

Stuart Ratcliffe

# Cross Border ATFM Workshop- India

Domestic and Cross Border ATFM



# So many ATFM/CDM Terminologies ?

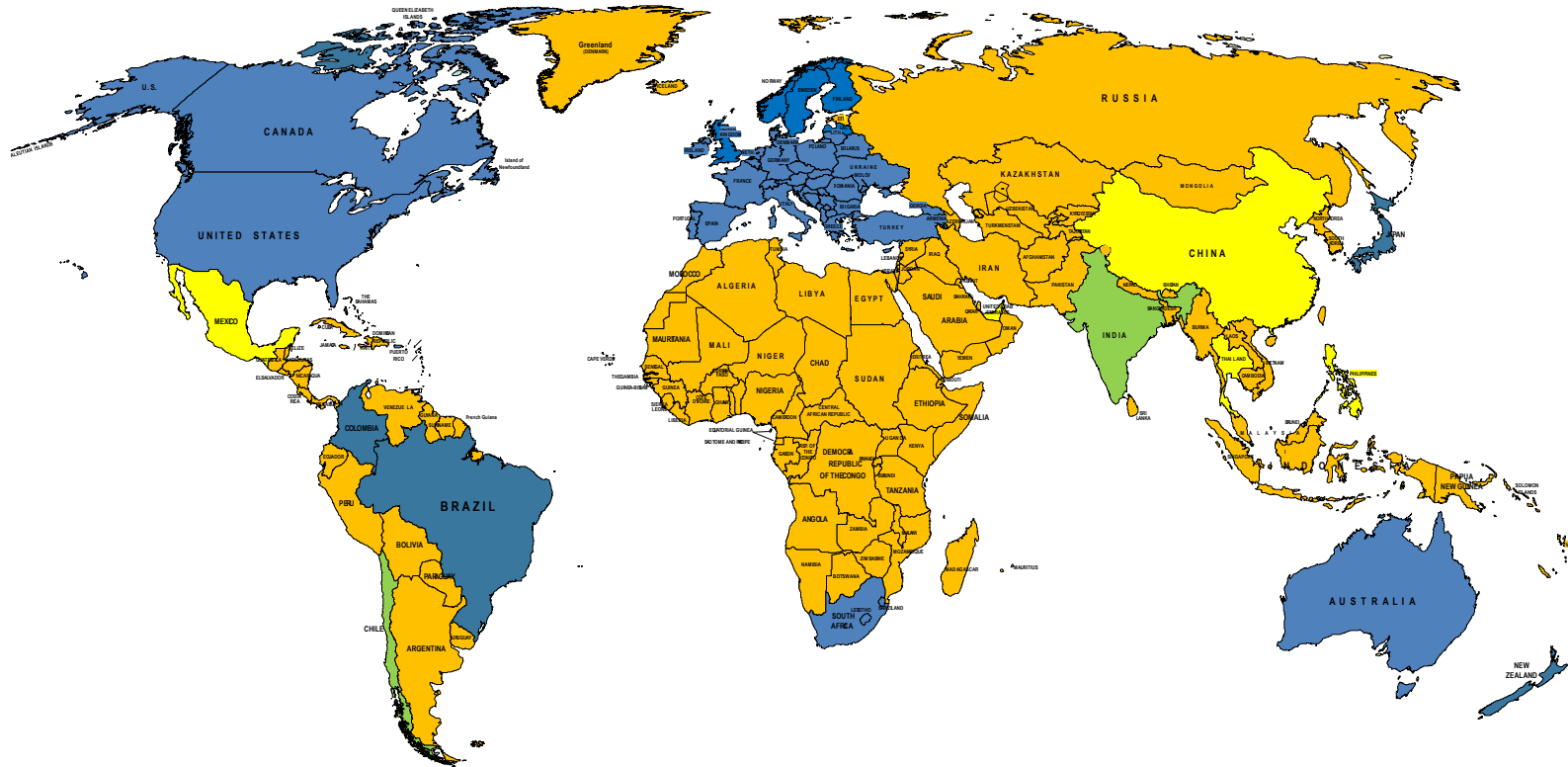
- ATFM Measure
- Domestic ATFM
- Centrally Managed ATFM
- Multi-Nodal Cross Border ATFM
- A-CDM



# ATFM/CDM Definition

- ***Air Traffic Flow Management (ATFM)*** is an Air traffic Management service established with the objective of contributing to a safe, orderly and expeditious flow of air traffic by ensuring that an Air Traffic Control (ATC) service is provided in an environment where system capacity (airports and airspace) is optimized and the demand is balanced against that system capacity.

