked in red; if the ATM Automation System has already implemented certain function listed below, please keep it in black.

Column	Element	Explanation	Reference Chapter in ATMAS IGD	Relevant ASBU Block
1.	State/Administration	Name of the State/Administration		
2.	FIR	Name of the Flight Information Region (FIR)		
3.	ATS Unit / Location	Location of the ATM Automation System		
4.	Number of ATS positions	Number of ATS positions in this ATM Automation System (to evaluate the system workload)		
5.	Manufacturer / Brand / Version	Manufacturer / Brand / Version of the system		
6.	System Status	the system is used as Main, Backup, or Emergency		
7.	Surveillance Data Processing Function (SDP)	Surveillance data can be processed by the system, including PSR, Mode A/C, Mode S, ADS-B, WAM, or others	Chapter 3.1.1 & 3.2.1	ASUR B0/1, ASUR B0/2
8.	Bypass Surveillance Data Processing (BSDP)	BSDP is a redundancy module of SDP, which can independently receive, process and distribute surveillance data independently to SDP. When the SDPs fail, the system will switch to BSDP automatically. When the system switches to bypass mode, the HMI should clearly indicate if controller is working in BSDP mode.	Chapter 3.1.3	
9.	Flight Data Communication Network	Type of Flight Data Communication Network used by the system (AFTN, AMHS, or both)		COMI B0/7
10.	Flight Data Processing Function (FDP)	The system can support flight data processing, including Flight Message Processing, Life Cycle Management, 4D Profile Trajectory Caculation, SSR Code Management, Sector Management and Posting Computation	Chapter 3.1.2	
11.	Flight Strip	The system can support print Paper Flight Progress Strip, display Electronic Flight Strip, or both		
12.	Mode S conspicuity code Identification	The flight plan with A1000 will use a 24-bit address or ACID to correlate with system tracks, and warnings/alerts should not be generated when SSR duplication occurs due to Mode S conspicuity code.	Chapter 3.1.2.4	

Column	Element	Explanation	Reference Chapter in ATMAS IGD	Relevant ASBU Block
13.	Correlation of surveillance and flight data	The system can perform an automatic correlation between the flight plan and the system track based on the SSR code, aircraft 24-bit address, or Aircraft Identification (ACID)	Chapter 3.1.4 & 3.2.2	ASUR-B0/3
	Safety Net Function	Essential alerts or warnings can be generated automatically		
14.	Emergency code warning (7500,7600,7700)	Once the emergency codes were received, the system is suggested to process it and display the Emergency on the concerned positions.	Chapter 3.1.5.2	
15.	Short Term Conflict Alert (STCA)	The system will provide a separation alert for a potential or actual infringement of separation minima between aircraft as basic STCA, using aircraft intent parameters (Selected Flight Level), considering ATC practices (level-off prediction test and turn prediction test).	Chapter 3.1.5.3	SNET-B0/1 & SNET-B1/1 & SNET-B1/2
16.	Minimum Safe Altitude Warning (MSAW)	The system will assist controllers with alerts of the potential risk of an aircraft infringing a defined minimum safe altitude over a concerned region.	Chapter 3.1.5.4	SNET-B0/2
17.	Area Proximity Warning (APW)	The system will alert controllers of any potential or actual unauthorized penetration of aircraft into Special Use Airspaces (SUA).	Chapter 3.1.5.5	SNET-B0/3
18.	Approach Path Monitoring (APM) Warning	The system will monitor the aircraft's vertical and lateral deviation from the final approach profile in ATMAS, and generate visual and/or aural alerts when an aircraft exceeds or is predicted to exceed the defined tolerance of deviation.	Chapter 3.1.5.6	SNET-B0/4
19.	Route Adherence Monitoring (RAM)	The system will monitor if an aircraft (i.e., surveillance track) is following the planned route, as stated in the associate flight plan.	Chapter 3.2.3.4	FRTO B0/4
20.	Cleared Level Adherence Monitoring (CLAM)	The system will monitor the conformance of the Actual Flight Level (AFL) of an aircraft to the Cleared Flight Level (CFL) issued by the air traffic controller and provide warnings if the deviation between the two levels (i.e. Level Bust) was found after the aircraft has been level-off.	Chapter 3.2.3.5	FRTO B0/4

Column	Element	Explanation	Reference Chapter in ATMAS IGD	Relevant ASBU Block
21.	Meteorological Information Processing	The system is capable of receiving, processing, and displaying meteorological information, including GRIB, QNH, and weather data derived from mono-radar, or other	Chapter 3.1.6	AMET
