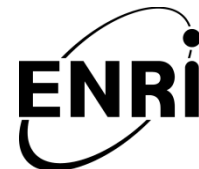


Future ATM - from Asian operator's point of view

**Martin Eran-Tasker
Technical Director
Association of Asia Pacific Airlines**



**EIWAC2013
Tokyo, Japan
19-21 February 2013**

Overview



- **Global mobility**
- **Asia Pacific Aviation**
- **Current business conditions**
- **Future growth**
- **Global ATM**
- **Asia Pacific ATM**
- **Closing thoughts**

Aviation: moving the world

- Air travel delivers global mobility
- 2,850 million passengers
- Carries 35% by value of global trade
- Wider social and economic benefits
- Outstanding safety record



Source: ATAG

Asia Pacific

- Diverse geographic region
- Home to more than 4 billion people
- 62% of the world's population
- Generates 27% of global GDP
- Wide range of income levels
- Dynamic economies delivering global growth
- Aviation widely recognised as a key contributor to economic and social development
- Political diversity remains challenging: need for multilateral cooperation



Asia Pacific Aviation

Asia Pacific Aviation



US\$159 billion revenue

655 million passengers

457 million domestic

198 million international

18 million tonnes of cargo

4,984 aircraft

Asia Pacific carriers overall market share:

25% of global passenger traffic

40% of global cargo traffic

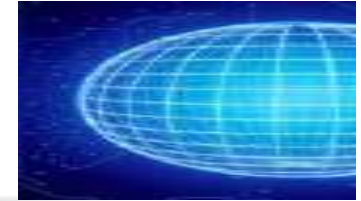
Data: 2012 Estimates

Source: Combined AAPA + non-AAPA airlines GMT+7 to GMT+12

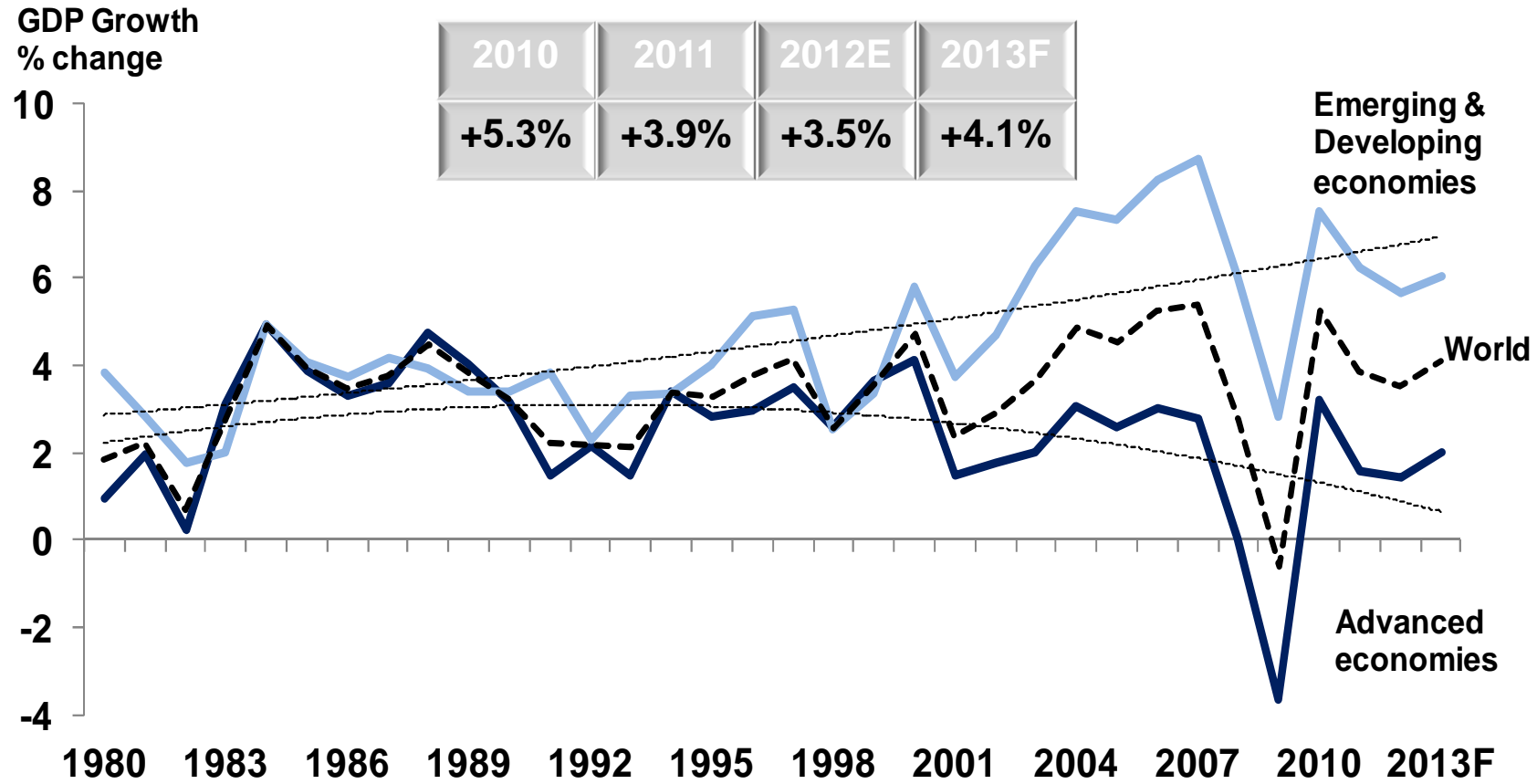
AAPA
ASSOCIATION OF ASIA PACIFIC AIRLINES

