

International Civil Aviation Organization

Fifth Meeting of the Asia/Pacific Air Traffic Management Automation System Task Force (APAC ATMAS TF/5)

Chengdu, China, 5 - 7 June 2024

Agenda Item 5: 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.
- 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 ATM Automation System Symposium held in 2018 to establish a repository of the ATM automation systems implemented by States, which was adopted as **ACTION ITEM 1-1:** Develop a table to list the current ATMAS status for all states for this task force.
- 1.3 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.

2. DISCUSSION

2.1 In order to follow up the **ACTION ITEM 1-1** of ATMAS TF/1, Indonesia has 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*, which is based on the 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 the Action Item 2-2 of ATMAS TF/2 to work out a revised repository of ATMAS implementation status in APAC, based on the draft table designed by Indonesia, the suggestions from ATMAS TF/2 and the latest version of the ATMAS IGD, the table of ATMAS status in APAC region re-designed and re-formatted by the ad-hoc group has been reviewed and adopted by the ATMAS TF/3 meeting *held from 8 to 10 June 2022*.
- 2.3 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 are recommended to refer to the explanation of the table, and the corresponding chapter of ATMAS IGD to get further information. The ICAO Secretariat is requested to issue a State Letter in due course to circulate the table to collect information in order to build the repository of the ATM automation systems for APAC Region as Action Item 3-1.
- 2.4 As a follow up on the Action Item 3-1 of ATMAS TF/3, the skeleton ATMAS repository has been 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.
- 2.5 Total 12 updates have been received from States/Administrations, namely Cambodia, Hong Kong China, Fiji, Lao PDR, Malaysia, New Zealand, Pakistan, Philippines, Republic of Korea, Singapore, Sir Lanka, and Thailand. The updated ATMAS Repository is provided in **Appendix A** to this paper for reference and update by the meeting.
- The ATM automation system is a bridge which 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 ATM automation systems information to ICAO Secretariat to further refine the ATMAS Repository.

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.

ATMAS TF/5 Appendix A to WP/04

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	
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
21.	Meteorological Information Processing	The system is capable of receiving, processing, and displaying	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	

ATMAS TF/5 Appendix A to WP/04

Column	Element	Explanation	Reference Chapter in ATMAS IGD	Relevant ASBU Block
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	
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
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	The system can synchronize operational data to the backup system when in master mode, including flight data, operational setting 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		