22.	Air Ground Data Link Function (AGDL)	The AGDL function mainly processes the information based on the data link communication, including ADS-C (Automatic Dependent Surveillance-Contract), CPDLC (Controller-Pilot Data Link Communication), and DCL (Departure Clearance).	Chapter 3.1.7	COMS
23.	System Parameter Management Function	The system is capable of managing the variable system parameters through a user/ops orientated adaptation interface used by trained adaptors.	Chapter 3.1.8	
24.	ATS Inter-facility Data Communication Function (AIDC)	The system can support ATS-related information exchanges within the ATMAS of adjacent Control Units and Flight Information Regions adopted in the Asia-Pacific region, including Handover and Coordination	Chapter 3.1.9	FICE B0/1
25.	Human Machine Interface Function (HMI)	Operational users can monitor air traffic situations and modify flight plans and other relevant information through physical peripherals and/or onscreen control interfaces.	Chapter 3.1.10	
26.	Recording and Playback Function	The system has the basic, enhancement, none, or both recording and playback function.	Chapter 3.1.11 & 3.2.8	
27.	System Monitoring and Control Function	The system can provide the monitoring and controlling function, and the failure of the monitoring and controlling function should not affect the operation of other modules.	Chapter 3.1.12	
28.	GNSS Time Synchronization	The system can synchronize with the external GNSS signals or not	Chapter 3.1.13	
	Extended Alerts and Warning			
29.	Departure No Transgression Zone (DTZ)	The DTZ function informs the controller if a track is predicted to infringe a Departure No Transgression Zone area within a predefined time interval, or has already infringed a Departure No Transgression Zone area. The DTZ function also may suppress improper STCA generate between two normal flights in DMA (Departure Monitoring Area).	Chapter 3.2.3.1	

Column	Element	Explanation	Reference Chapter in ATMAS IGD	Relevant ASBU Block
30.	No Transgression Zone (NTZ)	The system will warn controllers of a predicted or actual unauthorized penetration of NTZ by aircraft during final approach.	Chapter 3.2.3.2	
31.	Medium Term Conflict Detection Warning (MTCD)	The system will provide warnings to controllers for potential conflict for "aircraft-to aircraft" or "aircraft-to-airspace" encounters up to a looking ahead time.	Chapter 3.2.3.3	FRTO B0/4
32.	Similar Callsign Advisory (SCA)	The system will provide advisory to alert controllers when an aircraft carries a similar callsign with another one in the same jurisdiction controlled by a controller.	Chapter 3.2.3.6	
33.	Reduce Vertical Separation Minimum (RVSM) Warning	The system will provide alerts to controllers when a non-RVSM approved/compliant aircraft is within or is predicted to enter RVSM airspace.	Chapter 3.2.3.7	
34.	Position Report Monitoring (PMON)	The system will monitor ATO/ETO and provide warnings to controllers accordingly.	Chapter 3.2.3.8	
35.	Last Known Position Display	Last Known Position Display occurs when correlated tracks, uncorrelated, or ADS-C tracks with critical alerts are lost.	Chapter 3.2.3.9	
36.	SSR Inconsistency Warning	For correlated flight plan tracks, when the Mode 3/A code in the surveillance data is inconsistent with the SSR code in the flight plan, the system is suggested to raise ASSR Inconsistency Warning.	Chapter 3.2.3.10	
37	PBN Capability Indication	The system will provide PBN indicator and/or PBN route mismatch indication for controllers in order to indicate whether the aircraft match the RNAV/RNP Route or Arrival.	Chapter 3.2.3.11	APTA
38	Downlink Aircraft Parameters Processing and Display	The system have the capability to process and display aircraft downlink aircraft parameters (DAPs) in Track Fusion, Related Warnings, or Downlink Data Window	Chapter 3.2.4	ASUR-B0/3
39	Integrated Technology	the system has integrated some new technologies, including Arrival Manager (AMAN), Departure Manager (DMAN), or Enhanced Wake Turbulence Separation and Pairwise Separation Tools, or None	Chapter 3.2.5 & 3.2.6 & 3.2.9	RSEQ, WAKE

Column	Element	Explanation	Reference Chapter in ATMAS IGD	Relevant ASBU Block
40	System Log Management	The system is able to collect and manage operational logs and error messages.	Chapter 3.2.7	