Current Business Conditions

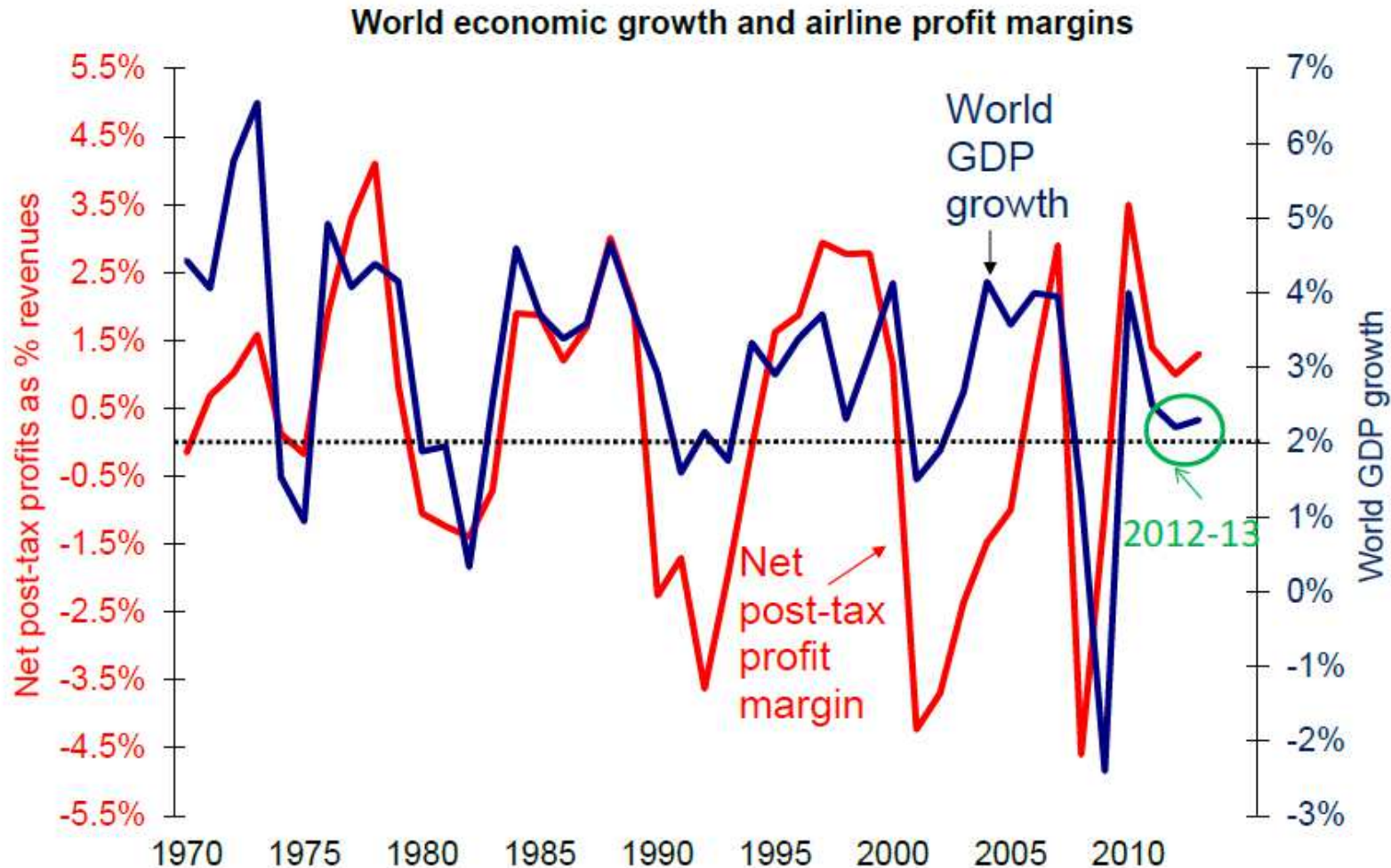
Global economy moderates



World GDP Growth



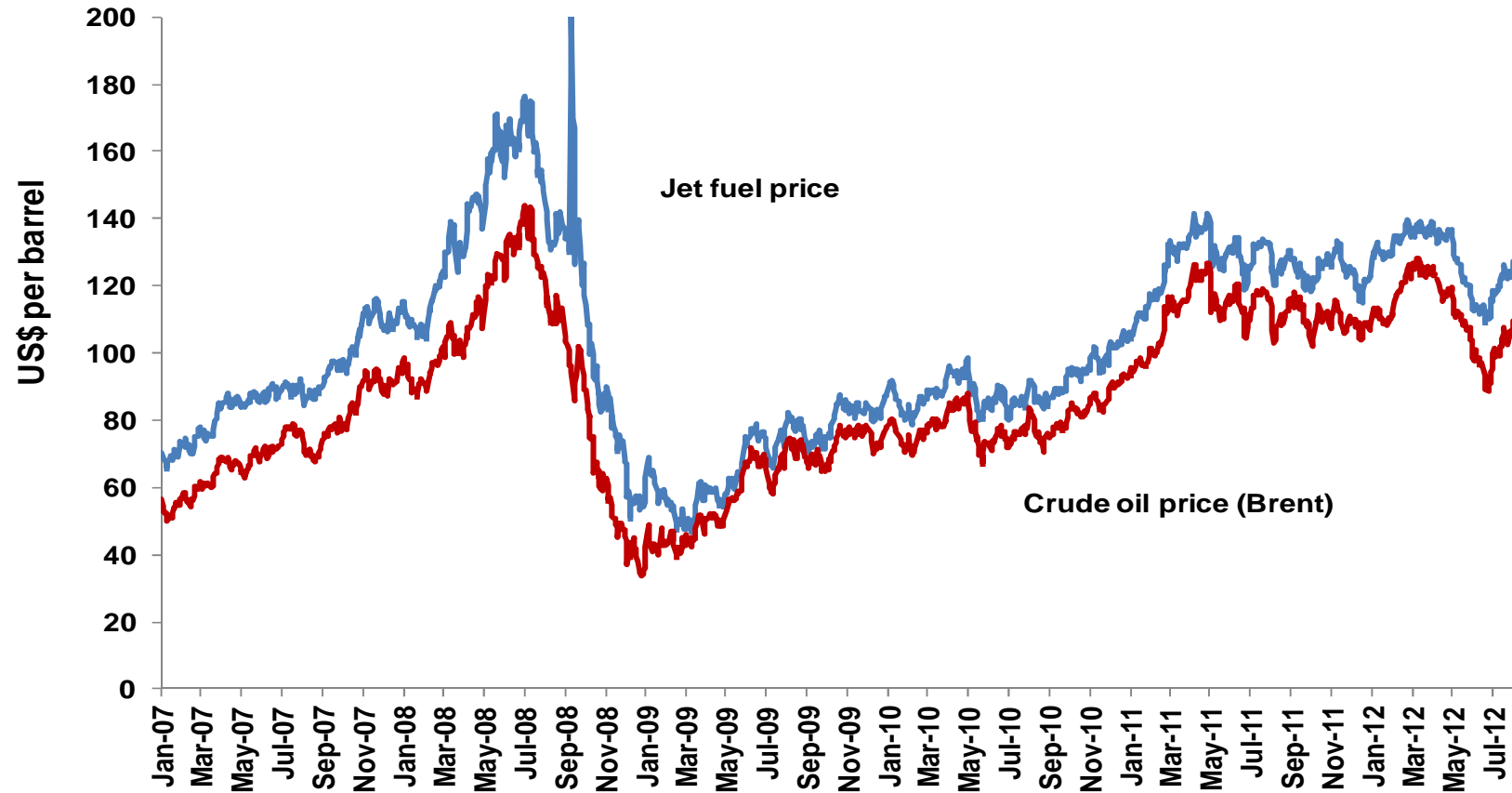