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State/Administr ation FIF	ATS U				stem Surveillance Data Pro- atus Function (SDP)	ce l	Data Fligh	nunicatio	Flight Data Processing Function (FDP)	code	Correlation of surveillance and flight data			g Warni	in ng (APM)	Monitor M ing in	onitor Meteo	rological mation	Data Link Pa Function Ma	arameter Co	ommunicati on Function	Interface Function	ck ng and Functi Control	Synchr F onizati 2	RESSION ssion	Detection Warning	Adviso Minimu ry (RVSM) (SCA) Warnin	m Monitor (PMON)	ing Known Position	Inconsist lity ency India Warning ion	cat Parameters Prod	cessing and Integ	Log rated Manag nology ment		Data Synchronization	and Analysis	Remarks
1 2			lions Brand / V			8 (0	8	9	10	11 12		14		16 17											29 30		32 33			36 37			9 40		42	43	44 7 - ADS-B data could not be integrated with ATM in
ОРН PAKISTAN	R ACC/KA	arachi 18 S	SDD INDRA Airce	on 2100 N	PSR+Mode A/C+Mod	die S Y	AFTN	N+AMHS SS	iight Message Processing+ Life Cycle Ianagement+ 4D Profile Trajectory+ SR Code Management+Sec Ianage&Posting Comput	e + Paper+El No c ectronic	SSR code+ACID	Yes	Basic+ATC practices	Yes Yes	No	Yes		+mono- idar	None Onl	B: Biline+Offline er	asic+Handov r+Coordinati on	Yes	Basic +Contro	Yes	No No	Yes	Yes Yes	No	No	Yes No	Track Fusion Warnings+Dow Windor	nlink Data No	one Yes	None	None	No	Asteric Category-21. MLAT is not available at ACC IIAP. 8. No safety alerts in Bypass SDP 21. Auto GRIS support 1/a 22. ADS-C and CPDLC are not available at ACC IIAP. 25. Synchronized Replay of multiple CWP is not available. Screen capture file format is not supported by non-proprietary softwares. The video recording data is NOT available common video formats. Synchroized replay mode does not support change in replay speed, florward, etc. 27. Export of logs by time on USB or on any other media is not available. By time on USB or on any other media is not available, however, print option is available. 38. Resolution Advisory (RA) alert indication NOT AVALLABLE
	ACC La	ahore 21	1 INDRA Airco	on 2100 M	flain PSR+Mode A/C+Mo	de S Y	res AFTN	N+AMHS SS	light Message Processing+ Life Cycle fanagement+ 4D Profile Trajectory+ SR Code Management+Sec	+ Paper+El c ectronic No	SSR code+ACID	Yes	Basic+ATC practices	Yes Yes	No	Yes		+mono- adar	None Onl	Baline+Offline er	asic+Handov r+Coordinati on	Yes	Basic Monitor	Yes	No No	Yes	No Yes	No	No	Yes No	Track Fusion+ Warnings+Dow Windo	nlink Data No	one Yes	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
PALAU PAPUA NEW	ACCI	IIAP 21	1 SIATN	4 N	PSR+Mode A/C+Mode S	+ADS-B Y	es AFTN	N+AMHS SS	lanage&Posting Comput light Message Processing+ Life Cycle Ianagement+ 4D Profile Trajectory+ SR Code Management+Sec Ianage&Posting Comput	+ Paper+El	SSR code+ACID	Yes	Basic+Aircraft Intention+ATC practices	Yes Yes	Yes	Yes		+mono- adar	CPDLC Onl	Baline+Offline er	asic+Handov r+Coordinati on	Yes	Basic+E nhance ment +Contro	Yes	No No	Yes	No Yes	No	Yes	Yes Ye	Track Fusion+ Warnings+Dow Windon	nlink Data AO	DB / Yes	Integated Tower System+Towe Electronic Strip System	r None	No	Warnings MSAW is not implemented due operational limitation.
GUINEA Philippines Mar FIF	ACC/APP	P/Manila 38	8 Thales/To		PSR+Mode A/C+M S+ADS-B+WAN		/es A	FTN	Flight Message Processing+ Life Cycle Management+ 4D Profile Trajectory+ SSR Code flanagement+Sec Manage&Posting Comput	None Yes	SSR code+24-bit Address+ACID	Yes	Basic	Yes Yes	Yes	Yes		r+GRIB AE	DS-C+CPDLC		asic+Hando er+Coordin ation	Yes	Monito Basic +Contro	r Yes	No No	Yes	Yes Yes	Yes	Yes	Yes No) Track Fu	sion AN	IAN Yes	Integated Tower System	flight data+ operational setting data	Yes	Initial Assesment
