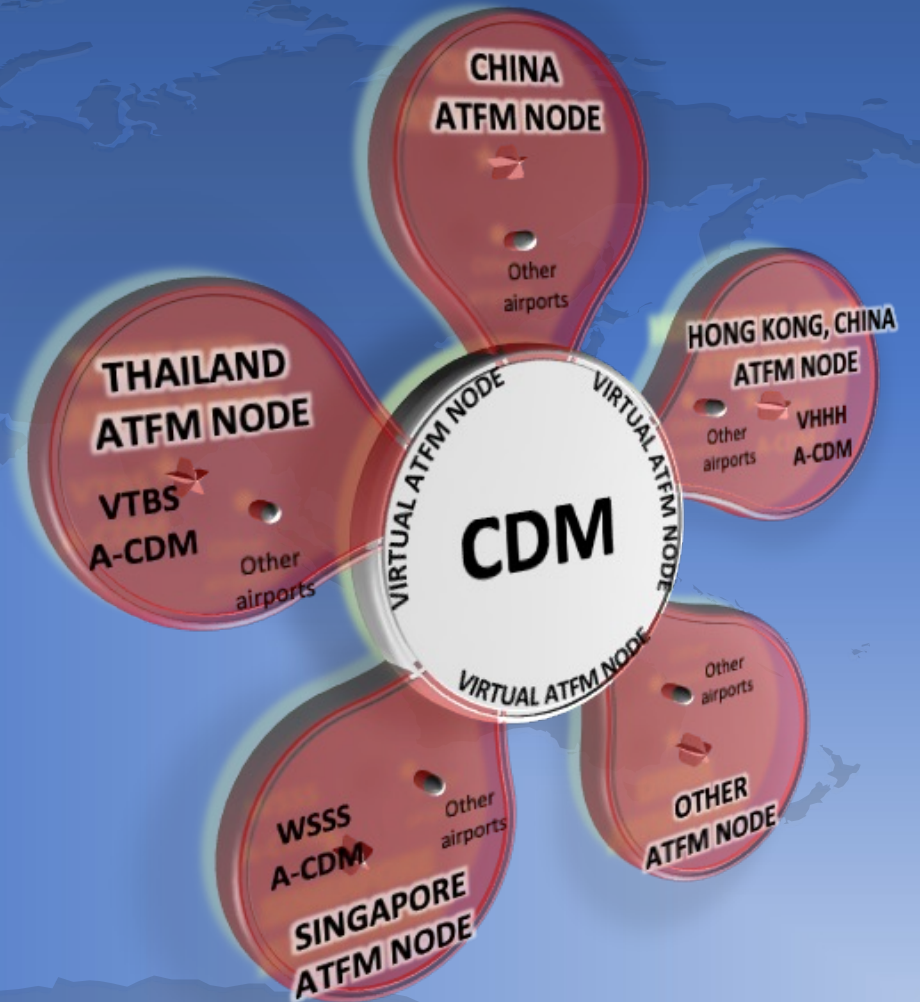
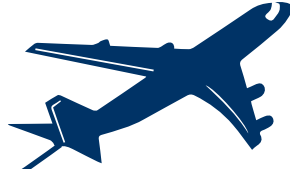


APAC Cross-Border Multi-Nodal ATFM Collaboration (AMNAC) *Progress Update*

ATFM/SG/13
3 – 7 April 2023



Where We Are



1,000+

Rounds of distributed
ATFM measures (GDPs)
activated

19+ Project meetings

11 ANSPs participating in the project
(+ *Airservices Australia in the beginning*)

~8

Years since the start of
the implementation
(2015 – Today)



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Where We Are

Tiered Level	Capabilities & Members
Level 3	<ul style="list-style-type: none">▪ Able to generate, deliver, and receive CTOTs;▪ Able to comply with CTOTs from all Level-3 ATFM Nodes <p><i>Current members:</i></p> <ul style="list-style-type: none">▪ Cambodia, China, Hong Kong China, Singapore, Thailand
Level 2	<ul style="list-style-type: none">▪ Able to comply with CTOTs from all Level-3 ATFM Nodes <p><i>Current members:</i></p> <ul style="list-style-type: none">▪ Indonesia, Malaysia, Myanmar, the Philippines, Viet Nam
Level 1	<ul style="list-style-type: none">▪ Observe and participate in the project progress <p><i>Current members:</i></p> <ul style="list-style-type: none">▪ Lao PDR

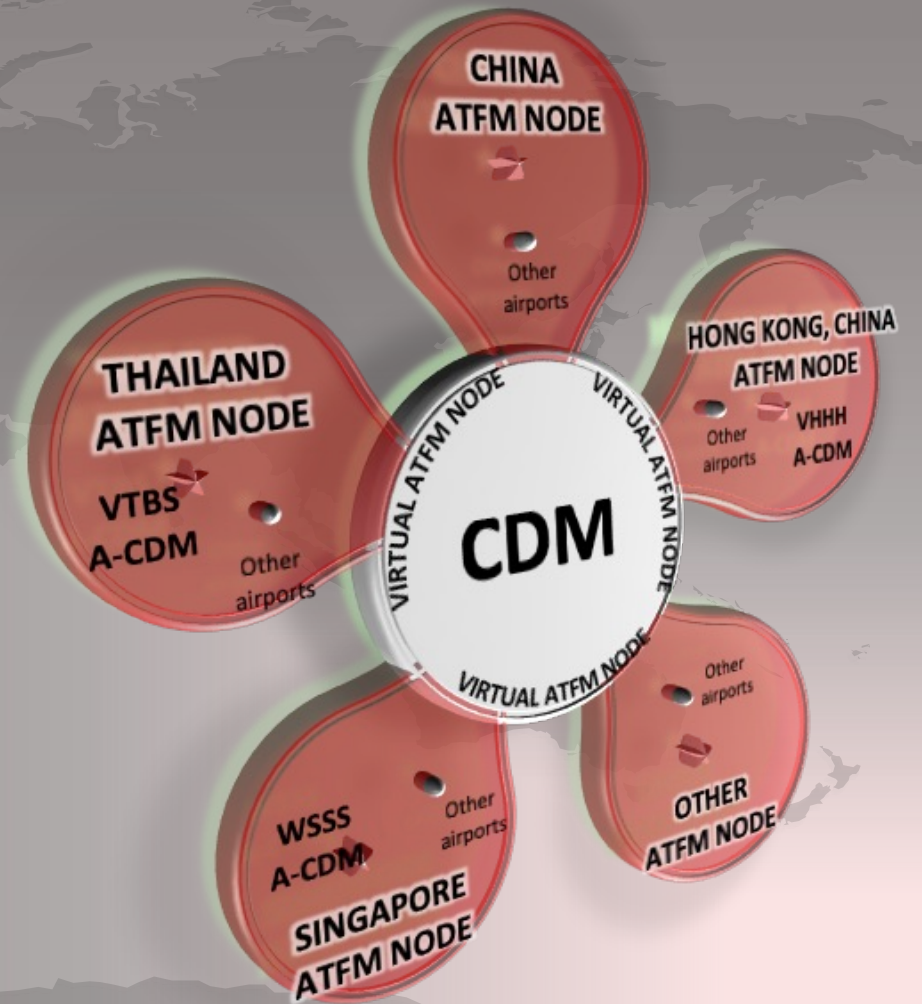
+ Participation from Japan, Republic of Korea, and India as invited observers



