



# ASIA PACIFIC

## Air Traffic Flow Management

Cross Border ATFM Seminar/Workshop Delhi 3<sup>rd</sup>  
and 4<sup>th</sup> September 2015



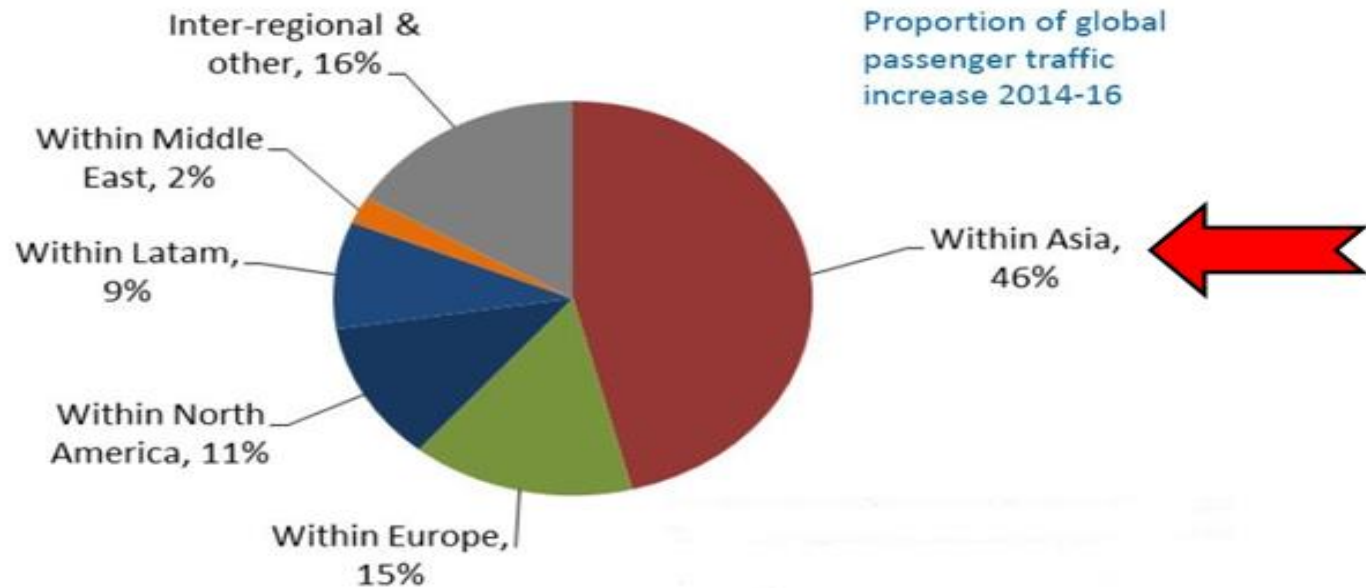
David Rollo – Assistant Director SFO  
IATA Singapore  
[rollod@iata.org](mailto:rollod@iata.org)

# Outline

- APAC Growth
- Current Situation
- Airlines and ATFM
- Air Traffic Flow Management why?
- Cross Border ATFM

# Growth of Aviation in Asia Pacific

Almost half of additional passengers expected during 2014-2016 will fly within Asia



