

ASEAN AIM Roadmap

Implementation of Aeronautical Information
Management (AIM) to achieve ASEAN Seamless Sky

ARISE+ ATM Master Plan Workshop

11 September 2018



Scope

- Background
- Four Key Areas of AIM Implementation
- Current Status of ASEAM AIM Implementation
- Phase 1 – Consolidation
- Phase 2 – Going Digital
- Phase 3 – Information Management
- Proposed ASEAN AIM Objectives



Background

- Aeronautical Information Management (AIM) would support a digital, real-time, accredited and secure aeronautical information environment to enable future ATM Operational Concepts
- The ASEAN ATM Master Plan outlines the strategy for ASEAN Member States (AMS) to enhance air traffic management efficiency and capacity through a Seamless ASEAN Sky
- The 3rd ASEAN Air Traffic Management Strategic Planning Group (SPG) has identified AIM as one of the five initiatives that require harmonized implementation
- The ASEAN AIM Roadmap is initiated as a common goal for all AMS to fulfil the requirements and objectives of AIM implementation in line with the global initiative
- To realize the ASEAN AIM Roadmap, AMS must have a common goal to fulfill the requirements and objectives that necessitates AIM implementation



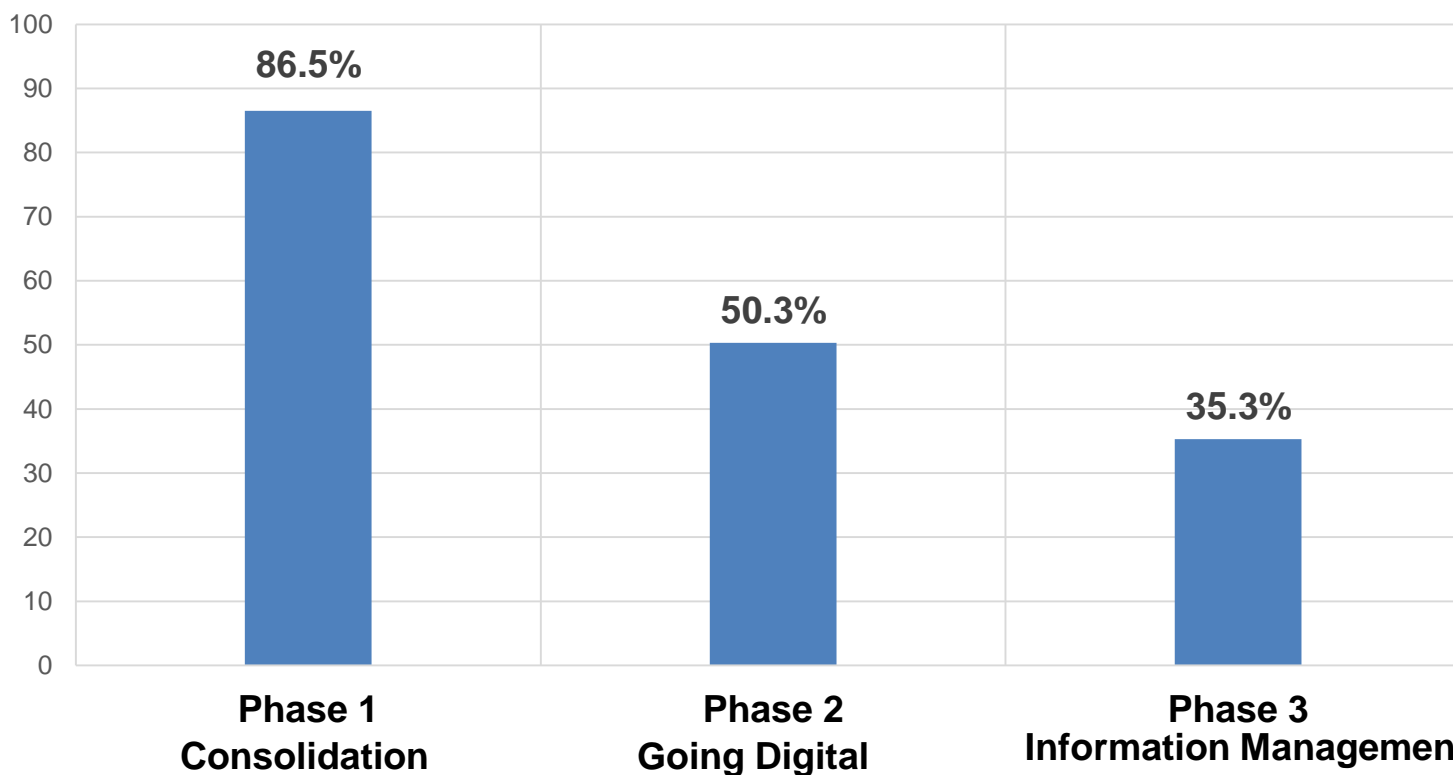
Four Key Areas of Implementation

- **Legislation, Policy and Regulation**
 - provide safety oversight of aeronautical information service providers/originators;
 - establish system/processes to maintain the high quality of aeronautical data and information throughout the data chain at all time
- **Training and Competency Programs for AIS personnel**
 - understand AIS Users' requirements through stakeholder's engagement; and
 - familiarize with state legislation and regulations, AIM-related ICAO Annexes and Documents, and AIS provider's obligations under the Chicago Convention
- **Quality Management System and Processes**
 - establish robust QMS and processes for the provision of AIS through the establishment of a formal arrangement with data originators for strict compliance to assure supply of quality and timely aeronautical data and information
- **AIM Systems and Processes**
