

# Socio-Economic Dynamics of Civil Aviation in the Asia and Pacific Regions

Mr Yap Ong Heng  
Director General  
Civil Aviation Authority of Singapore

# Overview

**Civil Aviation and Economic Growth**

**Air Services Liberalisation**

**Challenges in Aviation**

**Partnerships - ICAO and Asia & Pacific regions**

# Impact of Air Transport on Economy Worldwide

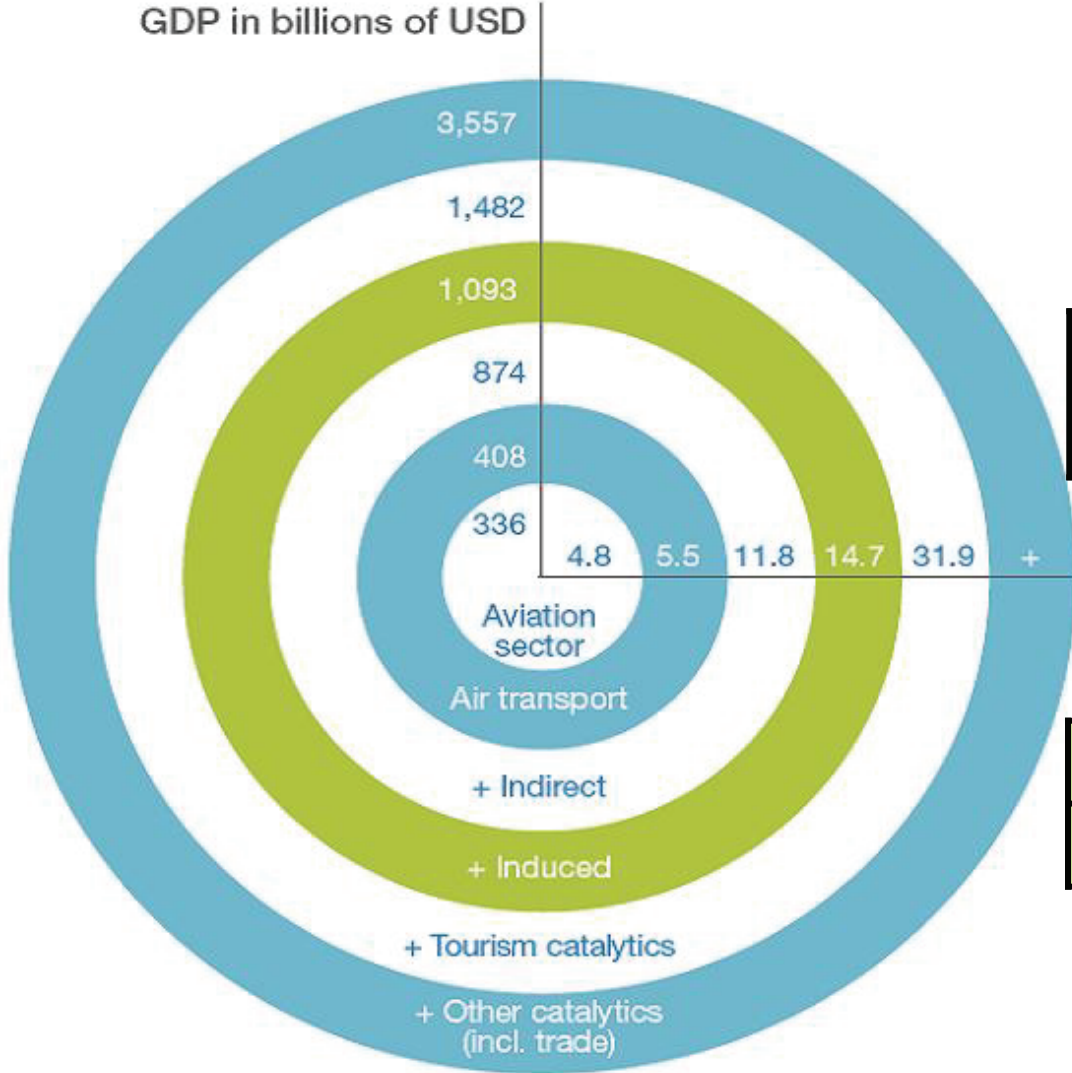
- Aviation provides swift worldwide transportation, essential for global business, trade and tourism.

*Source: Air Transport Action Group*



- Over 2.2 billion pax/yr travel by air
- Over 40% int'l tourists travel by air
- Value of total goods transported by air represents 35% of int'l trade
- Some 2,000 airlines operate 23,000 aircraft with route networks of several million kilometres
- Some 3,750 airports
- 160 air navigation service providers