Economic trends



Reflecting the tough business environment

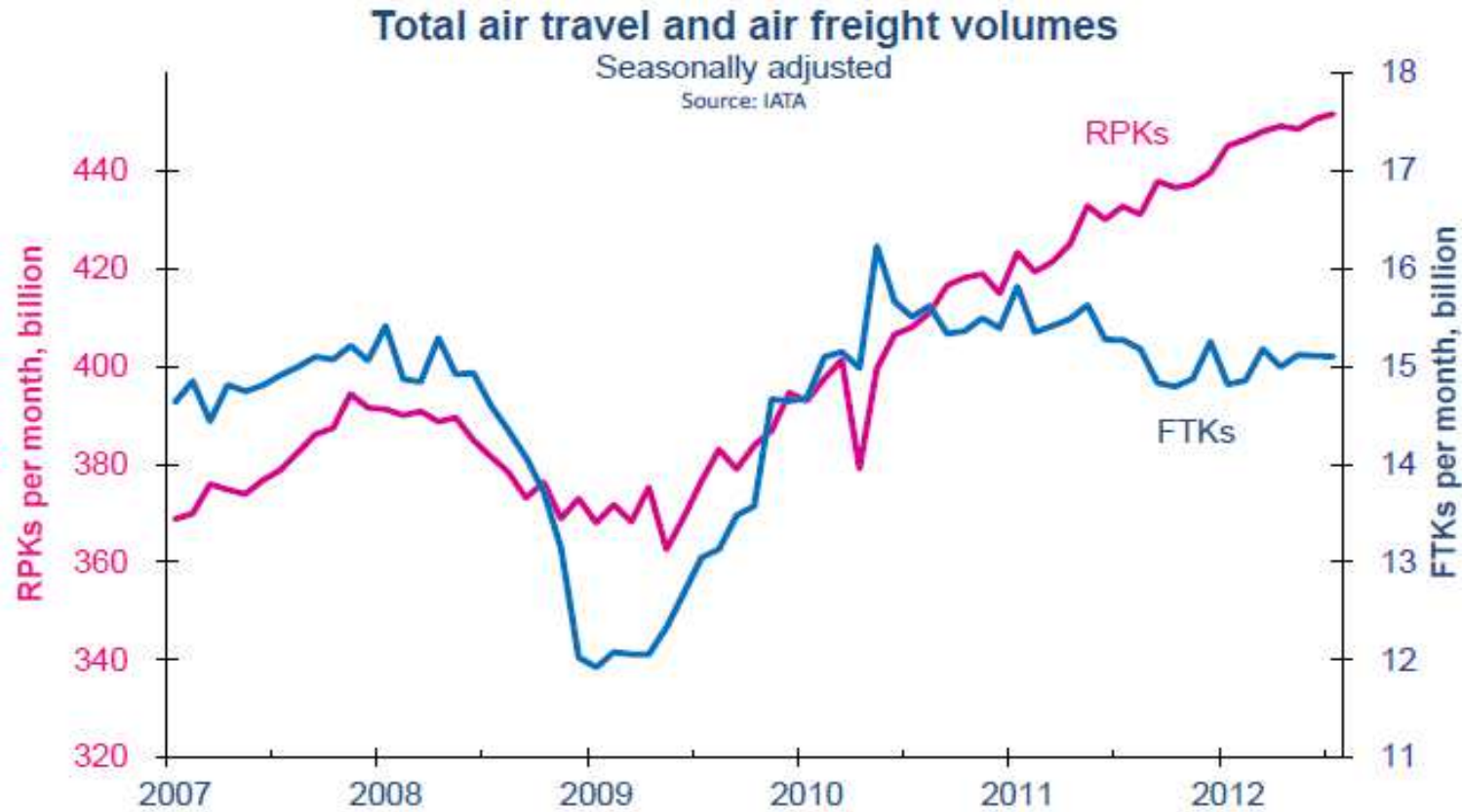
Source: IATA

Oil price volatility