41	Interoperability	The system supports exchange messages with other external systems, including Integrated Tower System, A-SMGCS, Tower Electronic Strip System, Others, or None, to implement information sharing		SURF, SWIM
42	Operational Data Synchronization	data.	Chapter 3.2.10	
43	Statistics and Analysis Function	The system can generate reports on the surveillance data, flight plan, alarm information and traffic flow data.	Chapter 3.2.11	
44	Remarks	Any other need to be mentioned		

ATM Automation System Repository in APAC Region Safety Net Function Extended Alerts and Warning														Autom	ation Sy	stem R	eposit	tory in	APAC	Regio	n												
State/Administ	r FIR	ATS Unit /	Number of ATS Manufacturer / Syster positions Brand / Version Statu	m Surveillance Data Processir	ng Processin	Flight Data	Flight Data Processing Function (FDP) Strip	Mode S conspic uity code Identific ation	Correlation of surveillance and flight data	Emergenc y code warning (7500,760 0,7700)		Minimu m Safe Area Altitude Warnin g Warnin (MSA g	ni h Path Monitori	nce nce	l ere	Air Ground Data Link Function	System Parameter Management	ATS Inter- facility Data Communicati on Function	Human Machine Interface Function	Recor ding and System Playba Monitor ck ng and Functi Contro	.: Time ITRA	ANSG ITransgrø	Medium Term	Simila r Reduce Callsig Vertical	Position Report Monitori (PMON)	ing Known Position	ency Indic	Downlink Aircraft cat Parameters Processing and		og nage		I Statistics and io Analysis Function	Remarks
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AUSTRALIA BANGLADESH																																	
BHUTAN																																	
DARUSSALAM		ACC, APP/	THALES / TopSky-	PSR+Mode A/C+Mode S+Al	DS- No	AFTN+AMHS	Flight Message Processing+ Life Cycle Management+ 4D Profile Paper	. No	SSR code+24-bit	Yes	Basic+ATC	Yes Yes	Yes	Yes Ye	es QNH	None	Offline	Basic+Hando ver+Coordina		Basic+ Monito	r Var	No No	Yes	Yes Yes	i No	Yes	Yes Yes	Track Fusion+Related s Warnings+Downlink Data	None Y	es None	operationa		Statistic - only Flight statistic is available
CAMBODIA	Phnom Penh - FIR	ACC, APP/ Phnom Penh		B+WAM g PSR+Mode A/C+Mode S+Al		AFTN+AMHS	Trajectory+ SSR Code Flight Message Processing+ Life Cycle Management+ 4D Profile Paper	No No	Address+ACID SSR code+24-bit	Yes	practices Basic+ATC	Yes Yes		+	es QNH	None	Offline	tion Basic+Hando ver+Coordina		cemen I Basic+ Monito Enhan +Contro	r	No No	Yes	Yes Yes		Yes	Yes Yes	Window Track Fusion+Related Warnings+Downlink Data		es None	setting dat	l Voc	Statistic - only Flight statistic is available
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CHINA	China FIR	China	XX, INDRA(AIRCORN), Nanjing Les(Numen), CDATC(AirNet), Best(SkyNet-X)	+ PSR+Mode A/C+Mode S+Al p B+WAM	DS- Yes	AFTN+AMHS	Flight Message Processing+ Life Cycle Management+ 4D Profile Trajectory+ SSR Code Management+Sec Manage&Posting Comput		SSR code+24-bit Address+ACID	Yes	Basic+Aircraft Intention+ATC practices	Yes Yes	Yes	Yes Y	Flight es data+Surveilla ce data	ADS- C+CPDLC+DC L	Online+Offlir e	Basic+Hando ver+Coordina tion	Yes	Basic+ Enhan cemen t HOnito	Yes 1	Yes Yes	Yes	Yes Yes	s Yes	Yes	Yes Yes	Track Fusion+Related S Warnings+Downlink Data Window	AMAN Y	Integated Tower Si SMGCS+ Tower El Strip System	ectronic operations	l Yes	
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		KCH ACC/ Kuching	THALES Backu	p PSR+Mode A/C+Mode S+Al B	DS- Yes		Paper+ Flight Message Processing+ Life Cycle Management+ 4D Profile Trajectory+ SSR Code Management+Sec Manage&Posting Comput		SSR Code+24-bit Address+ACID	Yes	Basic+Aircraft Intention+ATC practices	Yes Yes	Yes	Yes Yes	QNH+mono- radar+GRIB	ADS- C+CPDLC+DC L	Online + Offline	Basic+Hando ver+Coordina tion		Basic+ Monito Enhan + cemen Control	1 1	Yes	Yes	Yes Yes	Yes	Yes	Yes Yes	Track Fusion+Related Warnings+Downlink Data Window	AMAN+DM Yes AN	Integated Tower Sys SMGCS+ Tower Elec Strip System		Yes	
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NAURU NEPAL							Flight Message Processing+ Life																		+								
		All/Christchurch+ Auckland		PSR+Mode A/C+Mode S+AI B+WAM	DS- Yes		Cycle Management+ 4D Profile Trajectory+ SSR Code Management+Sec Manage&Posting Electro Comput In Comput	Yes	SSR code+24-bit Address+ACID	Yes	Basic+ATC practices	Yes Yes	Yes '	Yes Yes	QNH+mono- radar+GRIB	CPDLC+DCL	Online+Offlin	Basic+Hando n ver+Coordina tion		Basic+ Enhan Monito cemen +Contro t		Yes	No	No Yes	Yes	No	Yes Yes	Track Fusion+Related Warnings	AMAN Yes	Tower Electronic Str	flight data+ operational p System setting data	Yes	Current ATMS Live Nov 2023