# Aviation's Impact on Global Economy & Employment



Source: Oxford Economics

Aviation accounts for:-

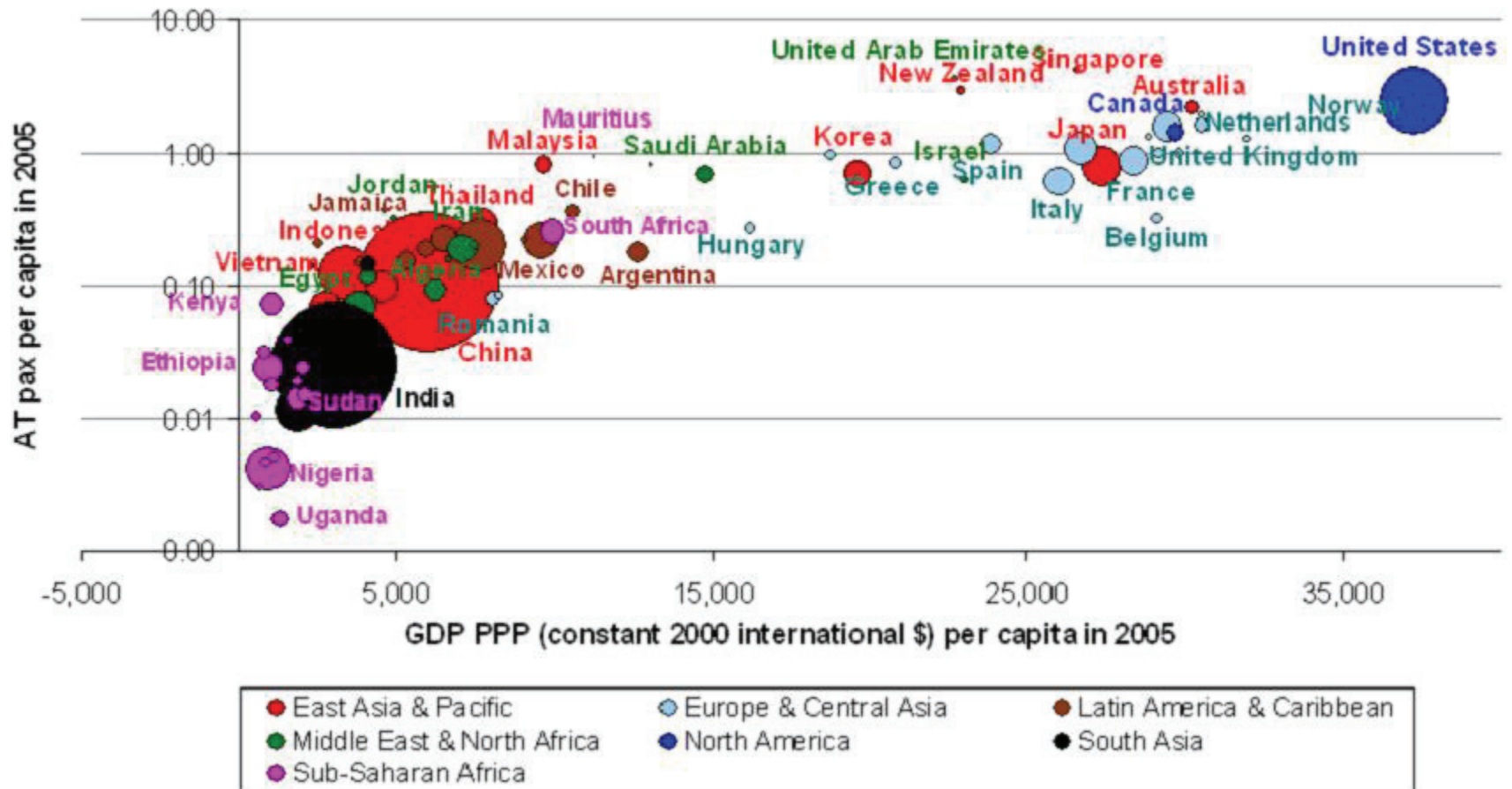
	Global	Asia Pac
<b>GDP</b>	3.6 trillion	154 billion

	Global	Asia Pac
<b>Jobs</b>	32 million	3 million

Source: Air Transport Action Group



# Liberal Air Services and Economic Growth



- Liberalising air services in 320 country pairs → 63% increase in traffic, 24.1 million jobs and US\$490 billion in GDP

(InterVISTAS, 2006)