	APP/Inche Incheon TWR/Inch Gimpo R TWR/Gim	heon	INDRA Airc 41 2100		PSR+Mode A/C+Mode	. Voc	AFTN	Cy Tr M	light Message Processing+ Life ycle Management+ 4D Profile rajectory+ SSR Code fanagement+Sec Manage&Posting omout	g Electro	SSR code+ACID	Vac	Basic+Aircraft	Vas Vas	Vac	Voc. Vo	QNH+r s radar+		Onl	ıline+Offlin Ba	asic+Hando		Basic+ Enhan Monitor cemen +Contro		do Vos	Ne	No. No.	Voc	Vas	Vos. Vos.	Track Fusion+Rel Warnings+Down Window	lated link Data AMAI	N+DM Yes	Tower Electronic Strip Syster	flight data+ operational	Vac	
INCI	Seoul APP/Inch Incheon TWR/Inch Gimpo R TWR/Gim	neon	INDRA Airc 41 2100	on	PSR+Mode A/C+Mode	e No	AFTN	FI Cy Tr M	light Message Processing+ Life ycle Management+ 4D Profile rajectory+ SSR Code Janagement+Sec Manage&Posting omput		SSR code+ACID	Yes	Basic+Aircraft Intention	Yes Yes	Yes	Yes Ye	QNH+r s radar+	nono-	Onlone e	iline+Offlin	one Y		Basic+ Enhan Monitor cemen +Contro		No Yes	No	No No	Yes	Yes	Yes Yes	Track Fusion+Re	lated link Data AMA		Tower Electronic Strip System	flight data+ operational n setting data	Yes	
	DAEGU A	ACC/	Leidos/SKY		PSR+Mode A/C+Mode	e Yes	AFTN+	Cy Ti M	light Message Processing+ Life ycle Management+ 4D Profile rajectory+ SSR Code Janagement+Sec Manage&Posting omout	Paper+ g Electro	SSR code+24-bit Address	Yes	Basic	Yes No	No	Yes Ye	QNH+r s radar+		OS- CPDLC+DC Onl	line+Offlin ve	asic+Hando er+Coordin tion Y		Basic+ Enhan Monitor cemen +Contro		lo No	Yes	No Yes	No	Yes	Yes No	Track Fusion	None	Yes	None	flight data+ operational setting data	Yes	
	INCHEON R ACC/INCH		Leidos/SKY 70 6.0	LINE/V Ma	PSR+Mode A/C+Mode ain S+ADS-B	Yes	AFTN∗	+AMHS M	ycle Management+ 4D Profile rajectory+ SSR Code flanagement+Sec Manage&Posting light Message Processing+ Life	Paper+ Electro g nic Yes Paper+	SSR code+24-bit Address	Yes	Basic Basic+Aircraft	Yes No	No	Yes Ye	QNH+r s radar+		CPDLC+DC Onl		asic+Hando er+Coordin tion Y	/es	Enhan Monitor cemen +Contro t I Basic+ Monitor	Yes I	No No	Yes	No Yes	No	Yes	Yes No	Track Fusion Track Fusion+Re	None	Yes	None Integated Tower System+A-	flight data+ operational setting data flight data+	Yes	
INCH ON F	R BUSAN		18 SKYCONTO		ain PSR+Mode A/C+Mode	S Yes	AFTN+		ycle Management+ 4D Profile rajectory+ SSR Code	Electro nic Yes	SSR code+24-bit Address+ACID SSR code+24-bit	Yes	Intention+ATC practices	Yes Yes	Yes	Yes Ye	QNH+r radar QNH+r	No		fline No	one Y		Enhan +Contro cemen I Monitor +Contro	Yes I	No No	Yes	Yes Yes	Yes	Yes	Yes Yes	Warnings+Down Window	link Data None	Yes	SMGCS+ Tower Electronic Strip System	operational setting data	Yes	
ON F	R JEJU		4 2010 TERN MTA	Ma ATAS-	ain PSR+Mode A/C+Mode				light Message Processing	Paper Yes	Address SSR code+24-bit	Yes	Basic	Yes Yes	Yes	Yes Ye	s radar QNH+r	No	one e	Net of the state o	one Y	/es	Basic I Monitor	Yes I	No No	No	No No	No	No	No No	None	None	Yes	None	None	No	
SAMOA	R JEJU Singapore		3 2010 THALES LO	RADS Ma	ekup PSR+Mode A/C+Mode ain+ PSR+Mode A/C+Mode ckup S+ADS-B+WAM			FI Cy Tr	light Message Processing light Message Processing+ Life ycle Management+ 4D Profile rajectory+ SSR Code lanagement+Sec Manage&Posting		Address SSR code+24-bit Address+ACID	Yes	Basic+Aircraft Intention+ATC practices	Yes Yes	Yes	Yes Ye	QNH+r	AE	OS- CPDLC+DC Onl	line+Offlin ve	asic+Hando er+Coordin tion Y		Basic Basic+ Enhan Monitor		No No	No	No No	No	No	No No	Track Fusion+Rei Warnings+Down Window	link Data AMA	Yes N+DM ST Yes	Integated Tower System+A- SMGCS+ Tower Electronic Strip System	flight data+ operational setting data	No	