# ATFM/CDM Implementations



## ATFM Level

## Characteristics



- |   |  |
|---|--|
| 1 | Advanced National/Regional, Integrated-ATFM/CDM Procedures and System Deployed |
| 2 | Mature ATFM/CDM Procedures and Initial System Deployed                         |
| 3 | Initial ATFM/CDM Procedures but No System Deployed                             |
| 4 | No ATFM/CDM Procedures or System Deployed                                      |

# ATFM Measure

- Also Sometimes called a Traffic Management Initiative (TMI)
- ATFM Measures
  - Level Capping
  - MIT
  - MINIT
  - Re-routing
  - Slot Allocation
  - ETC.

# Domestic ATFM/CDM

- Only Domestic Flights are subject to ATFM Measure
- No Regional or International Flights are part of ATFM Measure
- To be Effective minimum of 70% participation



# Domestic ATFM/CDM Implementations

## Successful Implementations

- **Australia**
- **South Africa**
- **Columbia**
- **Japan**
- **New Zealand**
- **Brazil**
- **China**



# Cross Border ATFM/CDM

- Includes Domestic, Regional and/or International flights
- ATFM Measures are implemented centrally for participating states
- Participating ANSPs and aircraft operators are expected to comply with ATFM measure

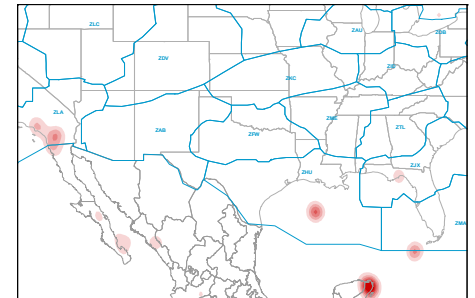
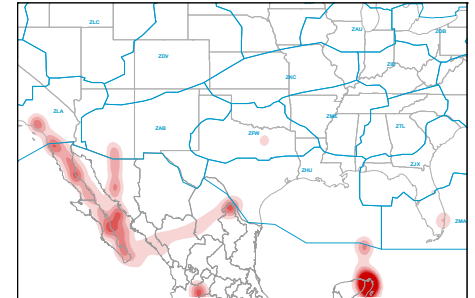