# Air Services Liberalisation

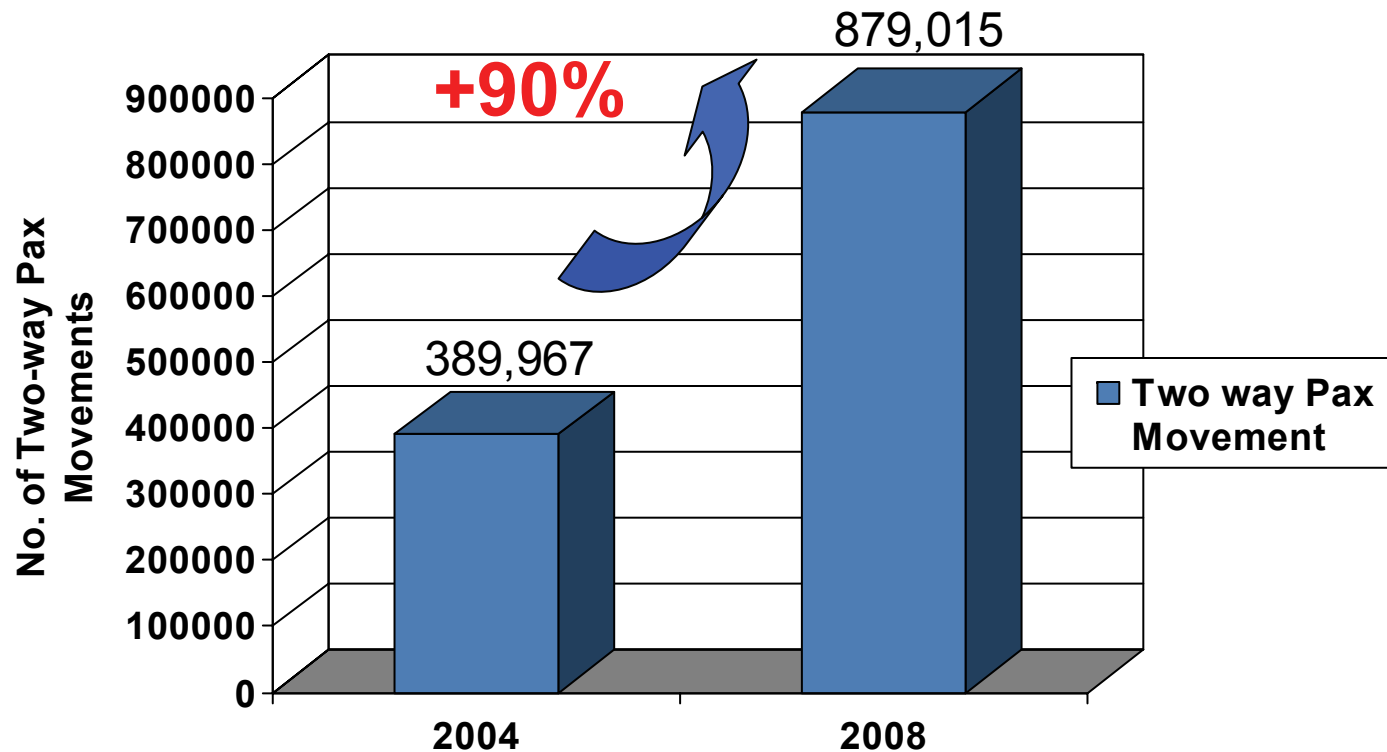
# Air Services Liberalisation

- Overall economic benefits to Singapore placed above immediate interests of our carriers
- Liberal air services allow Singapore carriers and foreign carriers operating to Singapore to be responsive to changes in market conditions.



# Liberalisation Leads to Traffic Growth

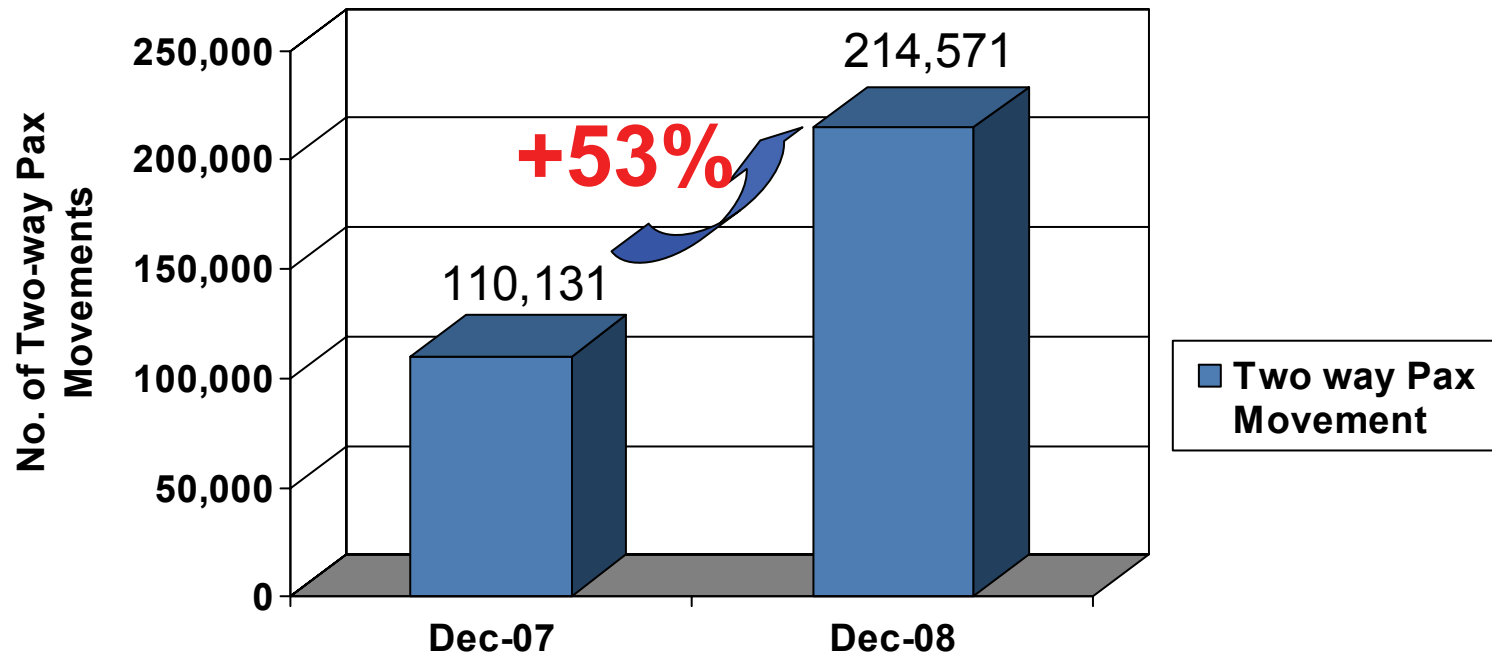
## Singapore - Ho Chi Minh City Sector Traffic Growth (ANNUAL)