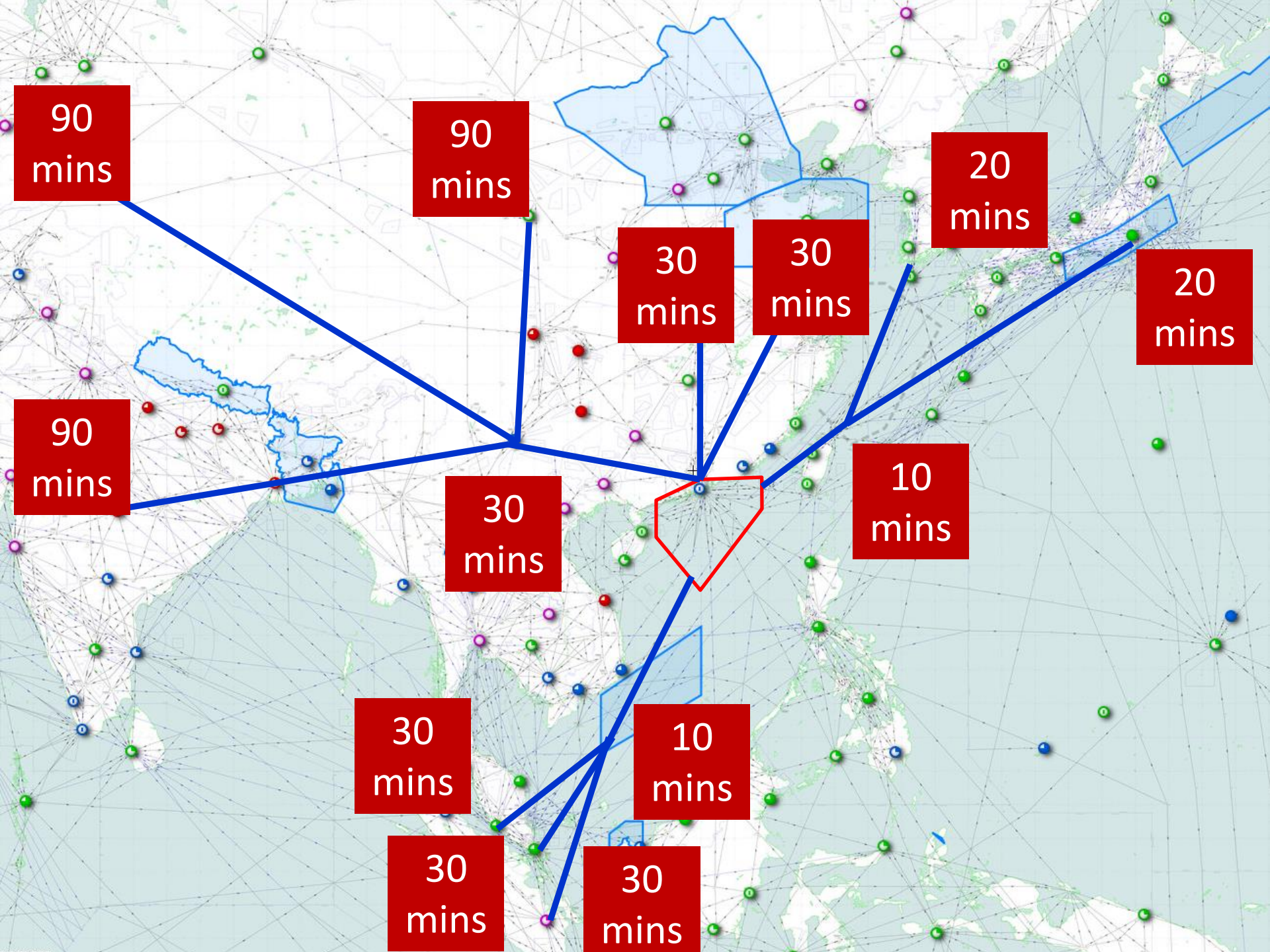
# Current Situation

- Many key airports operate at near full capacity
  - Long term NOTAMs on arrival delay
  - Lack of timely information for long haul flights
- Air navigation service capabilities vary
- Asia-Pacific is forecasted to continue to be the world's fastest growing region for air transport over the next 20 years
- Air transport connectivity is a critical link to markets and a generator of wealth
- There is a close link between GDP growth and air travel demand