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Network Post-Operations Analysis

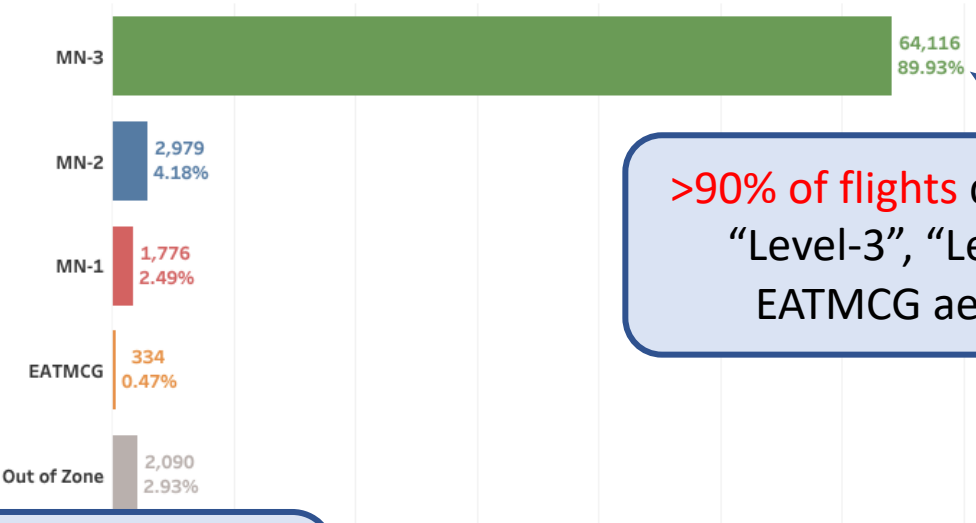


Network Post-Operations Analysis

Network Impact (Click on an initiating ATFMU in the table to see breakdown in the bar graphs)

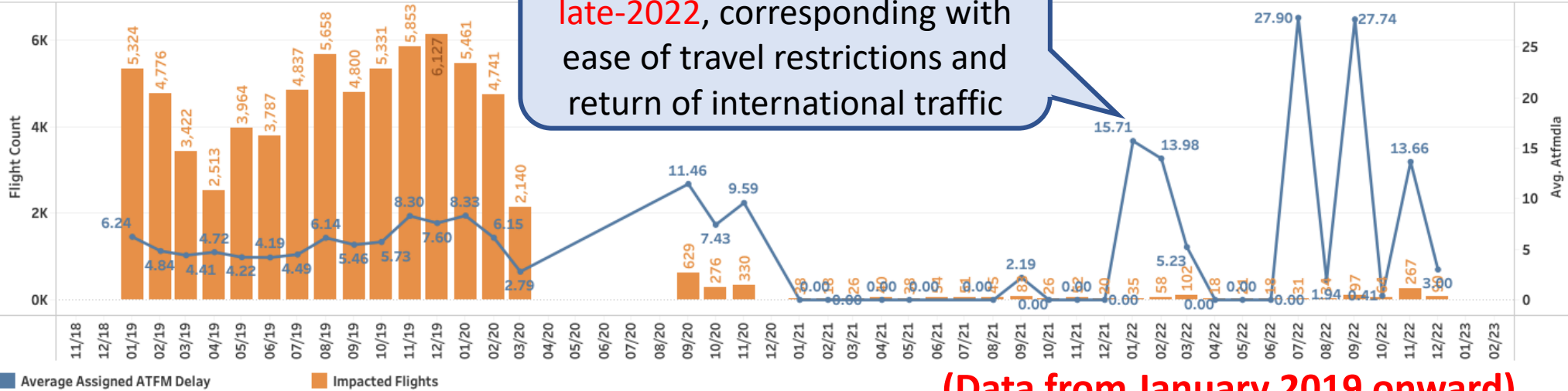
	Bangkok	Hong Kong	Phnom Penh	Sanya	Singapore
Impacted Flights	38,362	815	954	30,035	1,129
# of ATFM Days	480	41	47	451	31
Total Assigned ATFM Delay	287,491	3,439	4,830	111,835	19,224
Average Assigned ATFM Delay	7.49	4.22	5.06	3.72	17.03

Flight Count by ADEP Levels (Initiating ATFMU: All)



>90% of flights departed from "Level-3", "Level-2", and EATMCG aerodromes

Flight Count & Average ATFM Delay (Initiating ATFMU: All)