# Liberalisation Leads to Traffic Growth

## Singapore - Kuala Lumpur Sector Traffic Growth (MONTHLY)



# Vibrant Logistic Ecosystem in Singapore



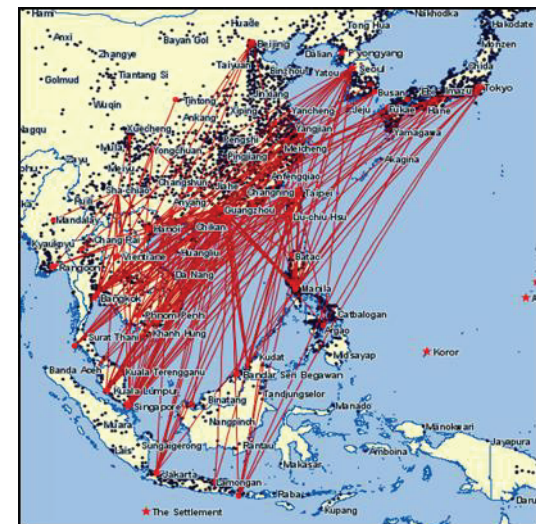
# ASEAN Air Services Liberalisation

- Liberalisation on a multilateral basis
- Roadmap for Integration of Air Travel Sector (RIATS)
  - Unlimited cargo services to, from and beyond all ASEAN points
  - Unlimited pax services to, from and beyond ASEAN capitals
  - Long term, pax services to be expanded to all ASEAN cities



# ASEAN and Dialogue Partners

- ASEAN plans to liberalise air services arrangements with key trading partners, e.g. China, India and South Korea
- ASEAN + China + India + South Korea = Over 3 billion people, US\$7.6 trillion in GDP
- Talks started on an ASEAN-China Air Transport Agreement



# Challenges:

Safety and Capacity  
Environmental Impact  
Spread of Infectious Diseases  
Trained Aviation Personnel

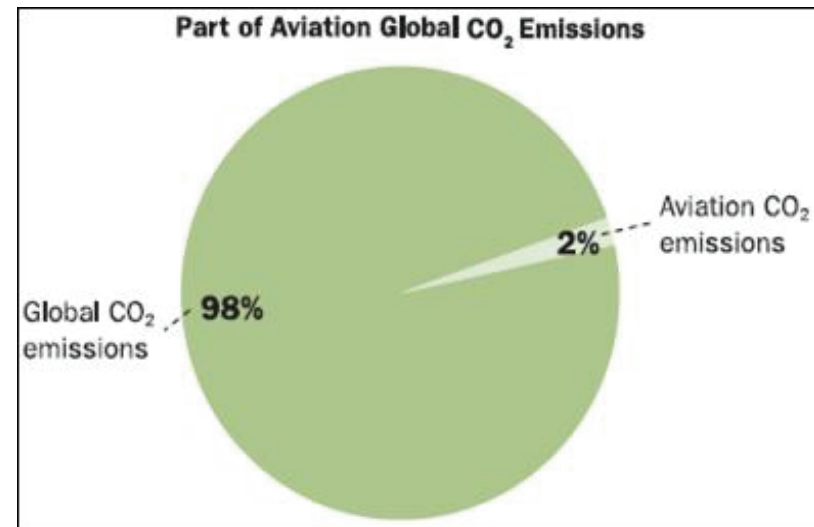
# Challenges – Safety & Capacity

- Maintaining a high level of safety and capacity to meet rapid air traffic growth
  - Inadequate capacity results in safety breaches and delays to aircraft
- Harmonising air traffic management procedures in the various Flight Information Regions (e.g. application of aircraft separation)



# Challenges – Environmental Impact

- Reduce impact on environment without compromising safety, security and sustainable growth
- Constraints faced by States:
  - Limited/lack of alternative energy resources
  - Geographical location
  - Stages of economic development
- Need for comprehensive communications on efforts of Asia-Pacific community to address aviation emissions



# Challenges – Spread of Infectious Diseases

**2009: A H1N1 Flu**  
**2005: Avian Flu**  
**2003: SARS**



- Ease of transmission of diseases, especially by air travel
  - Speed of air travel
  - Air travel covers great distances
- Need to coordinate among stakeholders to mitigate spread of diseases

# Challenges – Human Resource

- Aging of baby boomer workforce.
  - Massive wave of retirements from the current workforce.
- Trained aviation personnel entering industry lags behind growth of industry.
- Need for reshaping of work processes and training of aviation personnel in line with advancement in technology and automation.