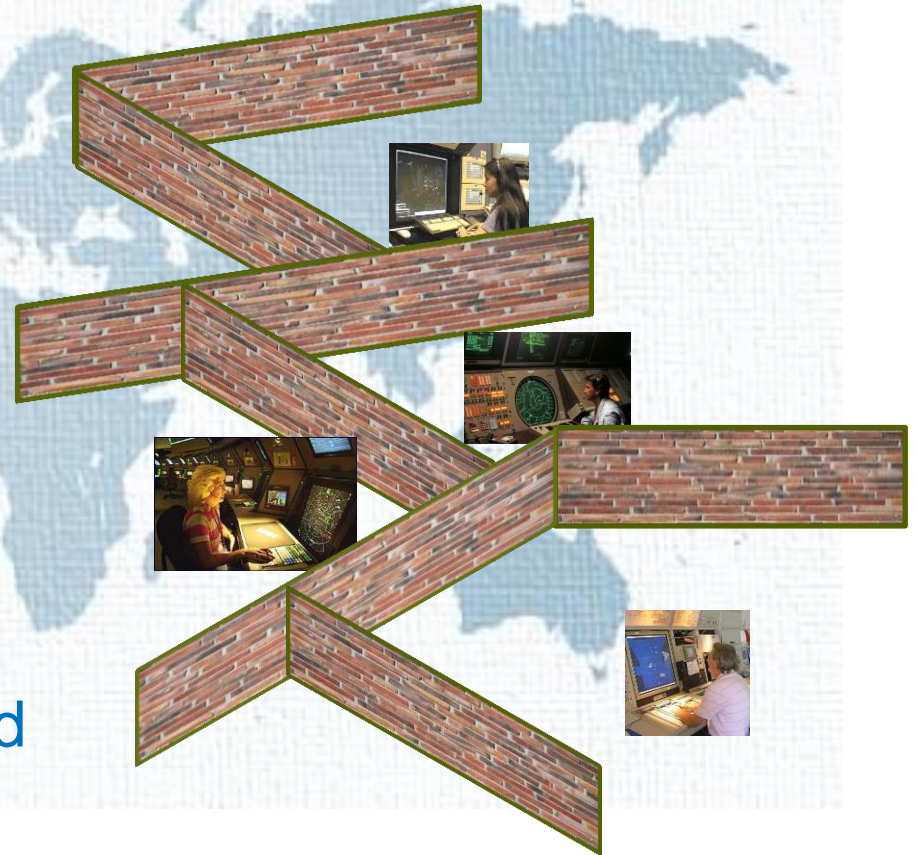
# ATFM Current Situation

- “Blunt Instrument” Traffic restrictions imposed
- No Shared Network view regionally
- Knock on effect to other FIRs
- Disruption and unpredictability