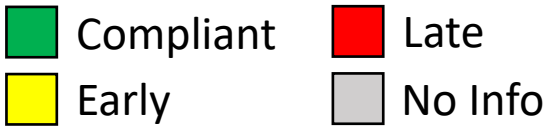
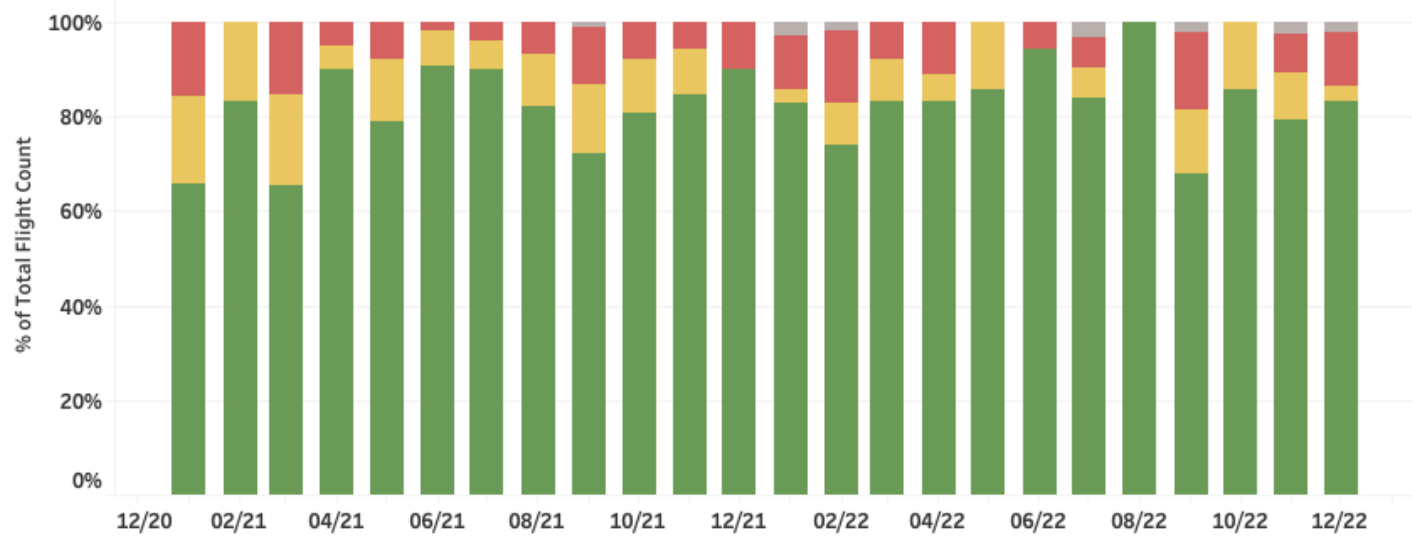
Increasing GDP activities in late-2022, corresponding with ease of travel restrictions and return of international traffic

(Data from January 2019 onward)



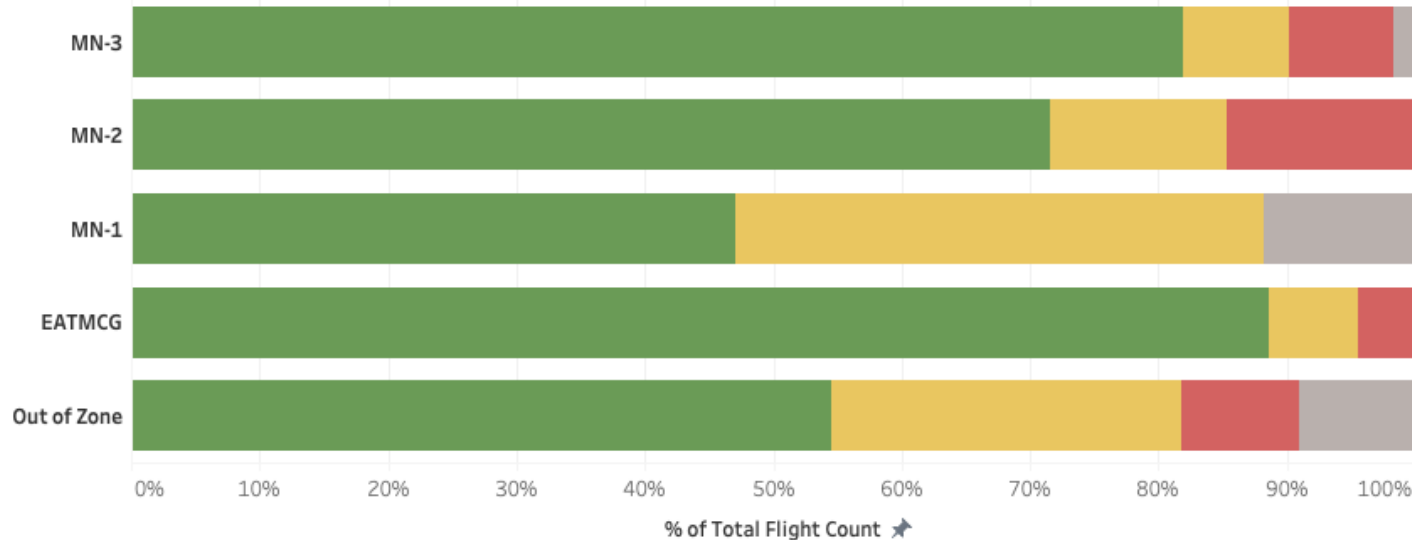
Network Post-Operations Analysis

Overall Network Compliance



Generally high compliance from Level-3 and EATMCG nodes

Compliance Rate by Departure Groups



Network Post-Operations Analysis

Filtered Departure CTOT Compliance

Year: 2021 & 2022
 Initiating ATFMU: All
 Airline: All
 Departure Country & Airport:

Filters

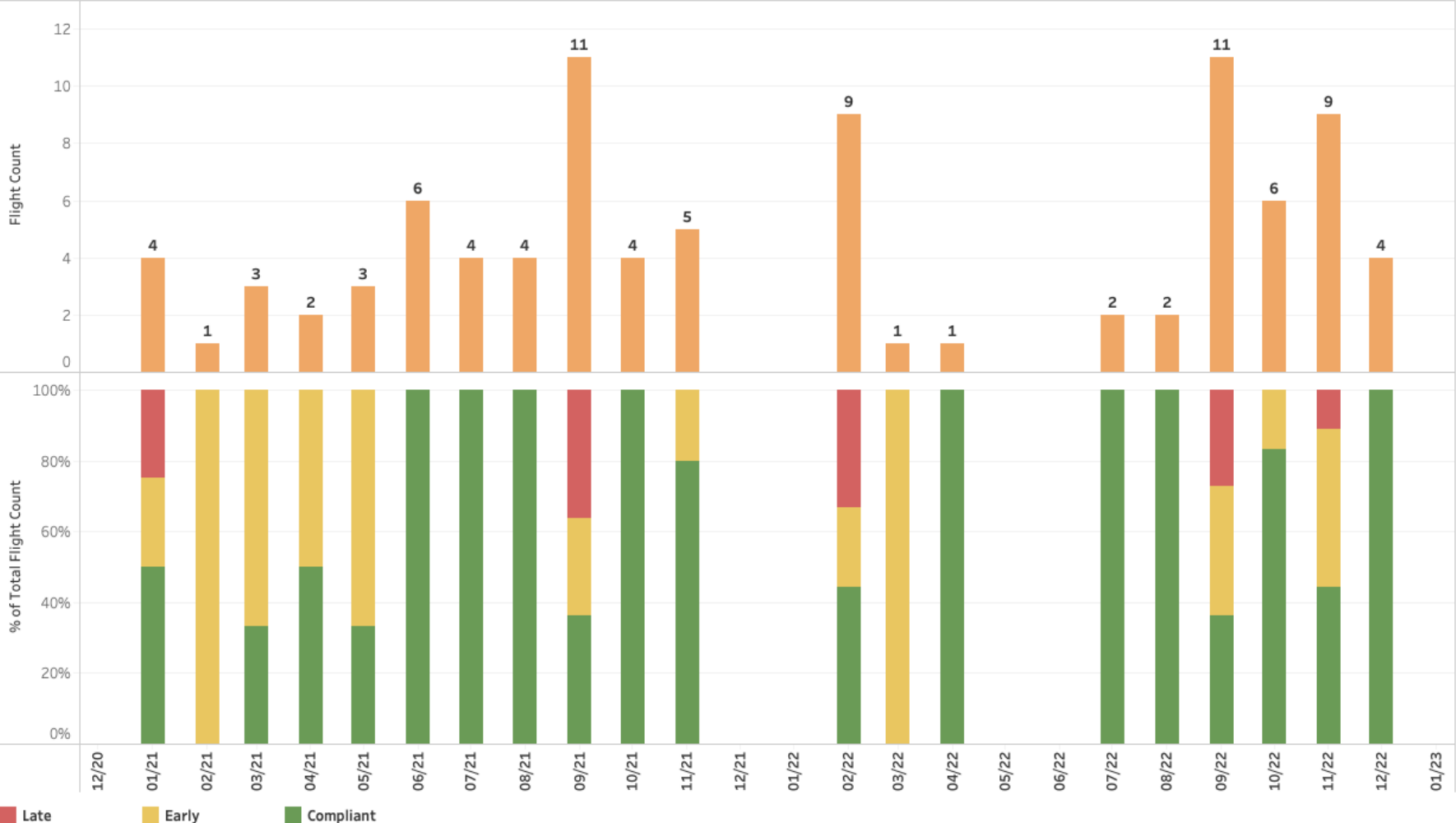
Year

Initiating ATFMU

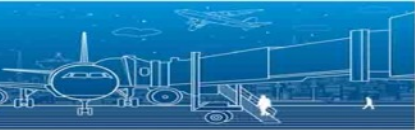
Airline

ADEP Country

Departure Airport



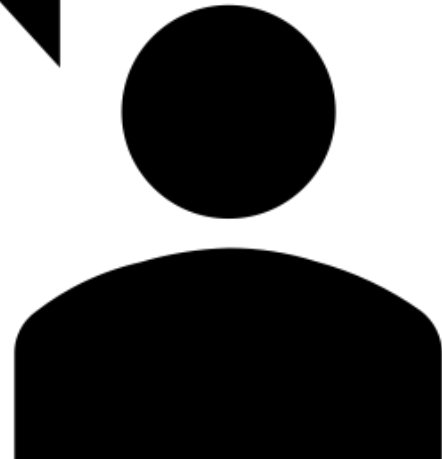
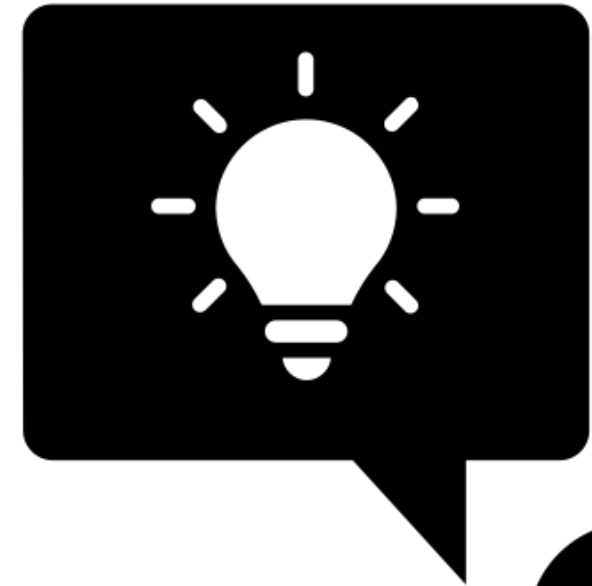
Filtered Compliance tab is available to show compliance over time, based on chosen filters