Persistently high oil prices reflect political risk factors

Global passenger and cargo traffic



***Passenger traffic growth maintained,
but air cargo demand remains weak***

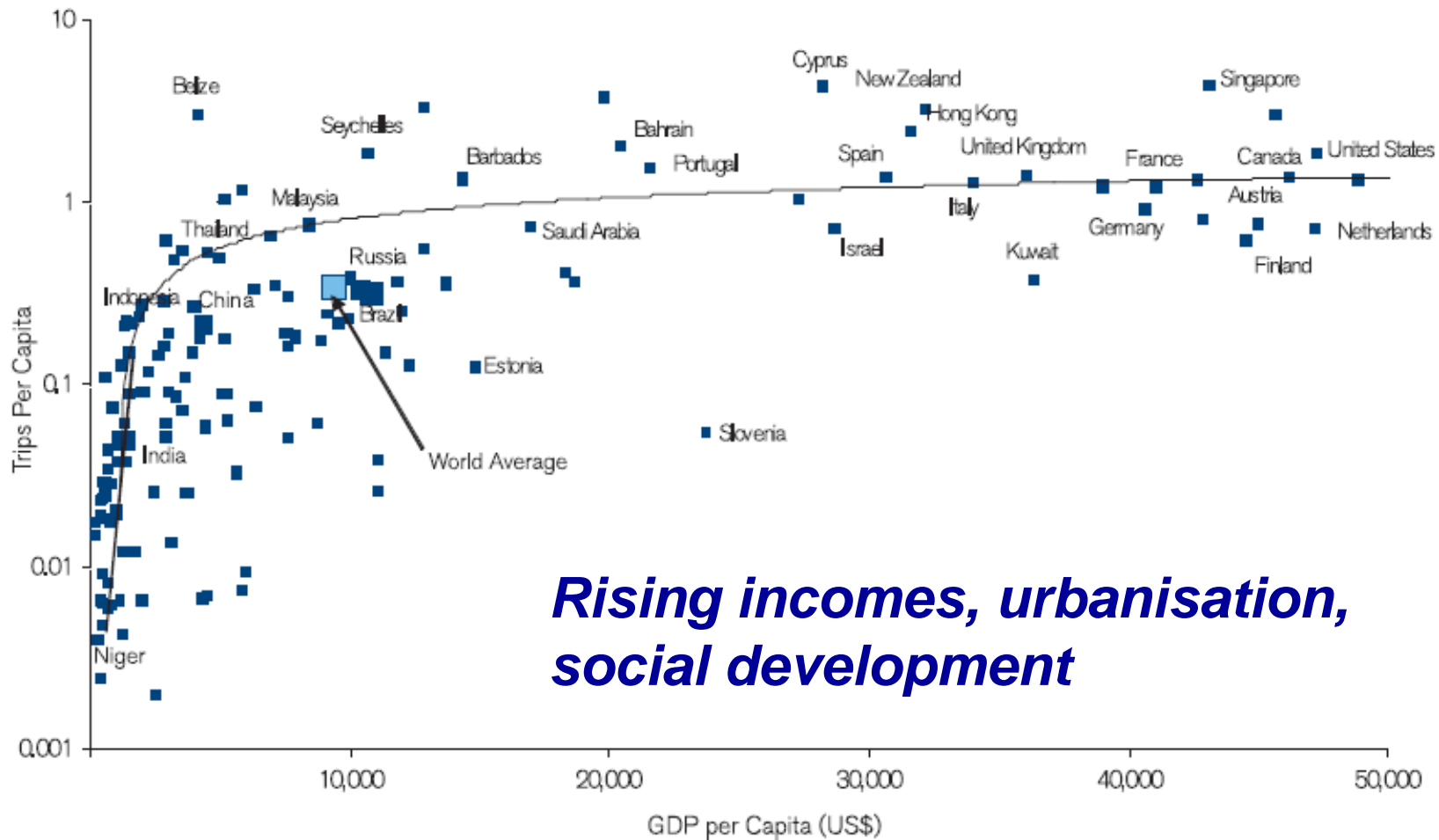
Source: IATA

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Future Growth

Aspirational Demand for Air Travel