ATM Automation System Repository in APAC Region Safety Net Function Extended Alerts and Warning																																					
State/Administr ation 1	FIR 2	ATS Unit / Location 3		sion Status		g (BSDP)	Flight Data	io Flight Data Processing Function Fligh (FDP) Strip	Mode S conspic uity code Identific p ation	data	nt (7500,760 0,7700)	Short Term	Minimu m Safe A Altitude Pr Warnin g W (MSA g W) (A	Area Ap Proximi h F y Mo Warnin ng ; (A APW) Wa	onitori nce Moi LPM) ing arning (RA	onitor Monitor ing AM) (CLAM	e or Meteorolog	on Function g (AGDL)	k Paramete Managem Function	er Communion ent on Functi n (AIDC)	ata Maci icati Inter ion Func) (HI	thine Playb rface ck ction Func MI) on	ti Control C	Time TRA Synchr RESS onizati Zone on (DTZ	NSG Transgr SION ssion e Zone Z) (NTZ)	Medium Term re Conflict Detection Warning (MTCD)	Simila r Redu Callsig Vertii n Sepai Adviso Minir ry (RVSI (SCA) Warn	ce cal Posit ration Report mum Mon M) (PM) ning Wan	ion ort Last itoring Know ON) Positi ning Displa	n Inconsist I on ency I Warning i	ndicat Parameters Process on Display	sing and In	Syst Lontegrated Mar echnology me 39 4	nage ent Interoperability	Data Synchroniza n Functio	Statistic and atio Analysi n Functio 43	is on Remarks 44
New Zealand		KL Oceanic CC/ Auckland	2 Adacel OCS	Main		No	AFTN+AMHS	Flight Message Processing+ Life Cycle Management+ 4D Profile Trajectory+ SSR Code Management+Sec Manage&Posting Comput inic	ro No	Yes	Yes	No	No N	4o No	o No	No	GRIB	FANS1/A CPDLC+A C	05-	Yes	Yes	Yes	Yes Y	'es No	No	No	Yes Yes	Yes	No	No 1	es No	No	o Yes	No	Yes	Yes	OCS is an automated procedural Oceanic system with appropriate functionality for this function. Functionality includes: Long Term Conflict Detection (LTCD), Procedural Conformance Monitoring (Route, Level, and time), display and correlation of pre-processed PSR, SSR, ADS-B, WAM track data, 4D profile calculation appropriate to a procedural environment including upper lower level, and lateral deviation protection. The new Asia/Pac ATMAS (50 and this document does not adequately cover the requirements for procedural based oceanic Control ATM.
PAKISTAN	OPKR	ACC/KARACHI	18 SDD INDRA Aircon	2100 Main	PSR+Mode A/C+Mode S	Yes	AFTN+AMHS	Flight Message Processing+ Life Cycle Management+ 4D Profile Trajectory+ Paper SSR. Code Management+Sec ectror Manage&Posting Comput	+EI No nic No	SSR code+ACID	Yes	Basic+ATC practices	Yes	Yes	No Y	Yes Yes	QNH+mon radar	o- None	Online+Offl	Basic+Han line er+Coordir on		es Basit	c Monitor +Control	Yes N	No No	Yes	Yes Y	ries	No No	Yes	Track Fusion+Rel Warnings+Downlin Window		None Y	es None	None	No	7 - ADS-B data could not be integrated with ATM in Asteric Category-21. MLAT is not available at ACC JIAP. 8 - No safety alerts in Bypass SDP 21 - Auto GNBIS support n/a 22 - ADS-C and CPDIC are not available at ACC JIAP 25 - Synchroroused Relpaly of multiple CWP is not available. Screen capture file format is not available. Screen capture file format is not supported by non-proprietary softwares. The video recording data is NOT available common video formats. Synchronized replay node does not support change in replay speed, forward, etc. 27 - Export of logs by thire not JSB or on any other media is not available, however, print option is available. 38 - Resolution Advisory (RA) alert indication NOT AVAILABLE
		ACC Lahore	21 INDRA Aircon	2100 Main	PSR+Mode A/C+Mode S	Yes	AFTN+AMHS	Flight Message Processing+ Life Cycle Management+ 4D Profile Trajectory+ SSR Code Management+Sec ectror Manage&Posting Comput	+EI No	SSR code+ACID	Yes	Basic+ATC practices	Yes	Yes	No Y	Yes Yes	QNH+mon	0- None	Online+Offi	Basic+Han		es Basio	Monitor +Control	Yes N	No No	Yes	No Y	/es	No No	Yes	Track Fusion+Rel No Warnings+Downlin Window		None Ye	es None	None	No	For Downlink Aircraft Parameters Processing and Display Limited DAP Related Warnings capability exist i.e. 24 Bit Code and Call Sign Mismatch Warnings
	OPLR —	ACC IIAP	21 SIATM	Main	PSR+Mode A/C+Mode S+ADS-	B Yes	AFTN+AMHS	Flight Message Processing+ Life Cycle	+EI Yes	SSR code+ACID	Yes	Basic+Aircraft Intention+ATC practices	Yes	Yes	Yes Y	Yes Yes	QNH+moni radar	O- CPDLC	Online+Offi	Basic+Hani er+Coordir on	ndov nati Ye	Basic+ es nhand men	*E Monitor ce +Control	Yes N	No No	Yes	No Y	/es	No Yes	Yes	Track Fusion+Rel Yes Warnings+Downlin Window	I. Data	AODB / ACDM	Integated Tower System Electronic Strip Sys		No	MSAW is not implemented due operational limitation.