MN Network Post-Operational Analysis Results

Interactive Dashboard

<http://bit.ly/amnac-poa>

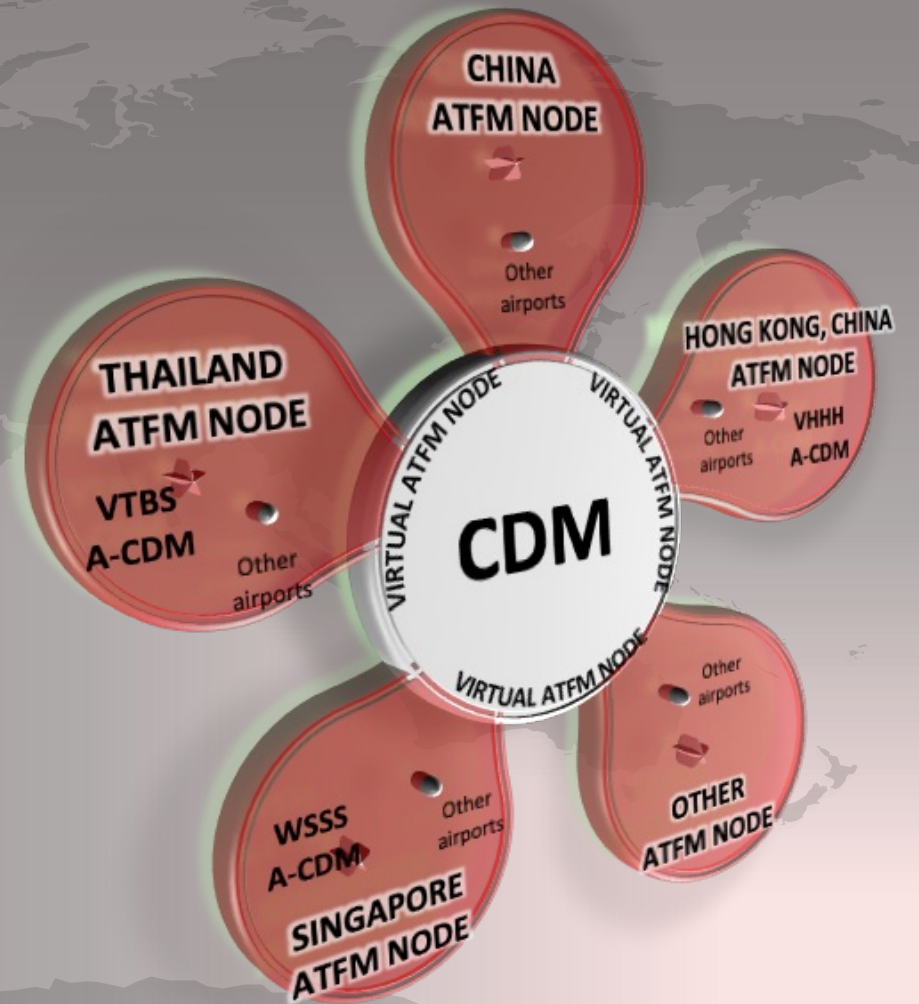


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Key Outcomes from AMNAC/19

(16 – 18 January 2023, Bangkok)



Key Topics Discussed

Refresher of Common Ops Procedure (COP v4.1)



Review of Strategic & Operational POC + Review of STT



Exchange of ATFM Implementation Progress by AMNAC Members



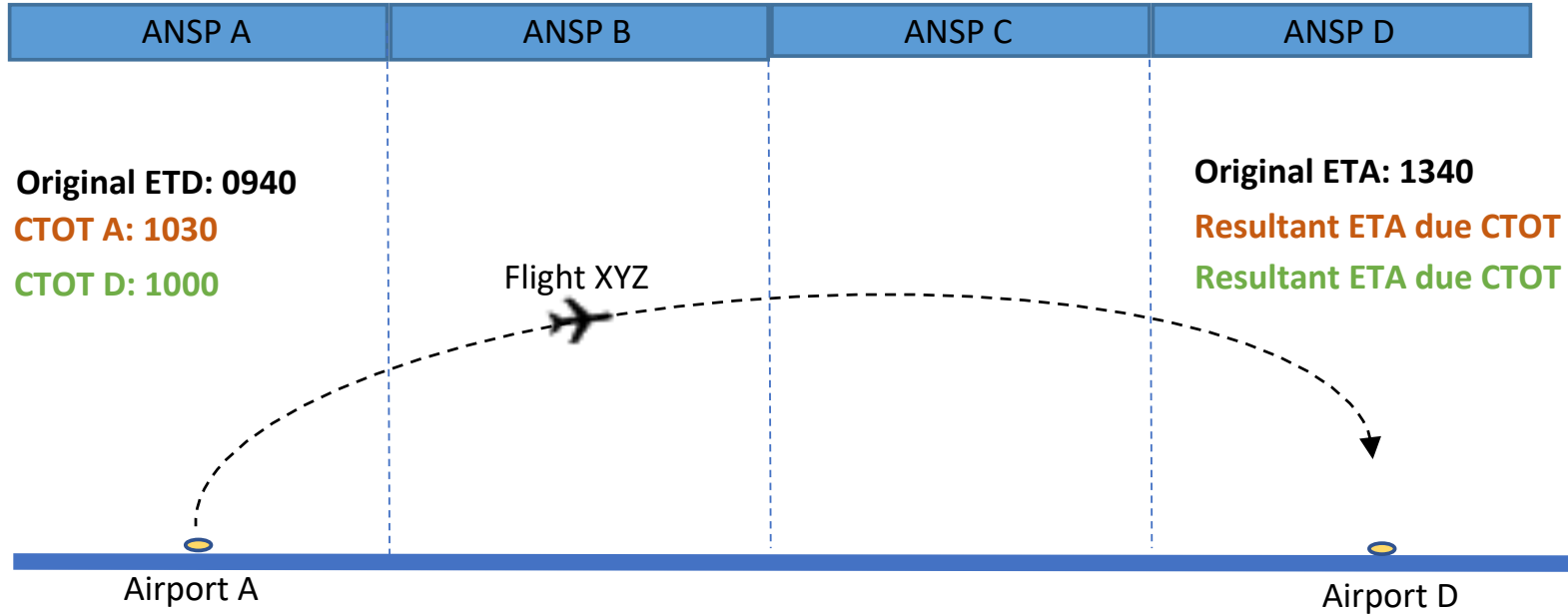
Update of ATFM-on-SWIM Development Progress



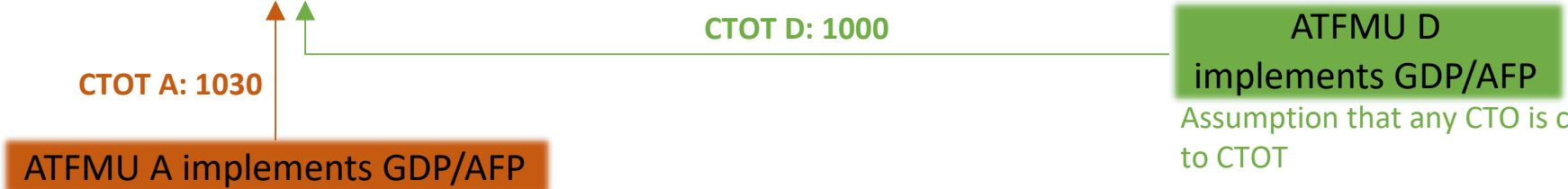
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Conflicting ATFM Measures – Scenario