# Centrally Managed Cross Border ATFM/CDM

## Successful Implementations

- **USA /Mexico**
- **EUROCONTROL**
- **BOBCAT**



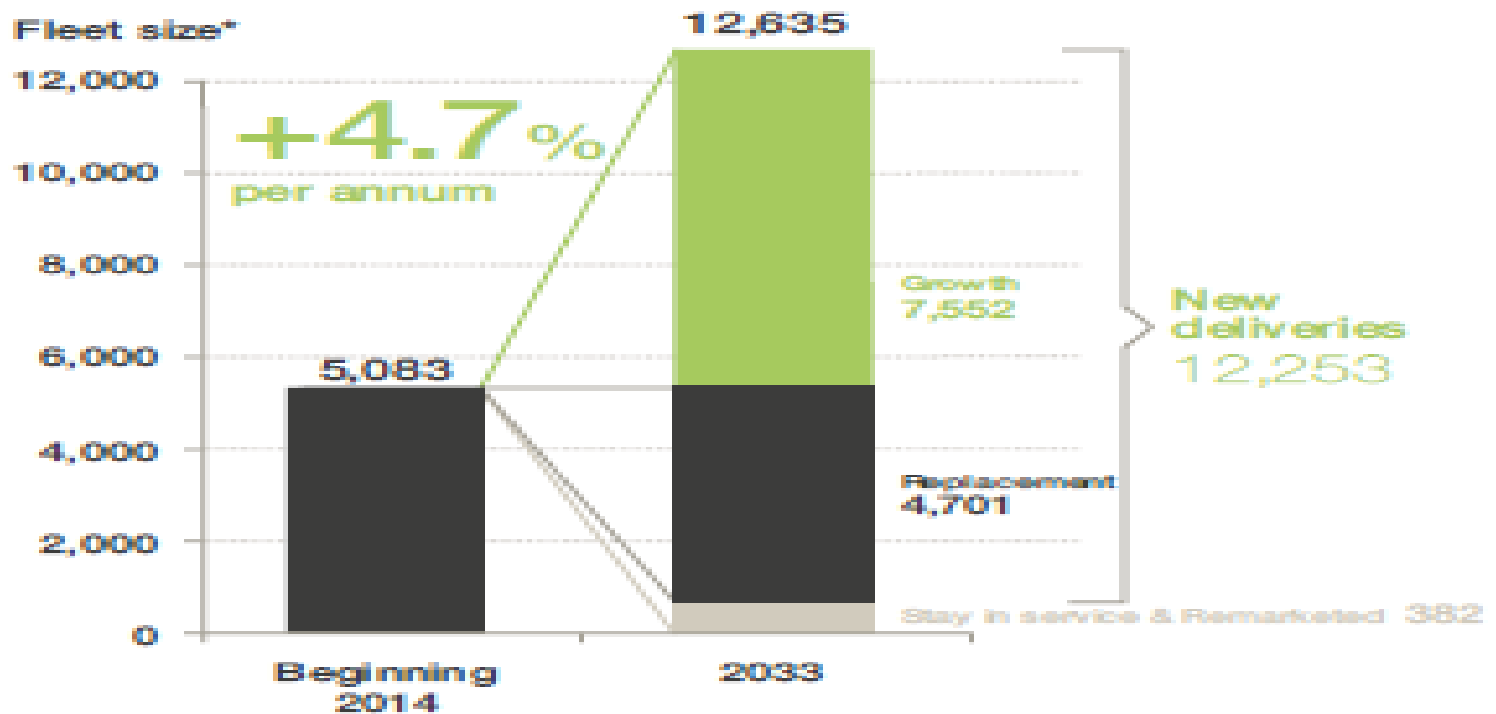
## Has a Central Controlling Authority

- USA ATCSCC
- EUROCONTROL – Network Manager
- Aerothai – Network Operations ATM Center

# ATFM/CDM in APAC

- Clearly ATFM/CDM is required

## Fleet in service evolution



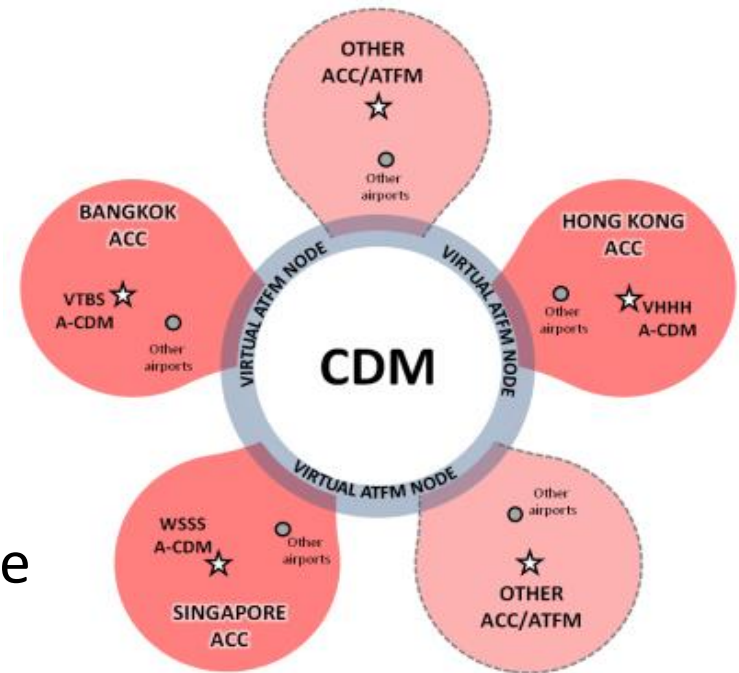
# ATFM/CDM in APAC

- Some states do not have required number of domestic flights to make ATFM Measure effective
- Regional Network approach required to make ATFM/CDM most effective
- Need to include Regional and/or International flights
- Cannot be managed by a Central Controlling Authority