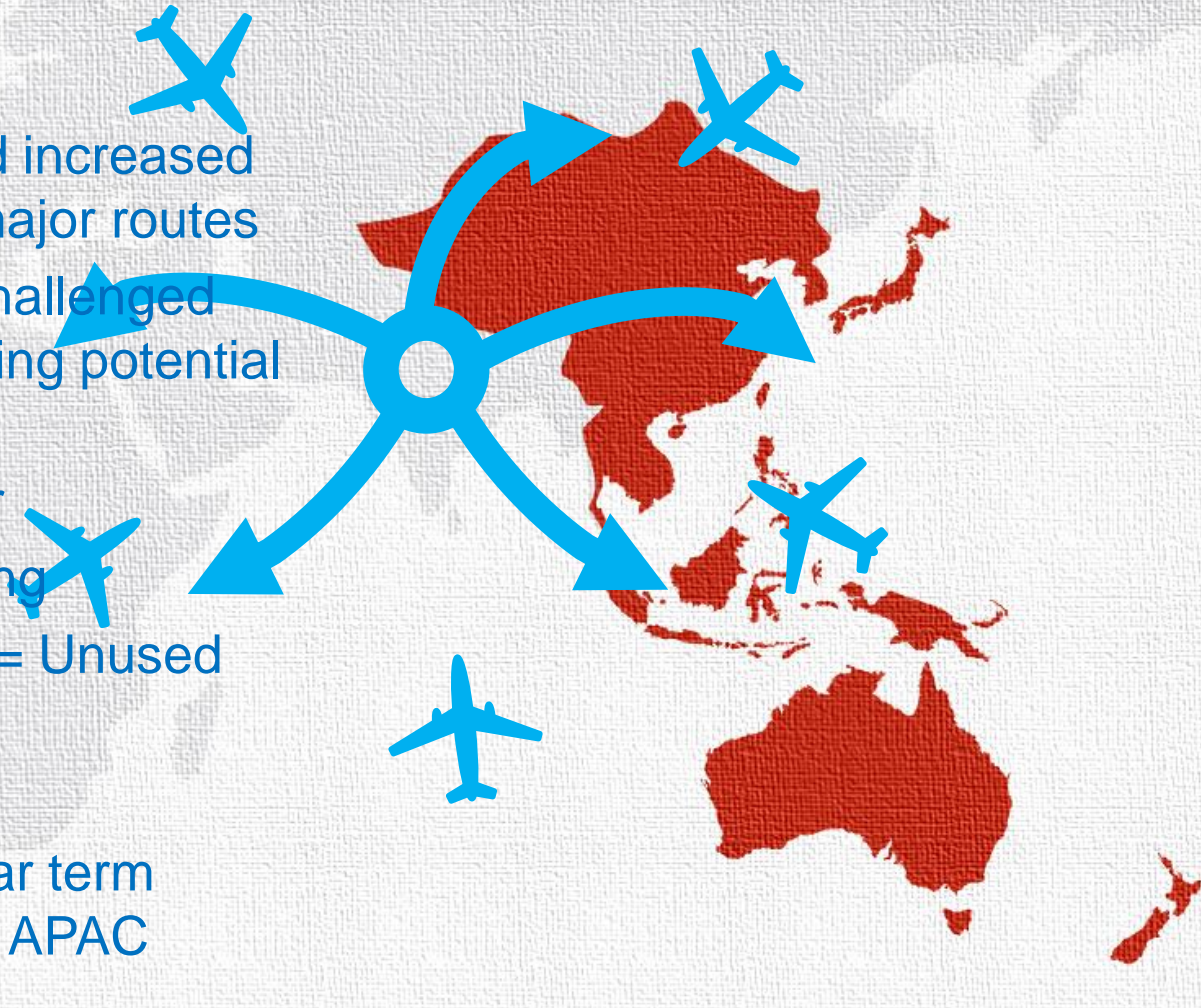
# ANSP ISSUES

- **Some Airports Insufficiently Utilized**
  - No linkage to ATFM
  
- **ATM Inefficiency**
  - Uncoordinated
  - “Natural” focus on domestic, rather than regional integration and efficiency



# User issues

- Major Airlines reported increased sector times in most major routes
- Key airport capacity challenged and largely underutilizing potential capacity
- Major air routes busier
- Airlines costs increasing
- Air-Ground mismatch = Unused costly technology
- ATM investment in near term upward of USD3.5b in APAC





# Airlines & ATFM

- We need to deliver our passengers and cargo to their destinations without disruption
  
- We need:
  - **Predictability**
    - To connect passengers with their ongoing flights
    - Fuel and cost efficient flight profiles
  
  - To have a say in decisions that effect our operations

# PREDICTABILITY



# Predictability

- Allows us to build achievable schedules
- Allows us to load the appropriate fuel weight
  - Every kilo of extra fuel offsets cargo and passenger capacity
  - We may have to offload passengers and cargo to carry extra fuel
  - It costs fuel to carry fuel
  - Predictable direct sectors are 4-6% more efficient than tactical direct sectors
- Collaborative approach allows us to help the system