SOLOMON ISLANDS	ACC/Colo		17 INTELCAN SKYCONTR		PSR+Mode A/C+Mode S+ADS-B	e No		FI Cy +AMHS Tr	light Message Processing+ Life ycle Management+ 4D Profile rajectory+ SSR Code	Paper+ Electro Yes	SSR code+24-bit Address+ACID	Yes	Basic+Aircraft Intention+ATC	Yes Yes	Yes	Yes Ye	s QNH	AC	Onl OS-C+CPDLC e		asic Y	/es	Basic+ Enhan cemen +Contro	r Yes	No No	Yes	Yes Yes	Yes	Yes	Yes No	Track Fusion+Re Warnings+Down	lated		Integated Tower System	flight data+	Yes	
SRI LANKA VCCI	Approach Control C	n Center /			ckup PSR+Mode A/C+Mode S+ADS-B+WAM	. Yes	AFTN+	FI CY +AMHS Tr		Paper+ Electro Yes	SSR code+24-bit Address+ACID	Yes	practices Basic+Aircraft Intention+ATC	Yes Yes	Yes	Yes Ye	S QNH+r	nono- AE	DS- CPDLC+DC		asic+Hando er+Coordin Y		Basic+ Enhan cemen +Contro		lo No	Yes	No Yes	No	Yes	Yes Yes	Window Track Fusion+Rel Warnings+Down		N+DM Yes	Tower Electronic Strip Syster	setting data flight data+ n operational	Yes	This ATM system is currently available under Trial Operations.
	Approach	n	6 Selex TRDF		ain PSR+Mode A/C	Yes	AFTN	Ci	Management+Sec Manage&Posting omput	Paper+	SSR code	Yes	practices	Yes Yes	Yes	No N	QNH	L No	Onl	at	lone Y	!	Monito	r	No No	No	No Yes	No	Yes	Yes No	Window	None	Yes	Integated Tower System	setting data flight data+ operational	No	This system is to be decommissioned in 3 months, after completing trial operations of
BAN	BIA		Thales / To	pSky	PSR+Mode A/C+Mode			FI Cy	light Message Processing+ Life ycle Management+ 4D Profile	nic	SSR code+24-bit								e Onl	ıline+Offlin			Enhan Monito								Track Fusion+Rel				setting data		Thales Topsky system.
OK BAN	BACC / Ba		A1C / V 20.	2.9.0	S+ADS-B+WAM S+ADS-B+WAM perg PSR+Mode A/C+Mode		AMHS	M G FI Cy	rajectory+ SSR Code lanagement+Sec Manage&Posting omput light Message Processing+ Life ycle Management+ 4D Profile	None No	Address+ACID SSR code+24-bit	res	Dasic	Yes Yes	Yes	Yes Ye	s QNH	No	e Onl	sline+Offlin	asic Y	!	t I Enhan Monito	r	NO	res	Yes	Yes	res	res	Window Track Fusion+Re			ivone	None	res	Mode A/C+Mode S+ADS-B
ОК	BACC / Ba	angkok	ATC / V 20.	2.9.0 en	cy S+ADS-B+WAM	Yes	AMHS	M Co FI	rajectory+ SSR Code flanagement+Sec Manage&Posting omput light Message Processing+ Life ycle Management+ 4D Profile	nic No	Address+ACID	Yes	Basic	Yes Yes	Yes	Yes Ye	s QNH	No	e e	Ва	asic Y	!	t I Enhan Monito		No	Yes	Yes	Yes	Yes	Yes Yes	Warnings+Down Window Track Fusion+Rei	lated		None	None	No	Mode A/C+Mode S+ADS-B
ОК	Suvarnab	ohumi	Thales / To	2.9.0	ain	Yes	AMHS	i Ti M Ci FI	rajectory+ SSR Code flanagement+Sec Manage&Posting omput light Message Processing+ Life ycle Management+ 4D Profile	None No	SSR code+24-bit Address+ACID	Yes		Yes Yes		Yes	QNH		e	lline+Offlin Ba	asic Y	/es	t I Enhan Monitor	Yes	No	Yes	Yes	Yes	Yes	Yes Yes	Warnings+Down Window Track Fusion+Re	link Data AN+P		Integated Tower System	None	Yes	PSR+Mode A/C+Mode S+ADS-B
ОК	Suvarnab	bhumi	Thales / To ATC / V 20.	2.9.0 Ma	ain	Yes	AMHS	Tr M	ycle wanagement 40 Frome rajectory+ SSR Code flanagement+Sec Manage&Posting omput	None No Electro	SSR code+24-bit Address+ACID	Yes	Pasis				QNH		Onl e	lline+Offlin Ba	asic Y		cemen +Contro		No	Yes	Yes	Yes	Yes	Yes Yes	Warnings+Down Window		N+DM ST Yes	Integated Tower System	None	Yes	PSR+Mode A/C+Mode S+ADS-B
ОК	Chiangma ik CMAP / Chiangma		Tower Thales / To		nerg					nic Electro			Basic								asic Y asic Y	res ⁄es		+			Yes			Yes		None		Tower Electronic Strip System Tower Electronic Strip System			
BAN OK	Enlangma iK PUAP / Pi	huket	Thales / To Tower	pSky- Ma	ain					Electro nic										Bá	asic Y	/es					Yes			Yes		None		Tower Electronic Strip System	n		
BAN OK	PUAP / PI	huket	Thales / To Tower	pSky- Em en						Electro nic										Bá	asic Y	/es					Yes			Yes		None		Tower Electronic Strip System	n		