PALAU PAPUA NEW GUINEA																																					
Philippines	Manila FIR A	.CC/APP/Manila	a 38 Thales/Top:		PSR+Mode A/C+Mode S+AE B+WAM	os- Yes	AFTN	Flight Message Processing+ Life Cycle Management+ 4D Profile Trajectory+ SSR Code Management+Sec Manage&Posting	e Yes	SSR code+24-bit Address+ACID	Yes	Basic	Yes	Yes	Yes Y	Yes Yes	QNH+mon radar+GRI		DLC Offline	Basic+Han ver+Coord tion		es Basio	Monitor +Contro	Yes N	No No	Yes	Yes Y	'es	res Yes	Yes	No Track Fusion	,	AMAN Y	es Integated Tower Sy	flight data tem operation setting da	al Yes	Initial Assesment
	INCHE GI ON FIR TV Se AF	eoul PP/Incheon Incheon WR/Incheon Impo WR/Gimpo eoul PP/Incheon Incheon WR/Incheon WR/Incheon	INDRA Aircon 41 2100	Main	PSR+Mode A/C+Mode S+AE B	Yes	AFTN	Comput Flight Message Processing+ Life Cycle Management+ 4D Profile Trajectory+ SSR Code Management+Sec Manage&Posting Comput Flight Message Processing+ Life Cycle Management+ 4D Profile Trajectory+ SSR Code	ro No	SSR code+ACID	Yes	Basic+Aircraft Intention	Yes Ye	'es Ye	is Yes	s Yes	QNH+mono- radar+GRIB		Online+Ofi e	flin Basic+Han ver	ndo Yes	ceme t	+ Monitor + Contro I Y	'es No	Yes	No	No No	Yes	Yes	Yes 1	Track Fusion+Relate Warnings+Downlink Ves Window	Data Al	MAN+DM N Yes	Tower Electronic Strip	flight data+ operational System setting data flight data+	Yes	
	INCHE Gi		INDRA Aircon 41 2100	Backup	PSR+Mode A/C+Mode S+AE B	No	AFTN	Management+Sec Manage&Posting Electr Comput nic Flight Message Processing+ Life Cycle Management+ 4D Profile	no No	SSR code+ACID	Yes	Basic+Aircraft Intention	Yes Ye	'es Ye	s Yes	s Yes	QNH+mono- radar+GRIB		Online+Off e	flin None	Yes		en +Contro I Y	'es No	Yes	No	No No	Yes	Yes	Yes	Warnings+Downlink 'es Window		MAN+DM N Yes	Tower Electronic Strip	operational		
	INCHE DA	AEGU ACC/ AEGU	Leidos/SKYLII 70 6.0	NE/V Main	PSR+Mode A/C+Mode S+AD B	Yes	AFTN+AMHS	Trajectory+ SSR Code Management+Sec Manage&Posting Comput Paper Electr nic	Yes	SSR code+24-bit Address	Yes	Basic	Yes N	io No	o Yes	s Yes	QNH+mono- radar+GRIB		OC Online+Of	Basic+Han ver+Coord tion Basic+Han	dina Yes	ceme	Monitor +Contro I Y	'es No	No	Yes	No Yes	No	Yes	Yes I	lo Track Fusion	No	one Yes	None	flight data+ operational setting data flight data+	Yes	
	INCHE IN ON FIR AC	ICHEON CC/INCHEON	Leidos/SKYLII 70 6.0	NE/V Main	PSR+Mode A/C+Mode S+AE B	Yes	AFTN+AMHS	Trajectory+ SSR Code Electr	ro Yes	SSR code+24-bit Address	Yes	Basic Basic+Aircraft	Yes N	lo No	yes Yes	s Yes	QNH+mono- radar+GRIB	C+CPDLC+	OC Online+Of	flin ver+Coord		ceme t	en +Contro I Y	es No	No	Yes	No Yes	No	Yes	Yes I	lo Track Fusion Track Fusion+Relate	No ed	one Yes	None Integated Tower Syste	operational setting data	Yes	
	ON FIR BU	USAN			PSR+Mode A/C+Mode S	Yes	AFTN+AMHS	Trajectory+ SSR Code Management+Sec Manage&Posting nic	Yes	SSR code+24-bit Address+ACID	Yes	Intention+ATC practices	Yes Ye	'es Ye	s Yes	s Yes	QNH+mono- radar	None	Offline	None	Yes	ceme	en +Contro I Y Monitor	'es No	No	Yes	Yes Yes	Yes	Yes	Yes	Warnings+Downlink 'es Window	Data No	one Yes	SMGCS+ Tower Electro Strip System	nic operational setting data		