***Rising incomes, urbanisation,
social development***

The growing middle class



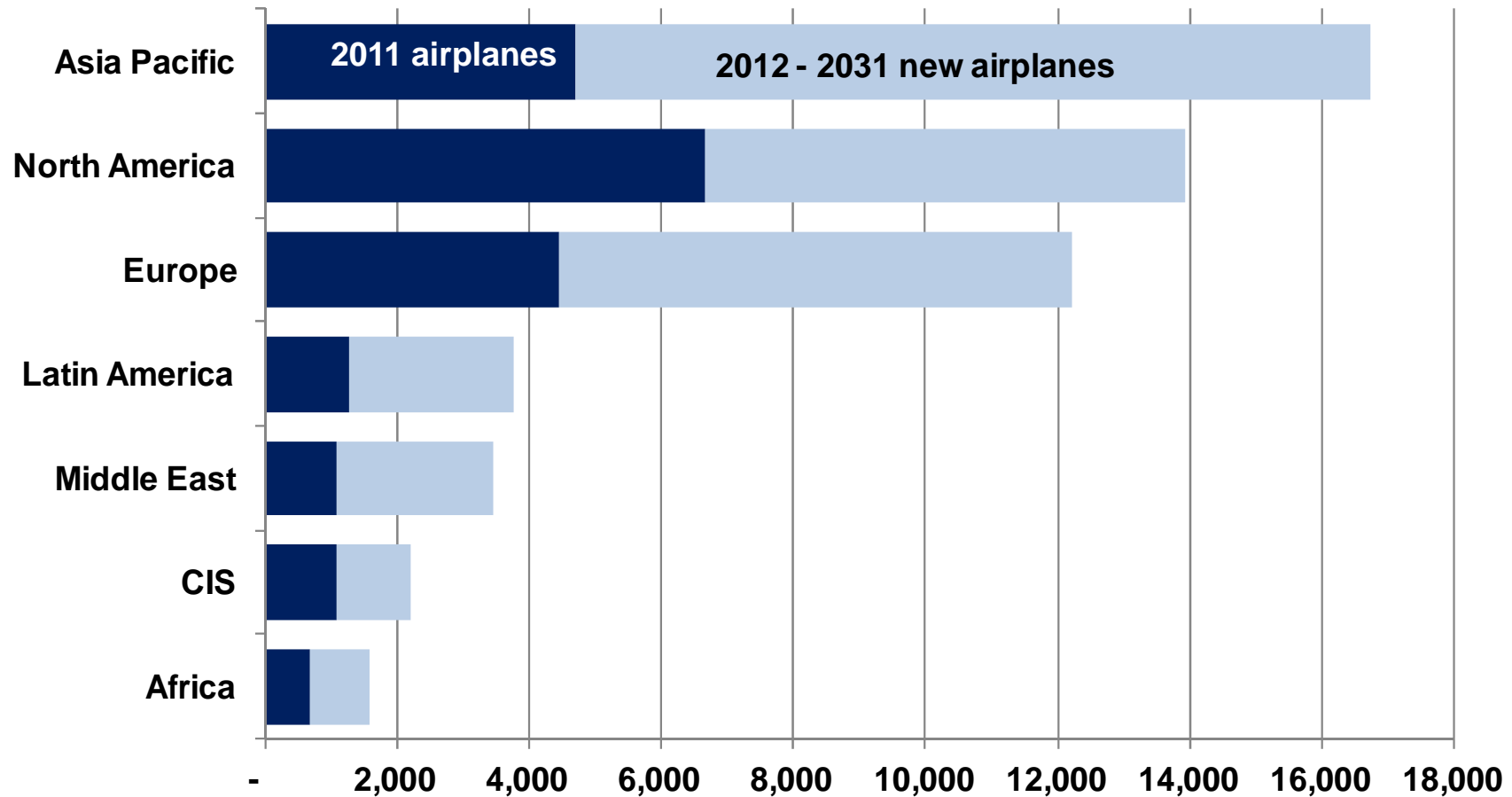
Asia Pacific traffic will grow significantly