**Concept Developed – Multi-Nodal Cross Border ATFM**

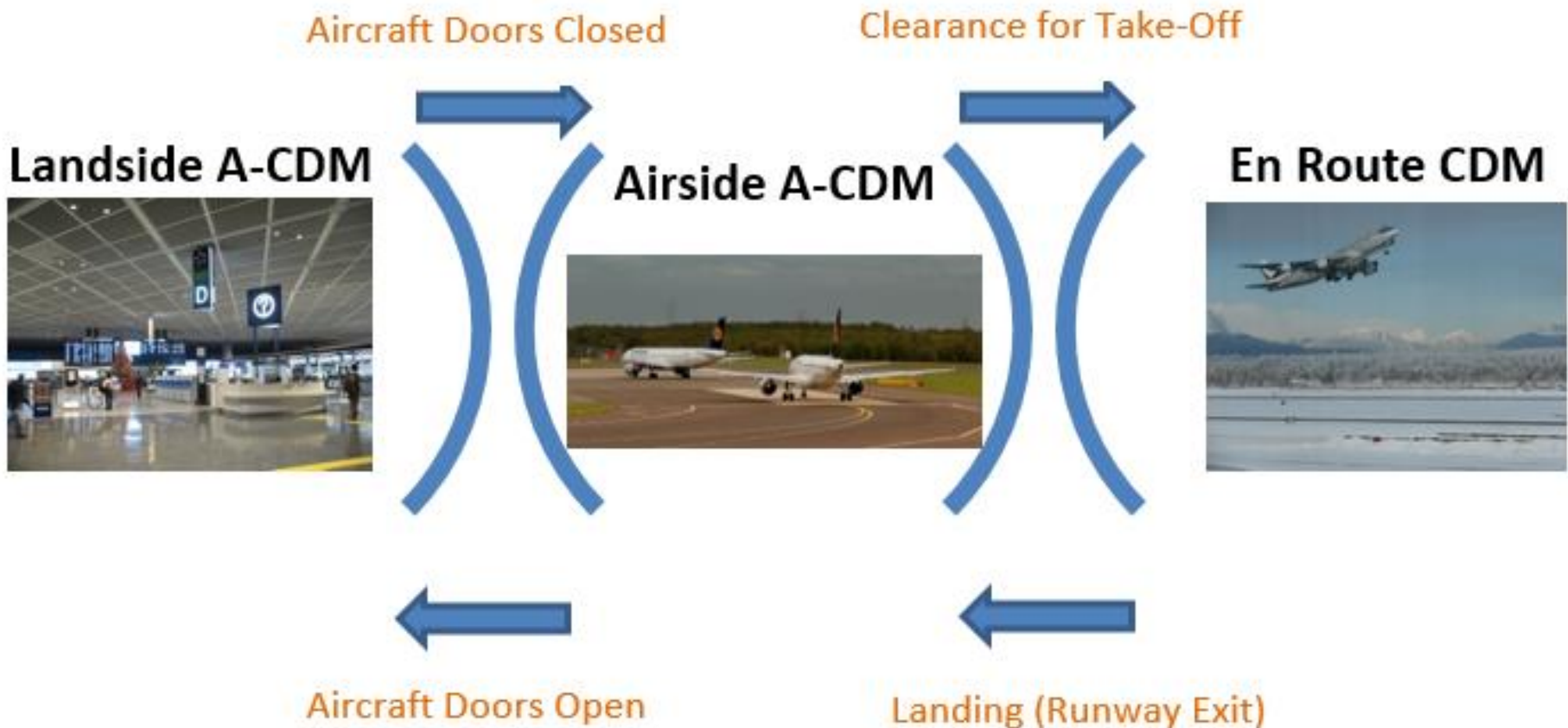
# Multi- Nodal Regional ATFM

- Domestic/Regional/International flights
- No Central Management
- Connected via virtual network
- Each State responsible for ATFM within own state
- All participating states adhere to common business rule
- Could include Airborne flights
- Aircraft Operators choose where to take delay:
  - Gate
  - Surface
  - En-Route