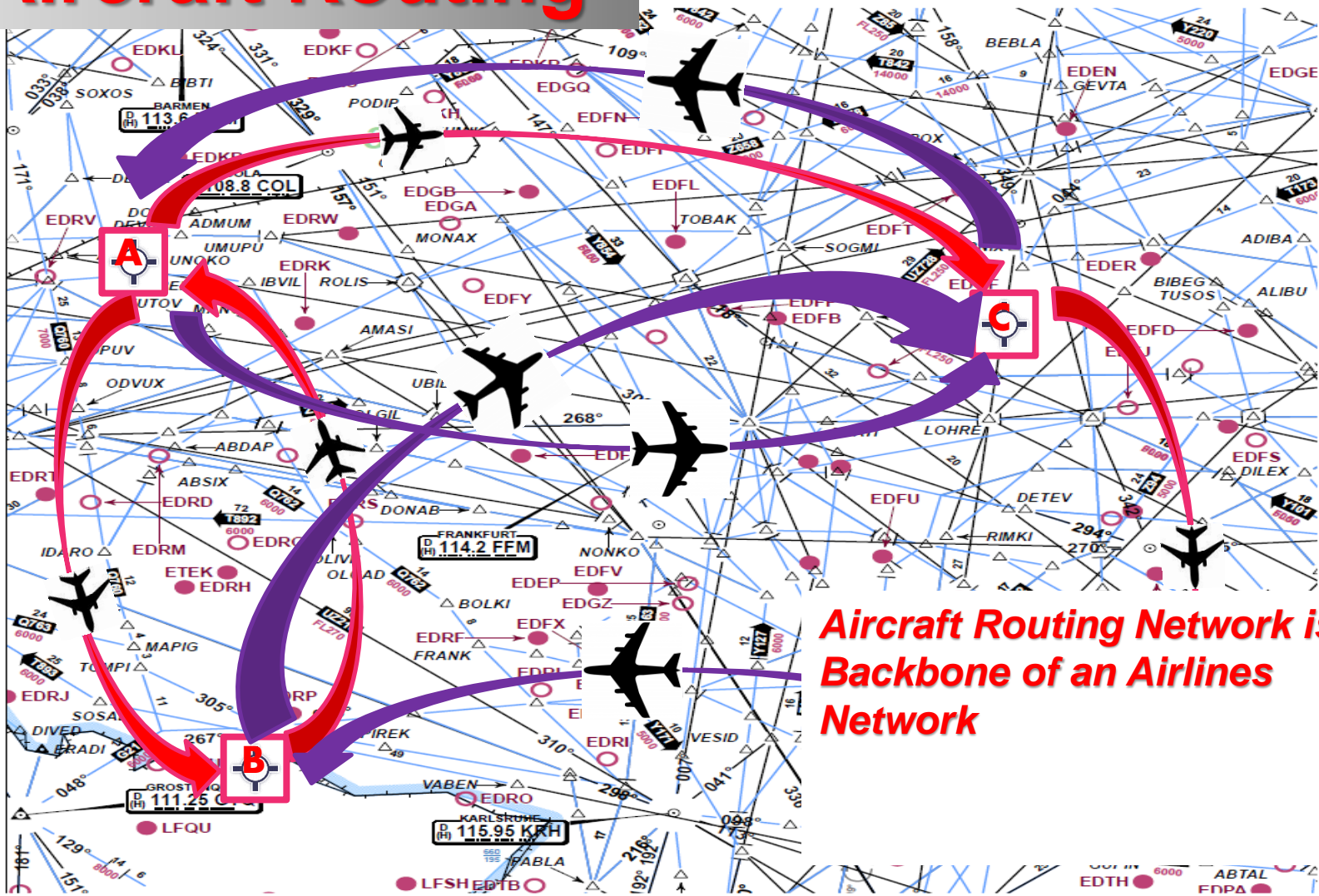
# Predictability

- Creates planned workload for controllers
  
- Allows strategic management of traffic with less tactical intervention
  - Vectoring “low and slow” huge increase in fuel burn
  - Less Tactical intervention = reduced workload and increased capacity for planning
  