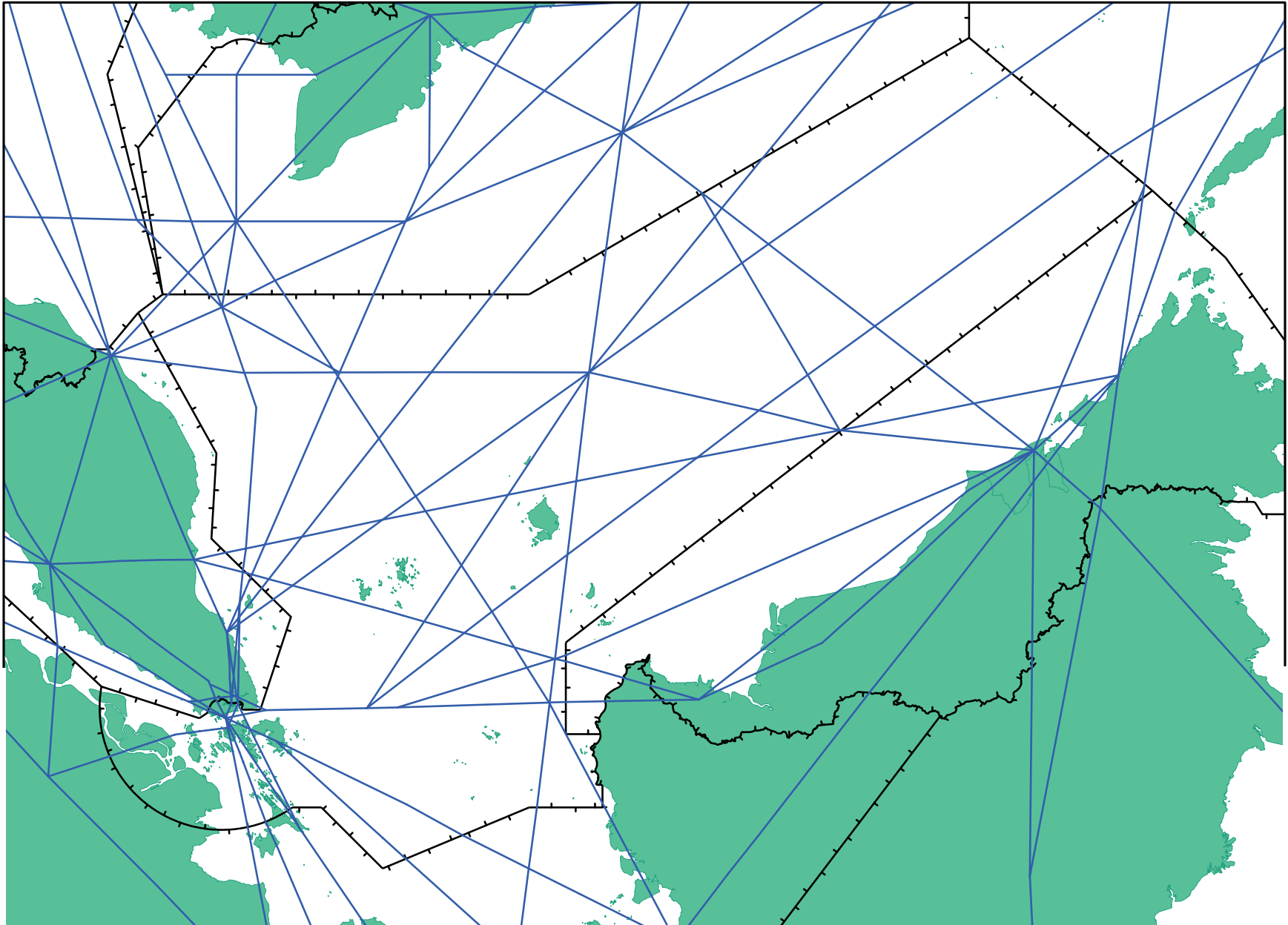


# Partnerships among ICAO and the Asia and Pacific Regions

# Addressing Safety & Capacity Issues

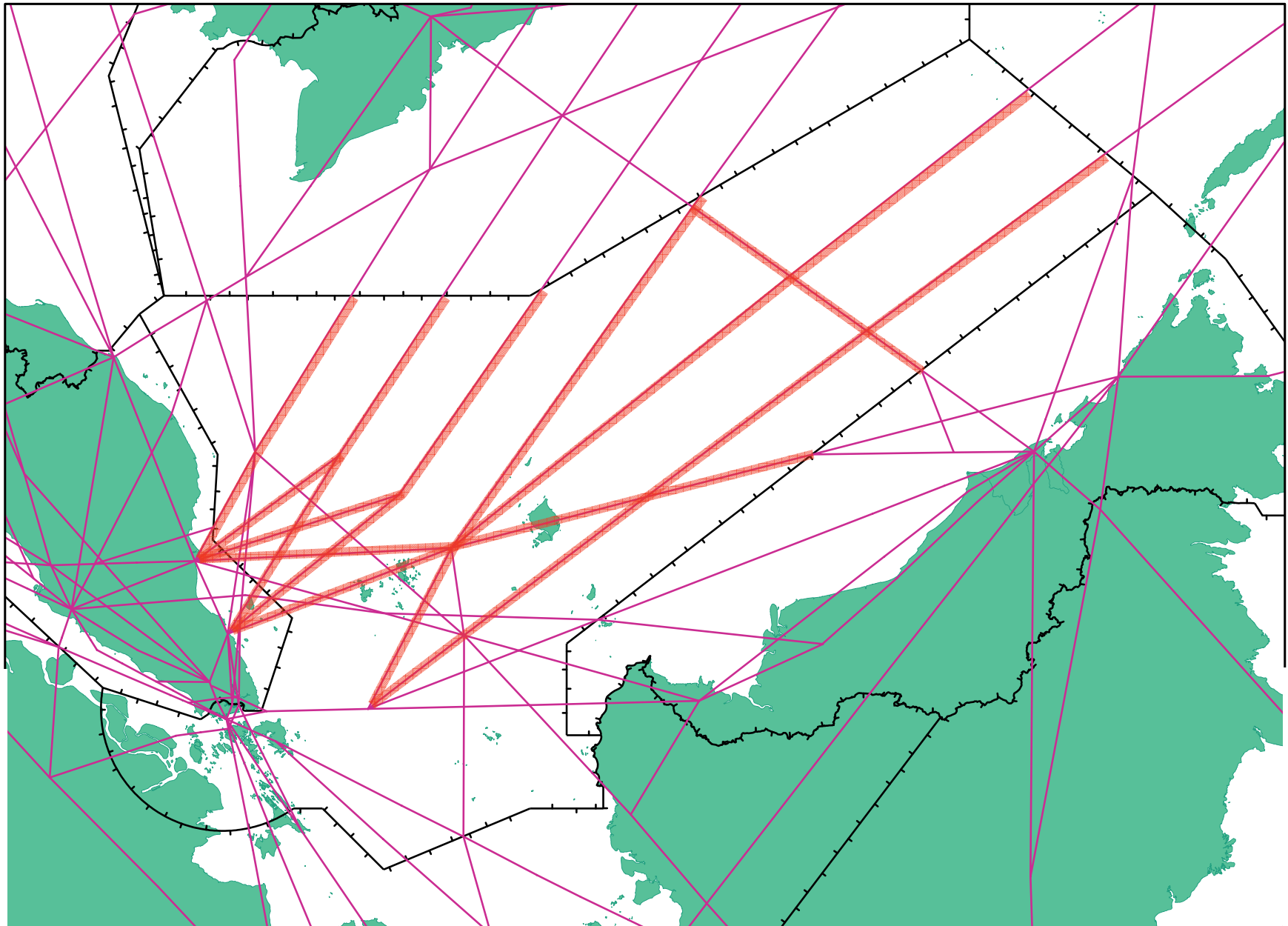
- Enhancement of safety through COSCAP
- Optimisation of air route structures
- Reduction of aircraft separation (vertical, horizontal, longitudinal)
- Enhancement of ATC coordination in the region, through various ICAO platforms