	ATM Automation System Demositant in ADAC Degion																																				
	ATM Automation System Repository in APAC Region																																				
State/Administr	ATS Unit /				lance Data Proce:		Communication	io Flight Dat	ita Processing Function		Correlation of surveillance and fligh		Short Term Conflict Alert	Minimu m Safe Altitude Proxii Warnin g Warni (MSA g	Approac ni h Path Monitori n ng (APM)	Route Let Adhere Ad nce nce Monitor Mo ing ing	lhere e onitor N	Meteorological Information	Function	System Parameter Communication Management	on Function	Human Machine Interface Function	Playba Monit	tori Time	Departu 5 re No No 1 TRANSG Tran 1 RESSION ssior 1 Zone Zone (DTZ) (NTZ	Mediui Term sgre Conflic Detect	Callsig Vertical Separatio Con Adviso Minimum Con Callsig Vertical Con C	Position Report Monitorini (PMON)	Known I Position		icat Parameters Processing a				Operational Data Synchronizatio	and Analysis	
ation FIR 1 2	Location	positions E	Brand / Version 5	Status 6	Function (SDP)	g (BSDP) 8			(FDP)	Strip ation 11 12	data 13	0,7700)	(STCA)	W) (APW 16 17) Warning			Processing 21	(AGDL) 22	Function 23	(AIDC)	(IMH)	on Functi	ion on	(DTZ) (NTZ) (MTCD	(SCA) Warning 1 32 33			Warning ion 36 3		Technology 39	y ment 40	Interoperability 41	n Function 42	Function 43	Remarks 44
BANGK	HYAP / HatYai	TH	hales / TopSky-			•	9		10	Electro nic	15	14	15	10 17	10	15	20	21	22		3asic	23	20 27	20	25 3	3.	Yes	34	33	Yes	, 30	None		Tower Electronic Strip System	42	43	1918
BANGK OK	HYAP / HatYai		hales / TopSky- ower	Emerg ency						Electro nic										В	Basic	Yes					Yes			Yes		None		Tower Electronic Strip System			
BANGK OK	STRT / Suratthanee		hales / TopSky- ower	Main						Electro nic										В	Basic	Yes					Yes			Yes		None		Integated Tower System+A- SMGCS			
ОК	KSRT / Koh Samui	To	hales / TopSky- ower	Main						Electro nic										В	3asic	Yes					Yes			Yes				Integated Tower System+A- SMGCS			
ОК	UDRT / Udonrathanee	To	hales / TopSky- ower	Main						Electro nic No										В	Basic	Yes	cemen	tor			Yes			Yes	Track Pusion Phelateu			Integated Tower System+A- SMGCS			
ОК	DMRT / Donmuang	To	hales / TopSky- ower	Main						Electro nic										В	3asic	Yes	+Cont	tro Yes	No	Yes	Yes	Yes	Yes \	res	Warnings+Downlink Data		Yes	Integated Tower System+A- SMGCS	None	Yes	Mode A/C+Mode S+ADS-B
ОК	BAPP / Suvarnabhumi	To	hales / TopSky- ower	Main						Electro nic										В	3asic	Yes			No	Yes	Yes	Yes	Yes \	res Yes	Warnings+Downlink Data Wark*Usion+Related	AMAN+DM AN+PST	Yes	Integated Tower System			
	BAPP / Suvarnabhumi		hales / TopSky- ower	Emerg ency						Electro nic										В	Basic	Yes			No	Yes	Yes	Yes	Yes \	res	Warnings+Downlink Data Window	1	Yes	SMGCS+ Tower Electronic Strin System			
TIMOR LESTE																																					
TONGA																																					
VANUATU																																					
UNITED STATES																																					
VIET NAM																																					

ATMAS/TF 5 Appendix A to WP/04

State/Administration	Last updated	Meeting	History
Afghanistan		333 8	,
Australia			
Bangladesh			
Brunei Darussalam			
Bhutan			
Cambodia	6/20/2022	ATMAS TF/4	
China	0/23/2023	ATIVIAS TE/4	
	6/0/2022	ATMAS TF/3	
Hong Kong, China Macau China	6/9/2022	ATIVIAS TE/3	
Cook Islands			
Democratic People's			
Republic of Korea			
France (New Caledonia,			
French Polynesia, and Wallis			
& Futuna)			
Fiji	12/16/2022	AP139/22 (CNS)	
India			
Indonesia			
Lao PDR	3/7/2023	AP139/22 (CNS)	
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		AP139/22 (CNS)	
Tonga		. , ,	
Thailand	5/31/2023	AP139/22 (CNS)	3/3/2023
Tuvalu	-,, 	, ()	2,2,=320
Timor LESTE			
United States			
Vanuatu			
Viet Nam			+
v ict inaiii		l	