ATFM measures (GDP/AFP) implemented by ATFMUs "A" and "D" are in conflict



Assumption that any CTO is converted to CTOT

Assumption that any CTO is converted to CTOT

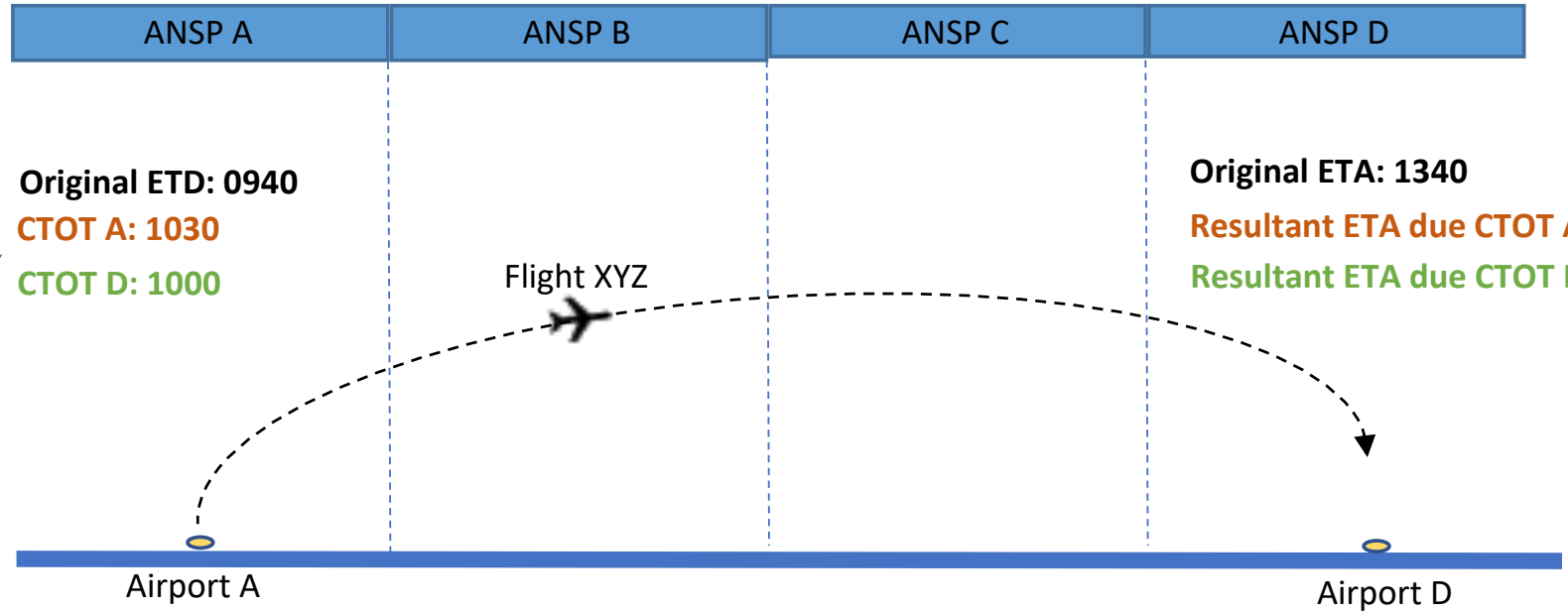


Conflicting ATFM Measures – General Principle

Guiding Principle

Flight to comply with CTOT "A" as it has **higher ATFM delay**

CDM remains a backbone



CTOT A: 1030

ATFMU A implements GDP/AFP

Assumption that any CTO is converted to CTOT

CTOT D: 1000

ATFMU D implements GDP/AFP
Assumption that any CTO is converted to CTOT



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Additional Conclusions

Fuel-Saving Benefits Analysis:

A complex exercise that is required to *motivate* participation, and will be explored



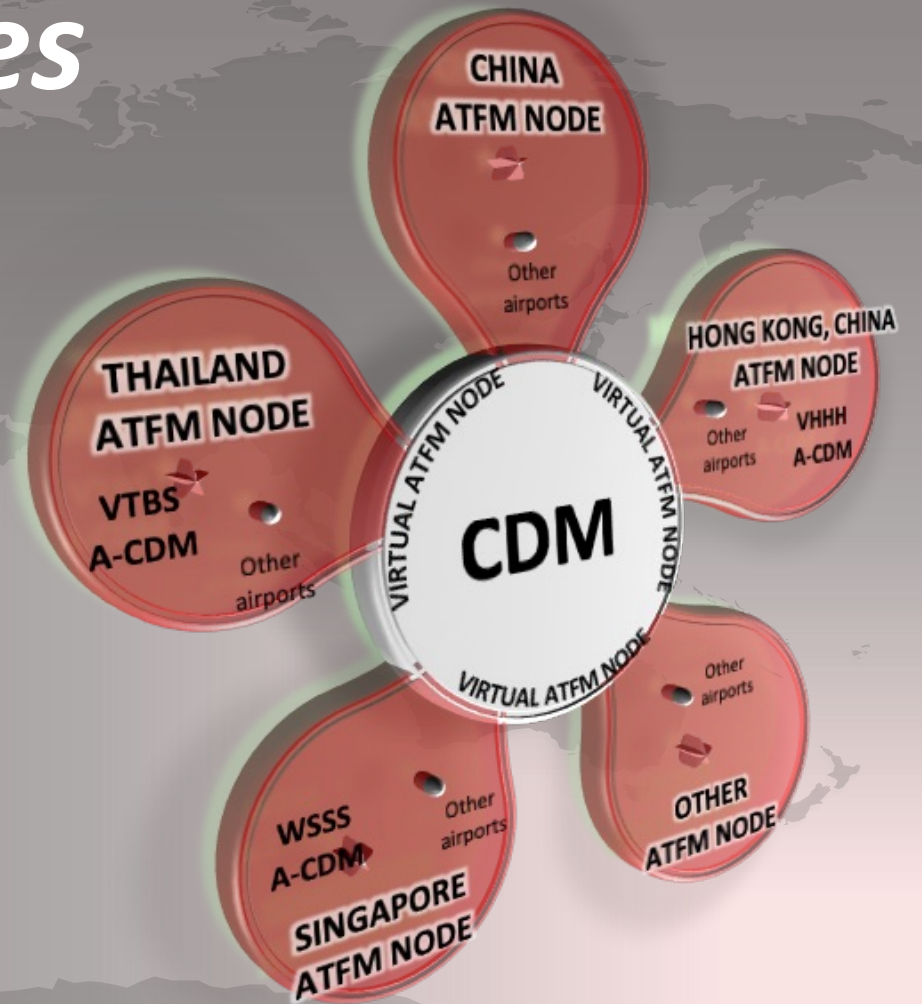
Required Ops Trial for “L-3”:
Members upgrading to Level-3 *must* conduct GDP operational trials with AMNAC Core Team