# Old Airways over South China Sea

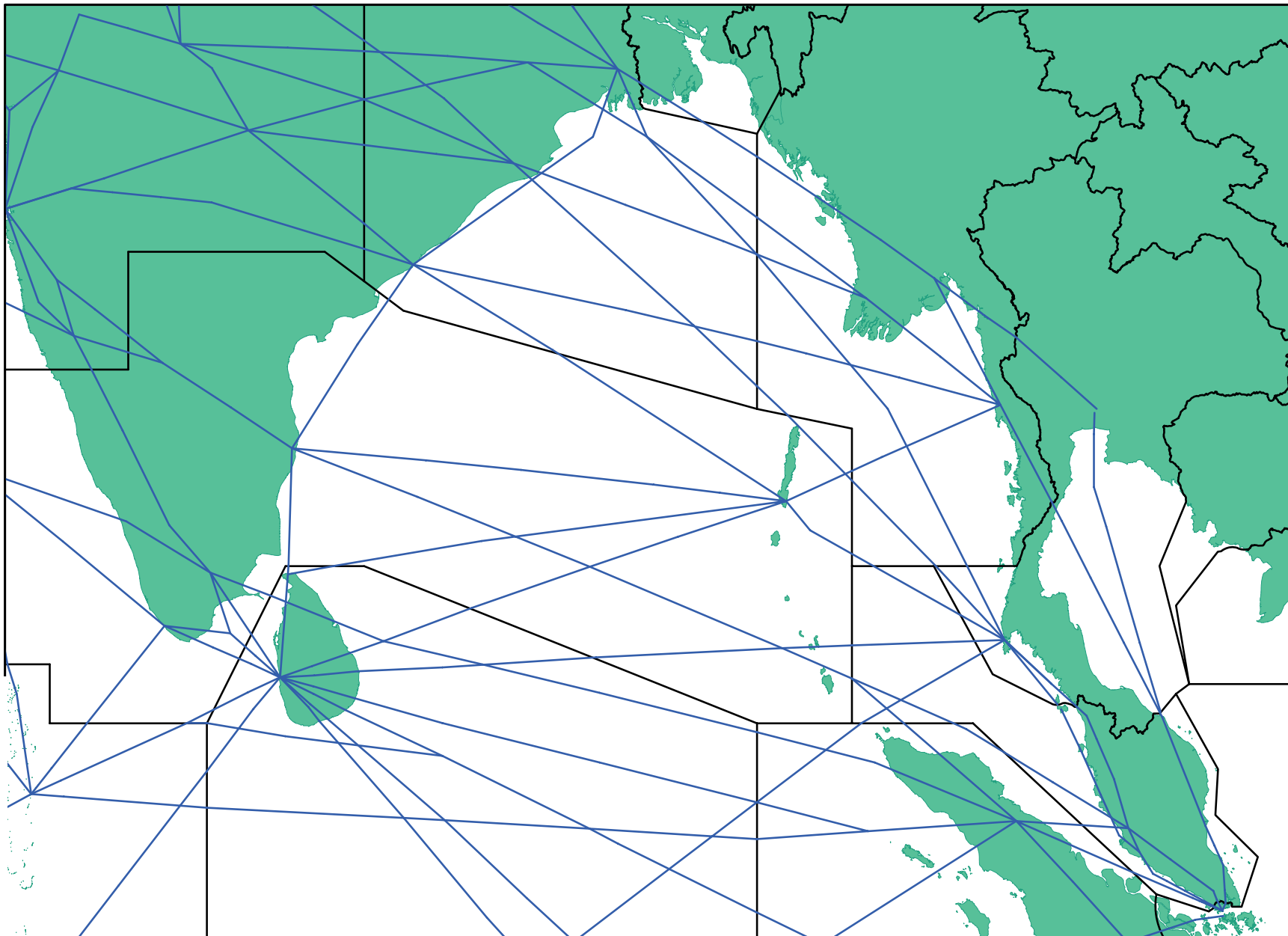




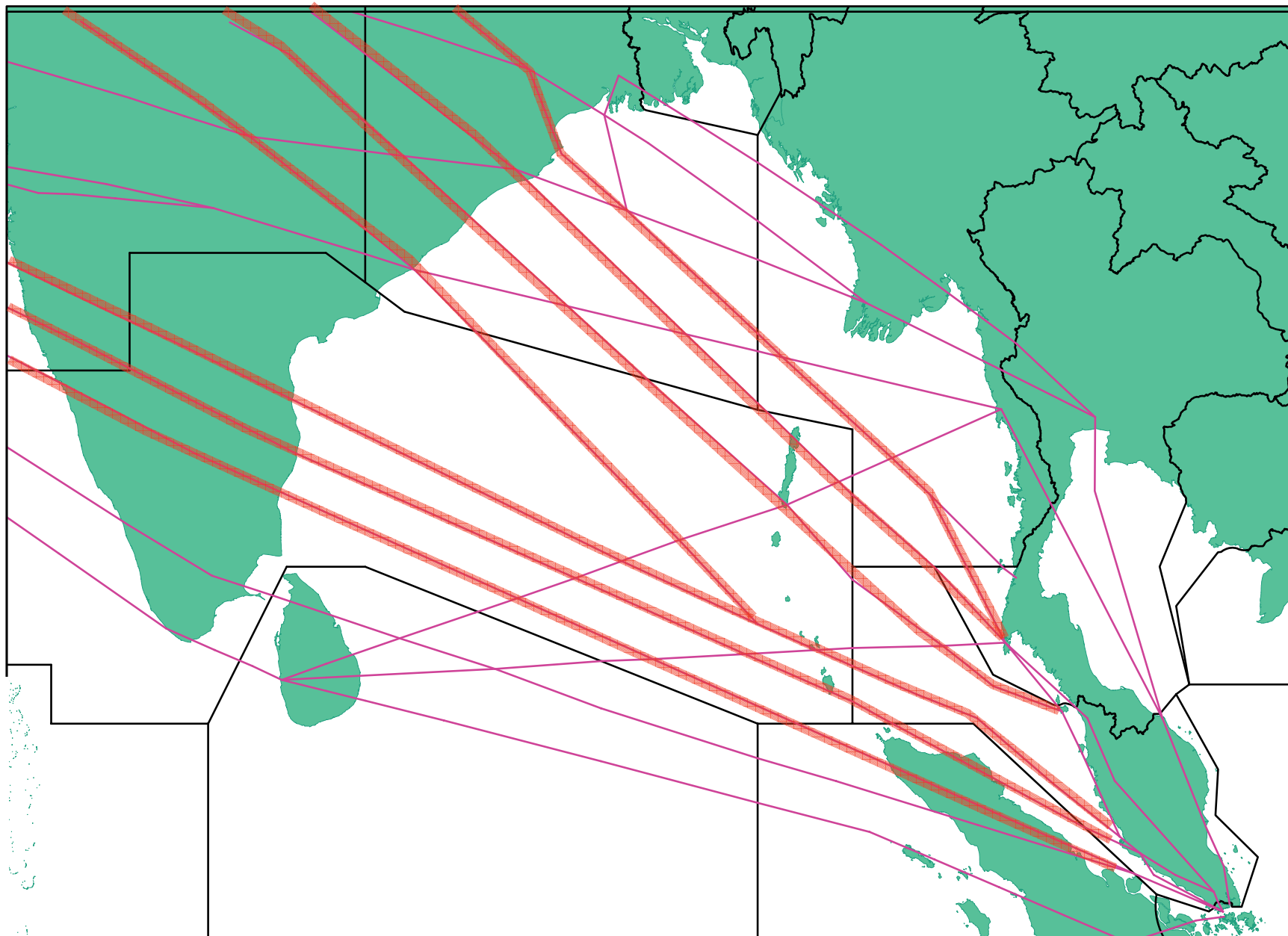
# New Airways over South China Sea



# Old Airways over Bay of Bengal



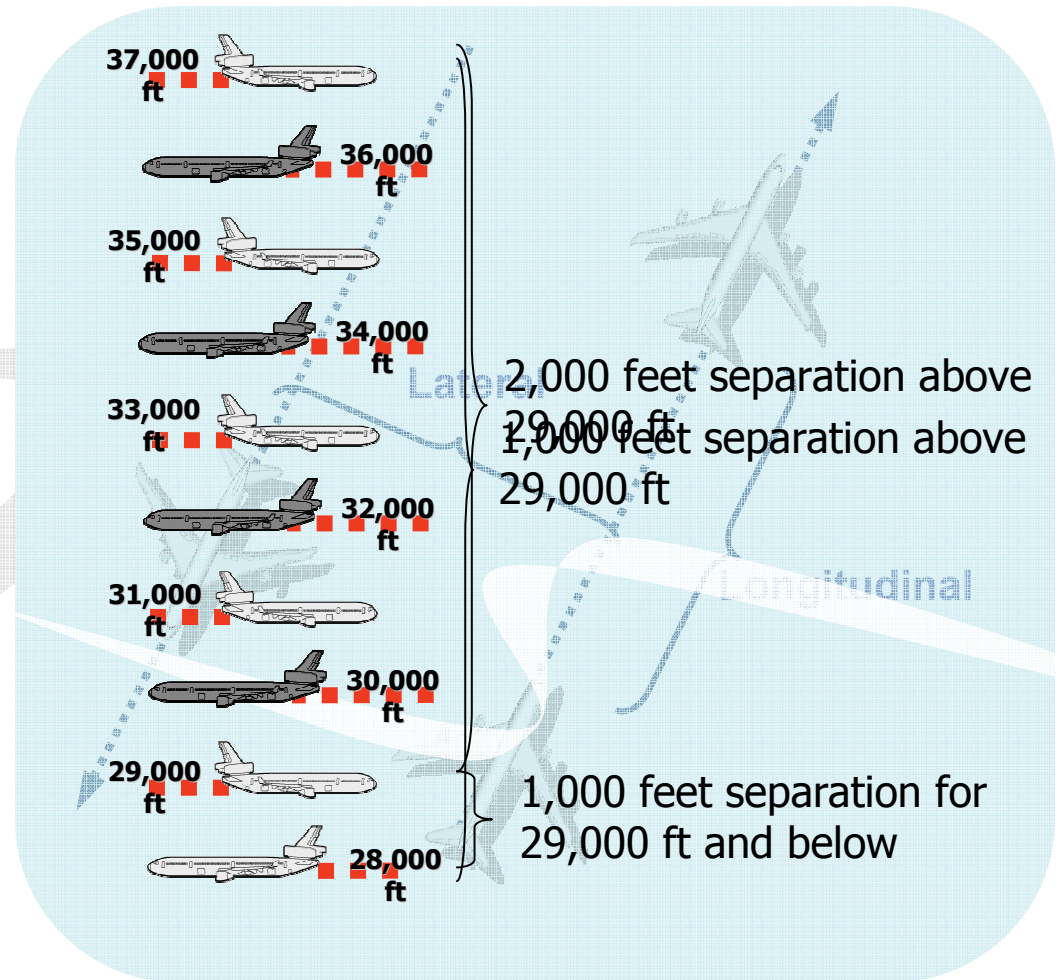
# New Airways over Bay of Bengal



# Reducing Aircraft Separation

## Improving ATM procedures

- maximise capacity
- optimise slot utilisation
- promote efficiency



# Addressing Aviation Emissions

- ICAO needs to demonstrate leadership
- GIACC successfully developed Programme of Action (PoA)
- ICAO High Level Environment Meeting in Oct 2009
  - Need to reach consensus on PoA before UNFCCC COP15
- ICAO Environment Workshop for Asia-Pacific
  - 14 – 15 Sep 09 in Singapore



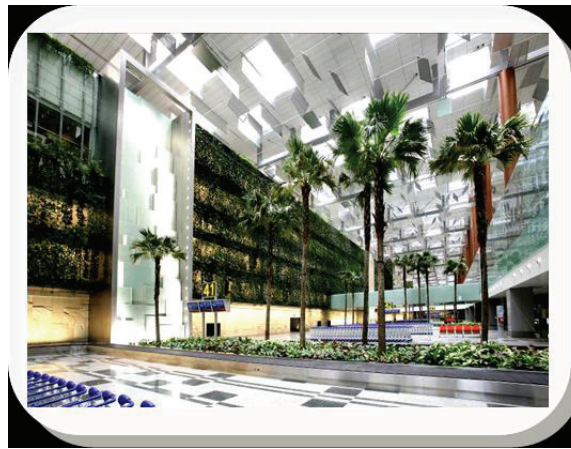


# Addressing Aviation Emissions in Singapore



## Airlines

- Fuel-efficient aircraft
- Engine technology
- Regular maintenance
- Light weight cabin parts