	ON FIR JE	EJU	TERN TAATAS 4 2010	Main	PSR+Mode A/C+Mode S	Yes	AFTN+AMHS	Flight Message Processing Paper	r Yes	SSR code+24-bit Address SSR code+24-bit	Yes	Basic	Yes Ye	'es Ye	s Yes	Yes	QNH+mono- radar	None	Online+Of	None	Yes	Basic	+Contro I Y Monitor +Contro	'es No	No	No	No No	No	No	No I	lo None	No	one Yes	None	None	No	
SAMOA	ON FIR JE	EJU	3 2010	Backup	PSR+Mode A/C+Mode S	Yes	AFTN+AMHS	Flight Message Processing Paper Flight Message Processing+ Life	r Yes	Address	Yes	Basic	Yes Ye	'es Ye	s Yes	Yes	radar	None	e	None	Yes	Basic	: I Y	es No	No	No	No No	No	No	No I	None None	No	one Yes	None	None	No	
SINGAPORE	WSJC Sin	ngapore	THALES LORA		PSR+Mode A/C+Mode S+AE B+WAM	os- Yes	AFTN+AMHS	Cycle Management+ 4D Profile Trajectory+ SSR Code Management+Sec Manage&Posting Comput Paper Comput Paper Comput		SSR code+24-bit Address+ACID	Yes	Basic+Aircraft Intention+ATC practices	Yes Ye	'es No	o Yes	s Yes	QNH+mono- radar	ADS- C+CPDLC+	OC Online+Of	Basic+Han ver+Coord tion			Monitor en +Contro	'es No	Yes	No	Yes Yes	Yes	Yes	Yes	Track Fusion+Relate Warnings+Downlink 'es Window	Data A	MAN+DM N+AST Yes	Integated Tower Syste SMGCS+ Tower Electro Strip System			
SOLOMON ISLANDS		CC/Colombo	17 INTELCAN	Main	PSR+Mode A/C+Mode S+AD	DS- No	AFTN+AMHS	Flight Message Processing+ Life Cycle Management+ 4D Profile Trajectory+ SSR Code Electr	ro Voc	SSR code+24-bit	Yes	Basic+Aircraft Intention+ATC	Yes Ye	'es Ye	s Yes	s Yes	QNH	ADS-C+CP	Online+Of	flin Basic	Yes	Basic Enhai	Monitor	'es No	No	Yes	Yes Yes	Yes	Yes	Yes	Track Fusion+Relate No Warnings+Downlink		MAN Yes	Integated Tower Syste	flight data+		
	Ap	pproach	17 SKYCONTROL		B PSR+Mode A/C+Mode S+AE	DS		Management+Sec Manage&Posting nic Comput Flight Message Processing+ Life Cycle Management+ 4D Profile Paper	r+	Address+ACID SSR code+24-bit		practices Basic+Aircraft	+				QNH+mono-	ADS-	Online+Of	Basic+Han		t Basic	* Monitor								Window Track Fusion+Relate	ed An	MAN+DM		setting data flight data+	1	This ATM system is currently available under
SRI LANKA	VCCF Co	ontrol Center / IA	14 Thales Topsky	/ Backup	B+WAM	Yes	AFTN+AMHS	Trajectory+ SSR Code Management+Sec Manage&Posting Comput Electr nic		Address+ACID	Yes	Intention+ATC practices	Yes Ye	es Ye	Yes Yes	s Yes	radar+GRIB		oc e	ver+Coord tion	dina Yes	ceme	+Contro Y	es No	No	Yes	No Yes	No	Yes	Yes	es Warnings+Downlink Window	Data A	Yes	Tower Electronic Strip	setting data	1	Trial Operations.
		pproach ontrol Center / IA	6 Selex TRDP	Main	PSR+Mode A/C	Yes	AFTN	nic	r+ ro No	SSR code	Yes	Basic	Yes Ye	'es Ye	s No	No	QNH	None	Online+Ofi e	flin None	Yes	Basic	Monitor +Contro Y	'es No	No	No	No Yes	No	Yes	Yes I	lo None	No	one Yes	Integated Tower Syste	flight data+ n operational setting data	No	This system is to be decommissioned in 3 months, after completing trial operations of Thales Topsky system.