 - provide aeronautical data and information in digital format suitable for exchange



Current Status of Implementation

- Progress by ASEAN Member States in implementing AIM



Source: ASEAN AIM Overall Progress based on ICAO AIS-AIM transition table of WP/07 in the 13th AAITF Meeting / Amended as of 11 May 2018



Phase 1 - Consolidation

- ICAO target Implementation by 6 November 2010

No.	ASEAN States	Phase 1 Consolidation			
		P-03	P-04	P-05	P-17
1	Brunei Darussalam				
2	Cambodia	100	100	100	10
3	Indonesia	100	100	100	65
4	Lao PDR	100	100	100	
5	Malaysia	100	100	100	100
6	Myanmar	100	100	100	
7	Philippines	100	100	100	50
8	Singapore	100	100	100	100
9	Thailand	100	80	60	50
10	Vietnam	100	100	100	100
	Average	100.0	97.8	95.6	52.8

Phase 1 Consolidation

P-03	AIRAC adherence monitoring
P-04	Monitoring of States' differences to Annex 4 and Annex 15
P-05	WGS-84 implementation
P-17	Quality



Observations from Phase 1

- **P-17 (Quality)** poses a major challenge among AMS
 - Quality management system (QMS) has not been implemented by some AMS.
 - AMS urged to establish QMS if they have not done so, QMS measures should be enforced to ensure the required level of quality of the aeronautical information and aeronautical data published



Phase 2 – Going Digital

- ICAO target implementation by 7 November 2013

No.	ASEAN States	Phase 2 Going Digital									
		P-01	P-02	P-06	P-07	P-08	P-11		P-13	P-14	P-15
							eAIP	Digital			
1	Brunei Darussalam										
2	Cambodia										
3	Indonesia	50	50	50	20	20	100		30	30	10
4	Lao PDR										
5	Malaysia	100	100	100	100	100	100	100	50	50	50
6	Myanmar			100	100	100	100	100	100	100	100
7	Philippines	100	50	100	100	100	50				
8	Singapore	100	100	100	100	100	100	100	100	100	100
9	Thailand	40	30	20	20	20	100	20	20	20	20
10	Vietnam	70	60	80	90	80	100	80	70	50	30
	Average	51.1	43.3	61.1	58.9	57.8	72.2	44.4	41.1	38.9	34.4

Phase 2 Going Digital Steps

P-01	Data quality monitoring	P-08	Aeronautical information conceptual model
P-02	Data integrity monitoring	P-11	Electronic AIP
P-06	Integrated aeronautical information database	P-13	Terrain
P-07	Unique identifiers	P-14	Obstacles
		P-15	Aerodrome mapping