# A-CDM

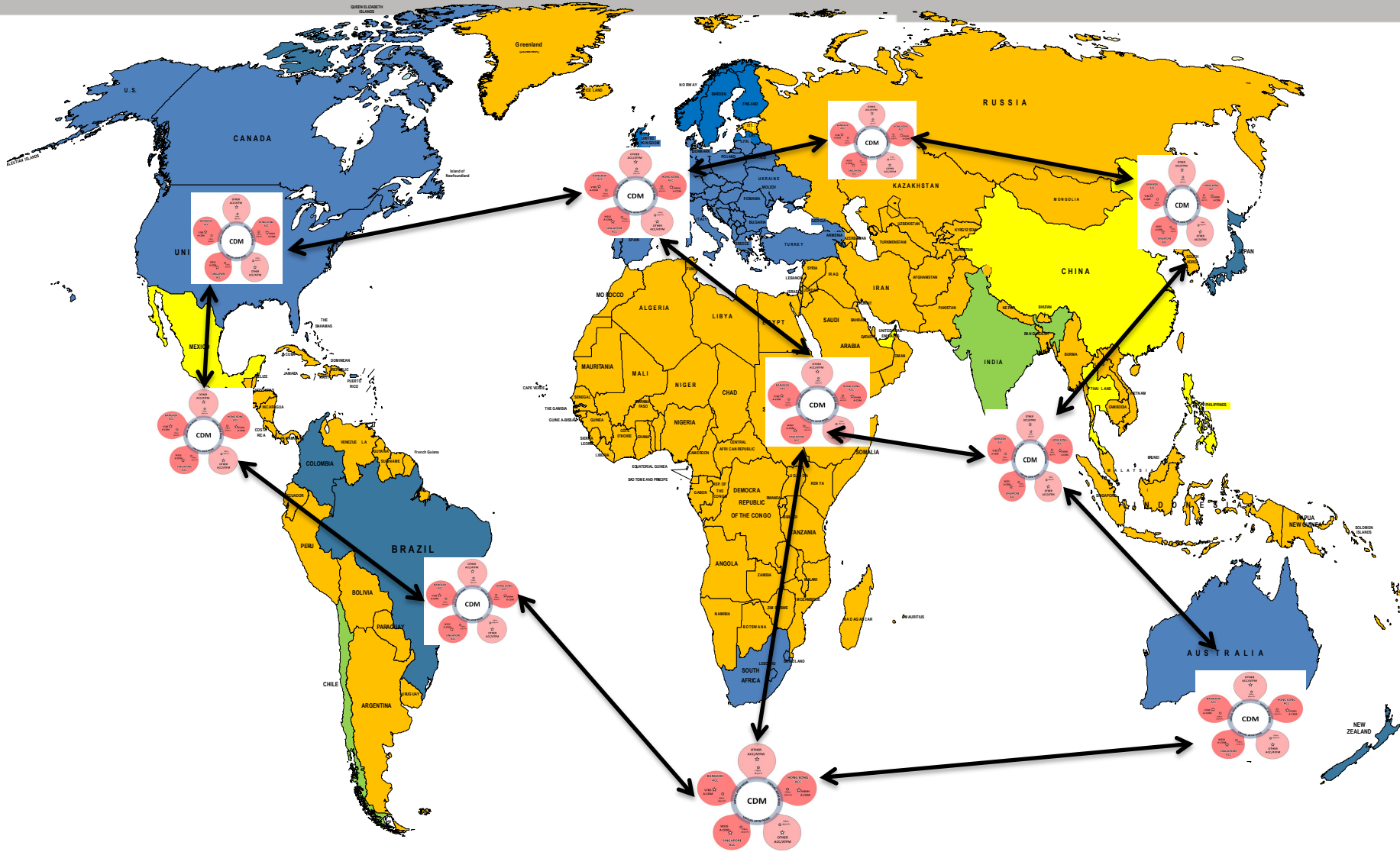
***Airport Collaborative Decision Making (A-CDM)*** is the concept which aims at improving Air Traffic Flow and Capacity Management (ATFCM) at ***airports*** by reducing delays, improving the predictability of events and optimising the utilisation of airport resources.



# ATFM and A-CDM

- ATFM and A-CDM can be implemented independently
- Not reliant on each other to optimize traffic
- Both serve same purpose – optimization – but in different domains
- Ideally systems should be integrated

# Global CDM



# Conclusion

- Many ATFM/CDM ConOps
- Unique ATFM/CDM ConOps required for APAC
- Multi-Nodal ATFM is being trialed in APAC
- ATFM- A-CDM separate function
  - Can be implemented independently
  - Ideal to be integrated
- Global CDM is desired outcome



# Thank You

Presented by  
Stuart Ratcliffe