## Airport

- Skylights
- Integrated Building Management System
- Solar photovoltaic facility



## Air Traffic Management

- Route optimisation
- Approach procedures
- User-Preferred Route trials
- Continuous descent approach for Changi



# Addressing Spread of Infectious Diseases by Air

- Cooperative Arrangements on the Prevention of the Spread of Communicable disease through Air travel (CAPSCA)
  - Develop, apply and implement ICAO guidelines for States, airlines and airports



# Addressing Shortage of Trained Aviation Personnel

- ICAO's Four Point of Action:-
  - Identifying aviation resources needed and related training needs
  - Aligning ICAO Standards with modern training methodologies
  - Identifying activities to be initiated with industry partners
  - Aligning all parties around a common strategy
- Supporting ICAO's efforts - Singapore Aviation Academy
  - Extensive range of aviation programmes and courses
  - Collaboration with some 20 international and regional institutions and organizations
  - Provision of fellowships for States
  - Enhance training facilities and equipment
  - Hosting training seminars, workshops and conferences



# Addressing Shortage of Trained Personnel

- ICAO Seminar on Training Directors
  - Discuss the priorities in human resource development and training needs in the Asia-Pacific region
  - March 2010 in Singapore



# Looking Ahead

- By 2020, Asia-Pacific forecasted to be the largest aviation market in the world
- Asia-Pacific needs to:
  - Stay at the forefront of aviation development
  - Innovate for the future
  - Overcome challenges and harness opportunities
  - Ensure a safe, efficient and sustainable air traffic growth
- Close collaboration, cooperation and partnership among Asia-Pacific States and ICAO for aviation development and socio-economic growth for the region