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Technical Progress Updates



FIXM V4.2 Extension Development

SWIM TF/5 WP/12

- Cross-border ATFM
- A-CDM operation
- Integration between ATFM and A-CDM
- **Traffic synchronization**
- **FF-ICE**
- **TBO**

ATFM SG/12 WP/17

2019

2021

2022

Asia/Pacific FIXM V4.1 Extension

FIXM V4.2 Extension

APANPIRG Conclusion 30/12

- Cross-border ATFM
- A-CDM operation
- Integration between ATFM and A-CDM

**Available on ICAO APAC website and FIXM official website*



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ATFM-on-SWIM over CRV Technical Trial

- Purpose: To trial the exchange of ATFM information in FIXM format using SWIM information services via SWIM technical infrastructure over CRV
- Participating States: Thailand, Singapore, Hong Kong China
- Target Timeframe: ~ Q2/2023
- Test cases
 - CTOT distribution
 - CTOT revision
 - CTOT cancellation



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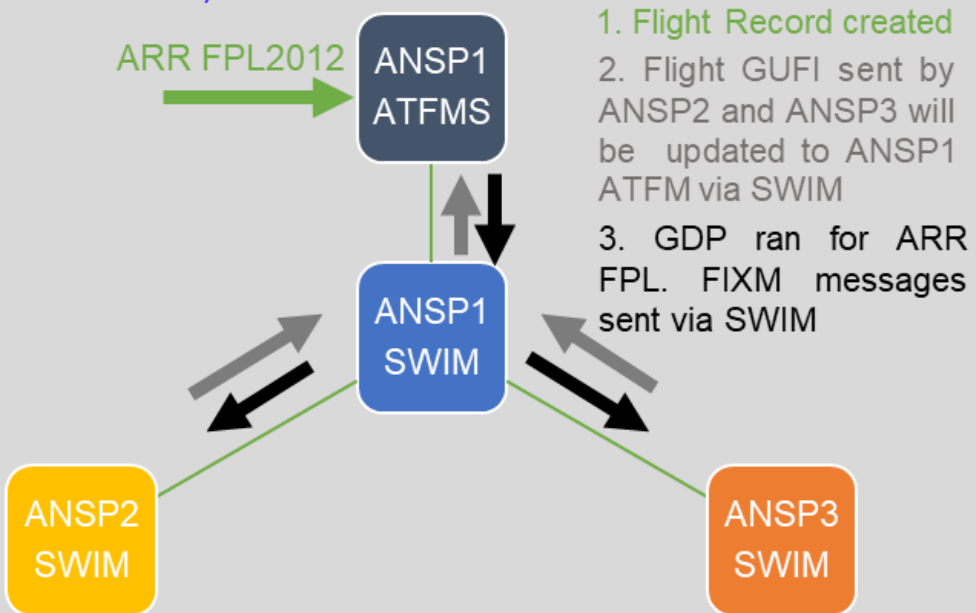


ATFM-on-SWIM over CRV Technical Trial

Setup (Arrival FLPs)

Exchange messages

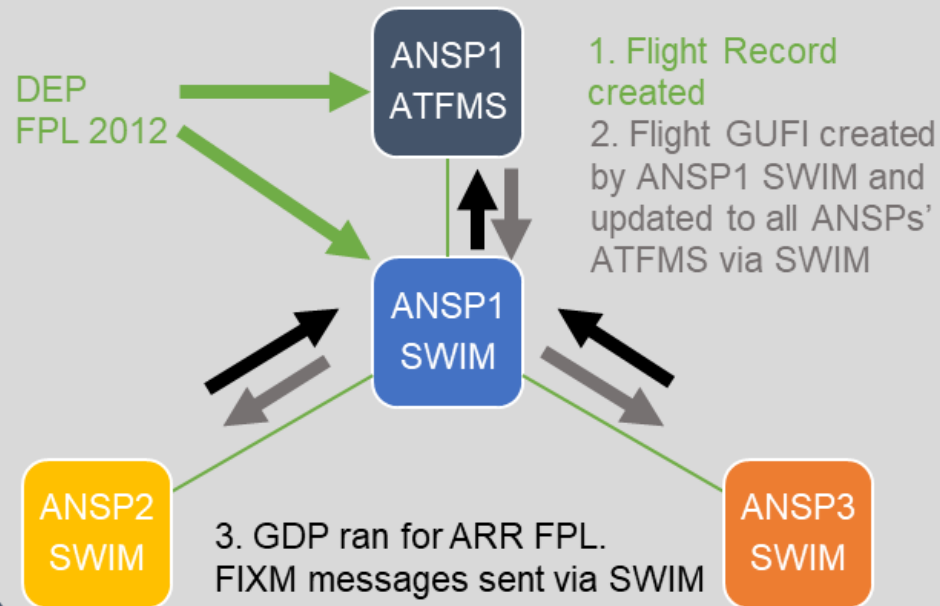
- FIXM 4.1 with APAC extension
- Information will be SAM and related messages mandate fields and compatible to FIXM (CTOT and GUF1 are mandate)



Setup (Departure FLPs)