World Traffic by airline domicile (RPK billions)



Source: Airbus
GMF2012-2031

Asia Pacific fleet expansion



Source: Boeing



Global ATM

Keeping pace with growth

- ATM complex
- Requires collaboration and commitment
- Highly capable under utilised aircraft
- NextGen - progressing
- Single European Sky (SES)
 - More than a decade since proposal adopted
 - All initiatives to achieve a harmonised and efficient European airspace have so far failed
 - Technology benefits will remain limited until the political constraints resolved
- Seamless Asian Skies – harmonisation and interoperability vital, challenge maintaining implementation plan
- Technology not the issue. need political will for reform

Cost of No Action

- Increase in delays and congestion
- Degradation of aviation safety
- Lack of capacity for growth
- Increase in operational costs due to inefficiencies and increased fuel burn
- Impact the global and national economic activity
- Inefficient and constrained airspace



Potential savings

Expected savings per year if ATM systems and aircraft onboard technology were optimised



Regional Savings
22% Global Traffic
1.3 million minutes
2 million tonnes of fuel
6 million tonnes CO₂

✈️ Hours of flight time
 🛢️ Tonnes of fuel saved

Source: ATAG/Airbus



Asia Pacific ATM

Challenges

- Asia Pacific largest market - diverse regional ASNPs
- Immediate ATM challenges are associated with growth and capacity
- Can the region handle the projected increase in air traffic?
- No overarching framework to operate within to drive change
- Funding
- Challenge to introduce new technology and procedures and ensure interoperability and harmonisation
- To address the challenge ICAO established the ASPAC Seamless ATM Planning Group
- Timely introduction of the ICAO system block upgrades and regional sub office in Beijing

Political Will and Policy Solutions

- Growth dependant on safe and efficient air transport system , not possible if system capacity cannot keep pace with traffic demand
- Provide a framework that enable ANSP accountability and autonomy to plan and invest
- Recognition that ATM safety and operational efficiency go beyond national airspace/ borders
 - Need for cross border collaboration
 - Enables “gate-to-gate” operations and optimisation
 - Sharing of industry best practice
 - Benchmarking
- Improve civil-military coordination
 - Open closed military airspace
 - Will increase capacity and enable direct routing and operational efficiencies

Cost of No Action

- Degradation of aviation safety
- Increase in delays and congestion
- Lack of capacity to support growth
- Increase in operational costs due to inefficiencies and increased fuel burn
- Inefficient and constrained airspace
- Impact global and national economic activity

Airline Near Term Wish List

- Address disconnects in ATM/Seamless airspace initiatives between North Asia and rest of Asia Pacific (particularly vis a vis South China Sea, China – Japan)
- Accelerate adoption of PBN especially for enroute implementation of RNP 4 (and RNP 2) and approach NPA (RNP APCH with Baro Vnav), APV , GLS
- Accelerate ADS-B OUT implementation and Surveillance based separations tying in to current developments in the South China Sea/Australia
- Regional thinking and solutions required with Seamless/Interoperable procedures that looks at the complete routing “or gate to gate”

Closing Thoughts



- Aviation is part of everyday modern life and drives global economic and social development
- Air Transport faces a complex and challenging business environment
- Overall prospects for long term growth remain bright
- “Do nothing” is not an ATM option
- Harmonised approach difficult but political will and mandate required
- ATM requires regional thinking and regional solutions that are GLOBALLY harmonized and interoperable
- Huge potential savings in Fuel and CO2 reductions

***Shared confidence and optimism
about the future***



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