	BANGK OK	ACC / Bangkok	Thales / TopS ATC / V 20.2.9	ky- 9.0 Main	PSR+Mode A/C+Mode S+AE B+WAM	OS- Yes	AMHS	Flight Message Processing+ Life Cycle Management+ 4D Profile Trajectory+ SSR Code Management+Sec Manage&Posting Comput		SSR code+24-bit Address+ACID	Yes	Basic	Yes Ye	'es Ye	is Yes	s Yes	QNH	None	Online+Ofi e	flin Basic	Yes	Enhar ceme t	Monitor en +Contro Y	'es	No	Yes	Yes	Yes	Yes	Yes	Track Fusion+Relate Warnings+Downlink Window		MAN Yes	None	None	Yes	Mode A/C+Mode S+ADS-B
	BANGK OK	ACC / Bangkok	Thales / TopS ATC / V 20.2.9	ky- Emerg 9.0 ency	PSR+Mode A/C+Mode S+AE B+WAM	OS-Yes	AMHS	Flight Message Processing+ Life Cycle Management+ 4D Profile Trajectory+ SSR Code Management+Sec Manage&Posting nic Comput		SSR code+24-bit Address+ACID	Yes	Basic	Yes Ye	'es Ye	is Yes	s Yes	QNH	None	Online+Off	flin Basic	Yes		Monitor en +Contro Y	'es	No	Yes	Yes	Yes	Yes	Yes	Track Fusion+Relate 'es Warnings+Downlink Window	ed Data All	MAN Yes	None	None	No	Mode A/C+Mode S+ADS-B

This is a section of the content o		ATM Automation System Repository in APAC Region																																					
Part																Sa					, stelli I	Leposi	lory III		10 Regit				Extended Aler	ts and Warnin	g								
Part	ation	FIR	Loc	ocation p	oositions Bra	nd / Version	Status	Function (SDP)	Surveill ce Dat	an Flight Da	catio Flight Data Processing Function	con Flight Ide	ispic de Correlation ntific surveillance and ion data	of warn d flight (750) 0,770	de ning Short 0,760 Confli 00) (STCA	- 1			Route	Level	Air Ground ical Data Link n Function g (AGDL)	d System Paramete Manageme Function	ATS Inter- facility Dat Communica ent on Function (AIDC)	Huma a Machir ati Interfa n Functio	Recor ding n and Syste ne Playba Monito ck ng an on Functi Control on Functi	m GNSS ori Time d Synchr ol onizati	Departur e No No TRANSG Transg RESSION ssion Zone Zone (DTZ) (NTZ)	Torm	Calleia Vorti	cal Positio	on t Last oring Know N) Position	SSR n Inconsist on ency y Warning	PBN Capabi lity Downlink Aircra Indicat ion Display	ng and Integ Techr	Log grated Manag nology ment	ge : Interoperability	Data Synchronization n Function	and Analysis Function	
**************************************	1	2		3	4	5	6	7	8	9		11	2 13	1	14	15	16 17	18	19	20 21	22	23	24	25	26 27	28	29 30	31	32	33 3	4 35	36	37 38	3	39 40	41	42	43	44
Property of the content of the con							Main		Yes	AMHS	Cycle Management+ 4D Profile Trajectory+ SSR Code Management+Sec Manage&Postin			Yes			Yes Yes		Yes	QNH		Online+Off e	lin Basic	Yes	Enhan Monit cemen +Cont t	or ro Yes	No	Yes	Yes	Yes	Yes	Yes	Yes Warnings+Downlink D	AIVIAI		Integated Tower System	None	Yes PSR+N	ode A/C+Mode S+ADS-B
Mark		ОК	Suvarna	nabhumi	ATC	V 20.2.9.0	Main		Yes	AMHS	Cycle Management+ 4D Profile Trajectory+ SSR Code Management+Sec Manage&Postin	ing		Yes						QNH		Online+Off e	lin Basic	Yes	Enhan Monit cemen +Cont t I	or ro Yes	No	Yes	Yes	Yes	Yes	Yes	Yes Warnings+Downlink [AMAI		Integated Tower System	None	Yes PSR+N	ode A/C+Mode S+ADS-B
Marke Mark							Main								Basic	:							Basic	Yes					Yes				Yes			Tower Electronic Strip System	n		
Maria Mari	THAILAND	BANG	K CMAP /	/																			Basic	Yes					Yes				Yes	None	:	Tower Electronic Strip System	n		
Process of Control 1985 Process of Contr			PUAP /	/ Phuket			Main																Basic	Yes					Yes				Yes	None		Tower Electronic Strip System	n		