- Requires Appropriate support tools and training

# Operations – disruption

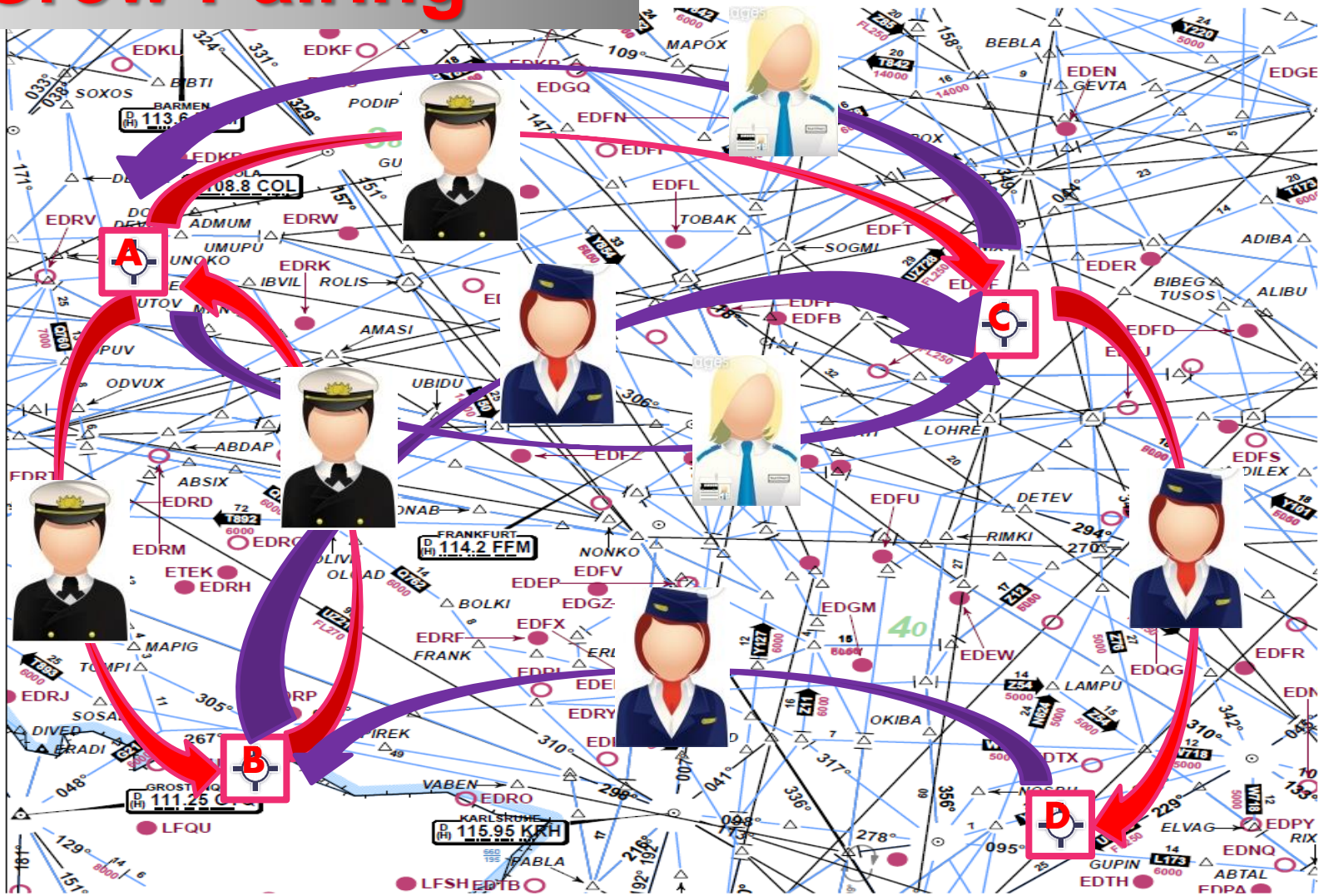


# Aircraft Routing



**Aircraft Routing Network is the Backbone of an Airlines Network**

# Crew Pairing



# Disruption Management

- Disruption Management and Schedule Recovery is Challenging...
  - Passenger, crew and aircraft scheduling synchronization
  - Recovery within short time frame with limited resources
  - Recovery constrained by multi-objectives
    - Minimize passenger's recovery cost
    - Minimize disrupted time of operation



# ATFM – Why?



# ATFM – Why?

## Benefits

- + Enhanced ATM system safety
- + Increased **predictability**
- + Increased situational awareness
- + Reduced fuel burn and operating costs
- + Effective management of irregular operations and unforeseen events
- NOTE: An ATFM system for an airspace which has no capacity restrictions or flow requirements, ultimately becomes a **limit** to traffic flow and increase costs

## APAC sub regional ATFM – Why?

➤ APAC (particularly SEA ) relatively small FIRs with low transit flight times = “knock on effect”

➤ Restrictions in FIR (a) “push” the problem to FIR (b)

➤ We need to manage flows collaboratively with shared information and decisions

# APAC Sub Regional (Cross Border) ATFM – Why?

- **ATFM identified as a “Critical” element for Seamless Operations (ASBU 0-NOPS)**
- To manage current and forecast activity for our region multi FIR “linked-up” solutions are required
- ATFM an opportunity to develop collaborative management of airspace associated with key regional flows
- ATFM is a tool that provides efficiency, predictability and capacity for both Users and ANSPs

# APAC Cross Border ATFM – Why?

- **CTFMU ‘ideal’ BUT**
- **Not feasible for APAC at this time**
- **We have to look at different Network solution(s)**



THANK YOU