Exchange messages

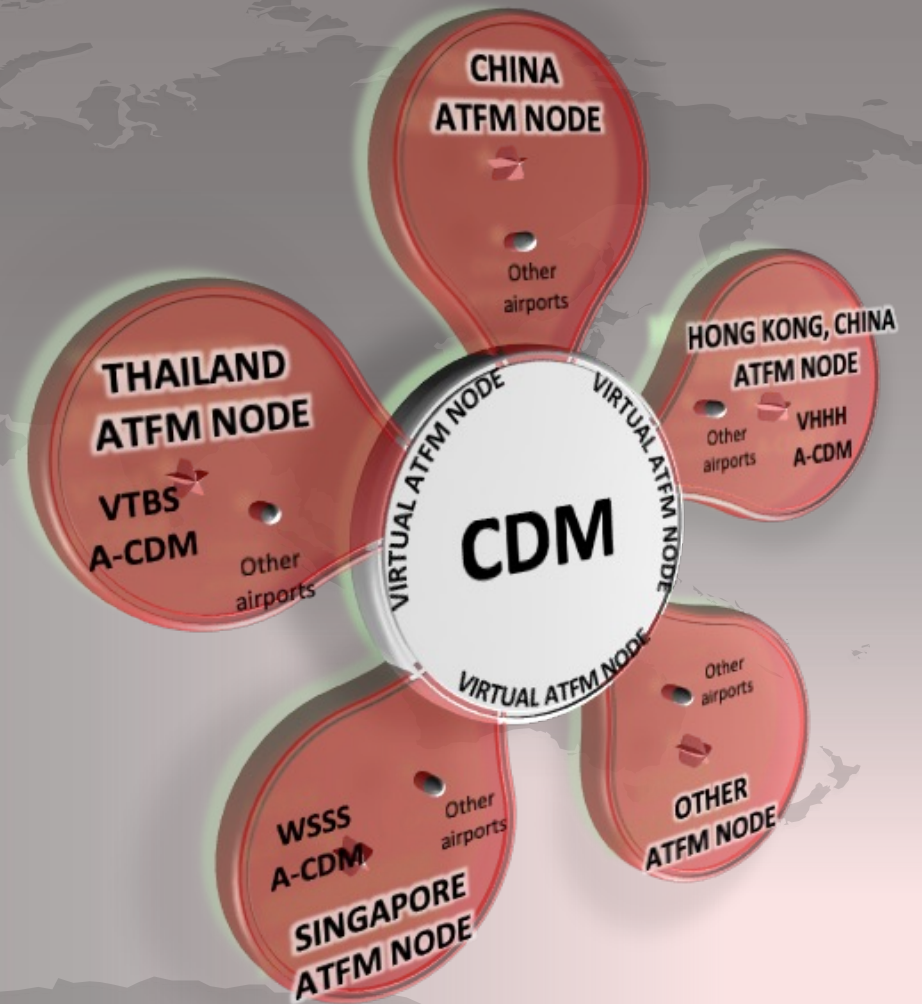
- FIXM 4.1 with APAC extension
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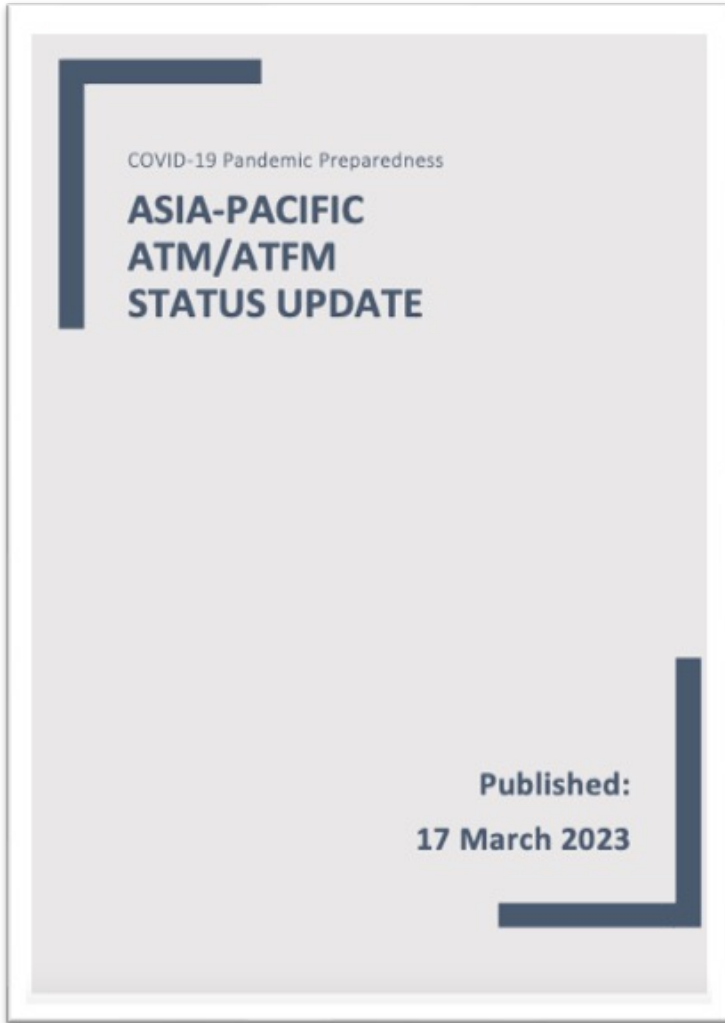
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Reminder:
APAC Bi-Weekly ATFM
Web Conference



APAC Bi-Weekly ATFM Web Conference



- APAC Bi-Weekly ATFM Web Conferences held once **every 2 weeks** (Thursdays 0800 UTC)
- ATM/ATFM Status Update document updated and discussed during the meeting
- Status Update documents kindly hosted by ICAO APAC at their [COVID-19 Information Sharing Webpage](#)

Please continue or begin participating!



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Proposal: APAC Bi-Weekly ATFM Web-Con

To request invitation to the web conference, States can contact:

- **Hong Kong China**

- Hong Kong ATFMU: hkatfmu@cad.gov.hk
- Mr. Anfernee Poon: awhpoon@cad.gov.hk

- **Singapore**

- Singapore ATFMU: caas_atfmu@caas.gov.sg

- **Thailand**

- Bangkok ATFMU: atfm@bobcat.aero
- Mr. Dudsadee Sungthong: dudsadee.su@aerothai.co.th
- Mr. Sagoon Fucharoen: sagoon.fu@aerothai.co.th



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Action by the Meeting

- Note the information contained in this paper
- Continue to ensure local procedures to facilitate the compliance with CTOT are established and practiced
- Discuss conflicting ATFM measure resolution principle
- Discuss or share knowledge on ATFM fuel-saving benefits analysis
- Note the requirement for GDP ops trial for Level-3 upgrade
- Continue or begin participating at APAC Bi-Weekly ATFM Web Conference
- Discuss any other matter as required



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Thank You!