Maria		BANG	PUAP /	/ Phuket	Thal	s / TopSky-						Electro											Basic	Yes					Yes				Yes	None		Tower Electronic Strip System	n		
Part			K HYAP /	/ HatYai	Thal	s / TopSky-	Emerg					Electro											Basic						Yes				Yes	None		Tower Electronic Strip System	n		
Control Cont		BANG	K HYAP /	/ HatYai								Electro											Basic	Yes					Yes				Yes	None	2	Tower Electronic Strip System	n		
Marcia M							Main					Electro											Basic	Yes					Yes				Yes	None	:				
Mode Column Property Mode Column Pro		BANG	K KSRT / Samui	/ Koh			Main					Electro nic											Basic	Yes					Yes				Yes						
MACING M		BANG	K UDRT /	/			Main																Basic	Yes	cemen				Yes				Yes						
Action Control Contr		BANG	K DMRT	1	Thal	s / TopSky-	Main					Electro											Basic	Yes	* Monit +Cont	ro Yes	No	Yes	Yes	Yes	Yes	Yes	Warnings+Downlink E	Data	Yes	Integated Tower System+A-	None	Yes Mode	A/C+Mode S+ADS-B
MANUAL MAPP The Property The					Thal	s / TopSky-	Main																Basic	Yes			No	Yes	Yes	Yes	Yes	Yes				Integated Tower System			
TIMOR LESTE TONGA TOWARD TO		BANG	K BAPP/	/						1		Electro											Basic	Yes			No	Yes	Yes	Yes	Yes	Yes			Yes				
TUVALU UANUATU INTERPRETATION INTERPRETATIO	TIMOR LESTE			-																													Mindow			Strin Suctom			
UNITED STATES Name	TONGA																																						
Anchor age Ocean Anchorage, UNITED STATES OARIAN OCEAN OCCAN OCC																																							
Anchor age Oceani Anchorage, 10 Cisco C220 M4 Main Ves AFTN-NAS Comput C	VANUATU	1									Flight Massage Processis - 115-											_															Voc		
Oaklan d Oaklan d Ocani Oakland, Oca	UNITED STATE	age Ocean			10 Cisco	C220 M4	Main		Yes	AFTN+NAS	Cycle Management+ 4D Profile Trajectory+ SSR Code Management+Sec Manage&Postin Comput	Paper+ ing Electro nic Yes		Yes	Basic		Yes Yes	Yes	Yes		ADS-C+CPDI							Yes	Yes Yes	Yes	Yes	Yes	No		Yes		(synchronized redundant channel is	Yes	
	JMILD SIATE	Oaklar	ni Oaklanı		20 Cisco	C220 M4	Main		Yes	AFTN+NAS	Cycle Management+ 4D Profile Trajectory+ SSR Code Management+Sec Manage&Postin			Yes	Basic		Yes Yes	Yes	Yes 1									Yes	Yes Yes	Yes	Yes	Yes	No		Yes		(synchronized redundant channel is	Yes	
VIET NAM	UNITED STATE	ES																																					
	VIET NAM						-															1						1											

State/Administration	Last updated	Meeting	History
Afghanistan			,
Australia			
Bangladesh			
Brunei Darussalam			
Bhutan			
Cambodia	6/29/2023	ATMAS TF/4	
China		ATMAS TF/5	
Hong Kong, China		ATMAS TF/3	
Macau China	0/3/2022	7(1141) (5 11 / 5	
Cook Islands			
Democratic People's			
Republic of Korea			
France (New Caledonia,			
French Polynesia, and Wallis			
& Futuna)			
Fiji	12/16/2022	AD120/22 (CNC)	
India	12/16/2022	AP139/22 (CNS)	
	C (4.2 /202.4	A TA A A C TE /E	
Indonesia		ATMAS TF/5	2/7/2022
Lao PDR	6/11/2024	ATMAS TF/5	3/7/2023
Japan			
Kiribati	. / . /		
Malaysia	4/3/2023	AP139/22 (CNS)	
Maldives			
Marshall Islands			
Micronesia (Federated States			
of)			
Mongolia			
Myanmar			
Nauru			
Nepal			
New Zealand	2/28/2024		2/22/2023
Pakistan	11/29/2022	AP139/22 (CNS)	
Papua New Guinea			
Palau			
Philippines	6/29/2023	ATMAS TF/4	
Republic of Korea	1/19/2023	AP139/22 (CNS)	
Samoa			
Solomon Islands			
Singapore	6/2/2022	ATMAS TF/3	
Sri Lanka	2/28/2023	AP139/22 (CNS)	
Tonga			
Thailand	5/31/2023	AP139/22 (CNS)	3/3/2023
Tuvalu			
Timor LESTE			
United States	6/17/2024	ATMAS TF/5	
Vanuatu		,	
Viet Nam			
	L	l	