Observations from Phase 2

- **P-01 (Data Quality Monitoring) and P-02 (Data Integrity Monitoring)**
 - still lack the progress needed in data quality and integrity monitoring
- **P-13 (Terrain) and P-14 (Obstacles)**
 - only two AMS have successfully implemented eTOD
 - general lack of progress, could be attributed to
 - i. lack of appreciation of AIS at organization level and
 - ii. lack of funding to acquire electronic terrain and obstacle data (eTOD).
- **P-15 (Aerodrome Mapping)**
 - slow progress, could be attributed to
 - i. lack of coordination between airport operator and AIS provider to acquire aerodrome mapping data; and
 - ii. a possible non-obligation by aerodrome operator to provide the data to AIS
 - Hence, crucial that AMS establish a Service Level Agreements with Aerodrome Operators to provide the necessary data required and to observe international Service and Standard listed in ICAO Annex 15 and 4



Phase 3 – Information Management

- ICAO target Implementation by 8 November 2016

No.	ASEAN States	Phase 3 Information Management							
		P-09	P-10	P-12	P-16	P-18	P-19	P-20	P-21
1	Brunei Darussalam								
2	Cambodia		70		40				
3	Indonesia		80		60	20	10	20	
4	Lao PDR								
5	Malaysia	100	100	100	100	50		50	
6	Myanmar	100	100	100	100		100	100	100
7	Philippines								
8	Singapore	100	100	100	100	100		100	
9	Thailand	20	20	20	20	20	20	20	20
10	Vietnam		50	50	80	75		25	
	Average	35.6	57.8	41.1	55.6	29.4	14.4	35.0	13.3

Phase 3 Information Management Steps

- P-09 Aeronautical data exchange
- P-10 Communication networks
- P-12 Aeronautical information briefing
- P-16 Training
- P-18 Agreements with data originators
- P-19 Interoperability with meteorological products
- P-20 Electronic aeronautical charts
- P-21 Digital NOTAM



Observations from Phase 3

- **P-09 (Aeronautical Data Exchange)**
 - Reliable aeronautical data exchange model between stakeholders at national, regional and international level still poses a challenge to AMS.
 - Recommended that AMS endeavor to invest in reliable exchange models to access new digital products or services and to ensure its interoperability with other systems within the ATM environment.
- **P-18 (Agreements with Data originators)**
 - AMS urged to establish formal agreements between AIS and its data originators
 - AMS encouraged to share their best practices with regards to Service Level Agreements noting that some may have difficulties in establishing a formal agreement due to different perspectives from diverse data originators
- **P-19 (Interoperability with meteorological products)**
 - AMS encouraged to engage State's Meteorological Services to provide meteorological data products with AIM data products through an adoption of a Standard aeronautical data exchange model to ensure interoperability between both the systems
- **P- 21 (Digital NOTAM)**
 - Currently, no defined specifications or standards to digital NOTAMs
 - Understandable that progression on this step is rather slow as states are left with their own interpretation on how this step could be achieved



Proposed ASEAN AIM Objectives

- Implement an effective data quality management processes and its obligation to adhere to data quality of aeronautical data and aeronautical information in compliance to ICAO standards
- Provide aeronautical data and aeronautical information in digital formats that complies with international standards and facilitates common exchange formats between AMS and the global community
- Work towards the harmonization of aeronautical information exchange models amongst AMS
- Study the feasibility of “ASEAN Aeronautical Database” to better manage aeronautical data and aeronautical information within the ASEAN region
- Share knowledge and best practices with other AMS to ensure that no AMS are not left behind.
- Propose that to collaborate in achieving the ASEAN AIM objectives, AMS should explore better communication channels such as video conferencing and regular ASEAN AIM meetings to promote better collaboration in accomplishing the intended goal



Proposed ASEAN AIM Objectives in the Areas of Information Management

- Develop ATM systems that should be supported by digitally-based AIM systems through implementation of the various phases of AIS-AIM Roadmap
- Take into consideration human performance challenges and considerations since the human operator operates in an automated environment driven by management of data sets and is QMS-centric
- Incorporate knowledge in IT and GIS as a pre-requisite
 - Designing the right technology
 - Organizing the people into right roles and responsibilities
 - Ensuring that people have the right training and procedures
 - Managing the change and transition process
- Continue and follow through to build on the skills, knowledge and ability acquired from Phase I
 - As information exchange occurs in this phase, information management skills are essential.
 - Awareness and understanding of the importance of quality AIM information should be imbued with all stakeholders from operators to management levels in order to implement effective service level agreements



Questions?

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