

Asia Pacific Aviation Growth Dynamics & Sustainability

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Overview

- Asia Pacific aviation
- Business trends
- Future growth
- Sustainability
- Regulatory challenges



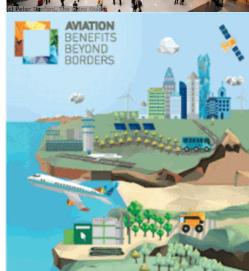
Aviation: connecting the world

- Air travel delivers global mobility
- 3.6 billion passengers
 - 10 million per day
- Carries 35% by value of global trade
 - Goods worth US\$ 6 Trillion
- Wider social and economic benefits
- Outstanding safety record
- Committed to sustainable growth









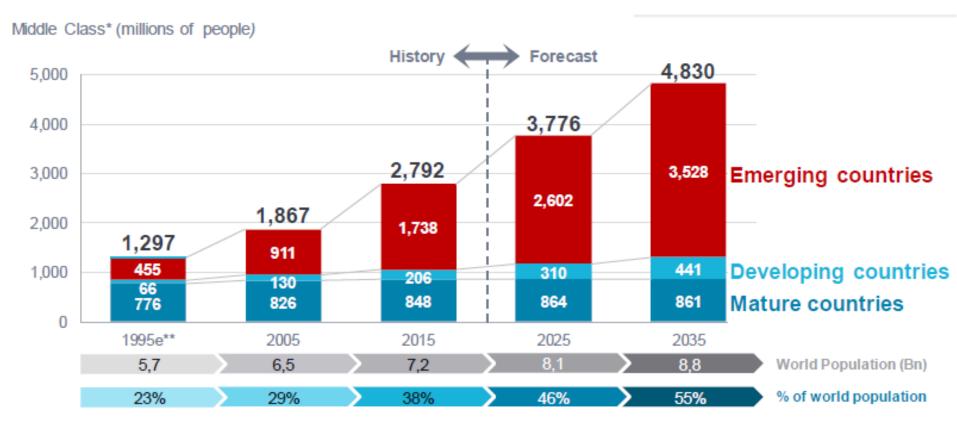
Asia Pacific

- Diverse geographic region
- Home to more than 4 billion people
- Dynamic economies generate 31% of global GDP
- Wide range of income levels, rapidly growing middle class
- Aviation widely recognised as a key contributor to economic and social development
- Political diversity remains challenging: need for multilateral cooperation



Growing middle class consumers





^{*} Households with yearly income between \$20,000 and \$150,000 at PPP in constant 2015 prices

Driving consumption including air travel demand A

Source: Airbus GMF 2016-2035



^{**} Estimate for 1995 split region

Asia Pacific Aviation





US\$166 billion revenue

US\$7 billion net profit
1,200 million passengers
860 million domestic
340 million international
20 million tonnes of cargo
7,058 aircraft

Asia Pacific carriers overall market share:
32% of global passenger traffic
40% of global cargo traffic

Data: Financials & Traffic: 2015

Source: Combined AAPA + non-AAPA airlines GMT+5 to GMT+12



World's ten busiest domestic routes

Busiest domestic routes

Rank	Route	PAX (million)
1	Jeju – Seoul	11.1
2	Sapporo – Tokyo	7.8
3	Fukuoka – Tokyo	7.6
4	Melbourne - Sydney	7.2
5	Beijing – Shanghai	6.1
6	Hanoi – Ho Chi Minh City	5.4
7	Delhi – Mumbai	5.0
8	Jakarta – Surabaya	4.5
9	Beijing – Chengdu	4.4
10	Osaka – Tokyo	4.0

Source: IATA WATS 2016, 2015 data

... are all in Asia



World's ten busiest international routes

Busiest international/ regional routes

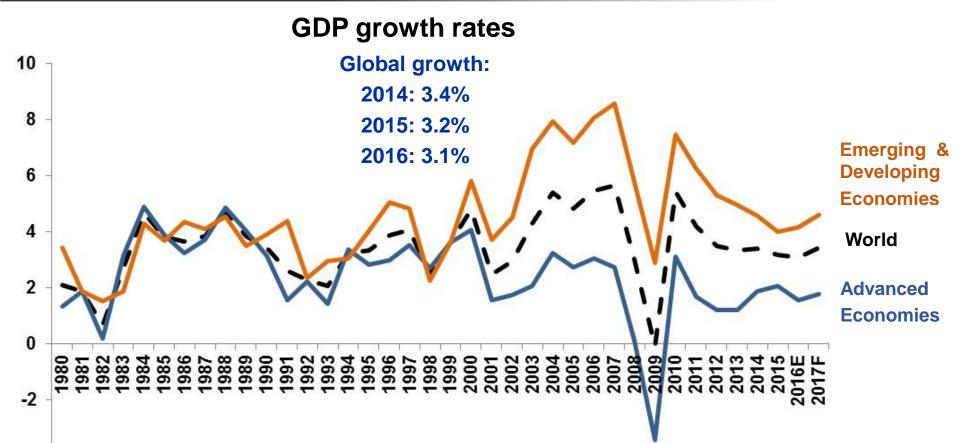
Rank	Route	PAX (million)
1	Hong Kong - Taipei	5.1
2	Jakarta - Singapore	3.4
3	Bangkok – Hong Kong	3.0
4	Kuala Lumpur – Singapore	2.7
5	Hong Kong – Singapore	2.7
6	Hong Kong – Shanghai	2.5
7	Hong Kong – Seoul	2.5
8	Bangkok – Singapore	2.4
9	Taipei – Tokyo	2.2
10	Osaka – Taipei	2.1

Source: IATA WATS 2016, 2015 data

... are all in Asia



The global economy remains fragile

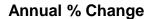


- Post-crisis growth rates have slowed
- Still a two speed global economy
- · Low interest rates signal weak outlook



Source: IMF 2016

Global trade is stuck on a low growth path





Trade no longer outpaces GDP growth

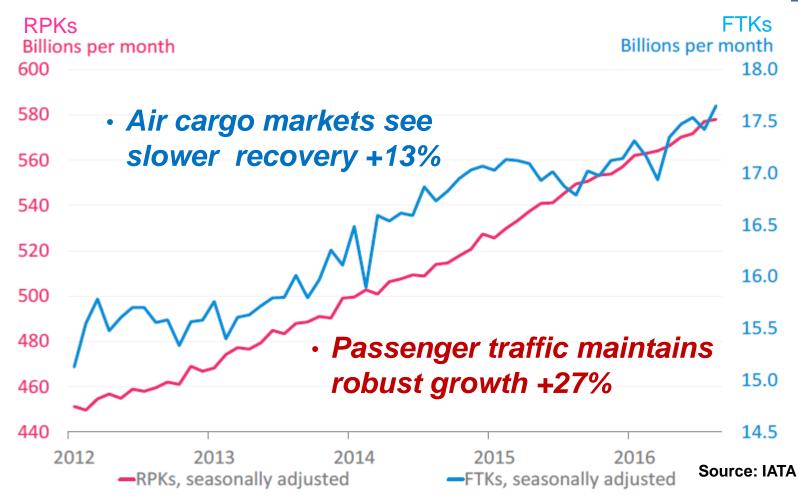
Threat of protectionist measures



Source: IMF 2016

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Global Passenger and Cargo Traffic





Evolving airline business strategies



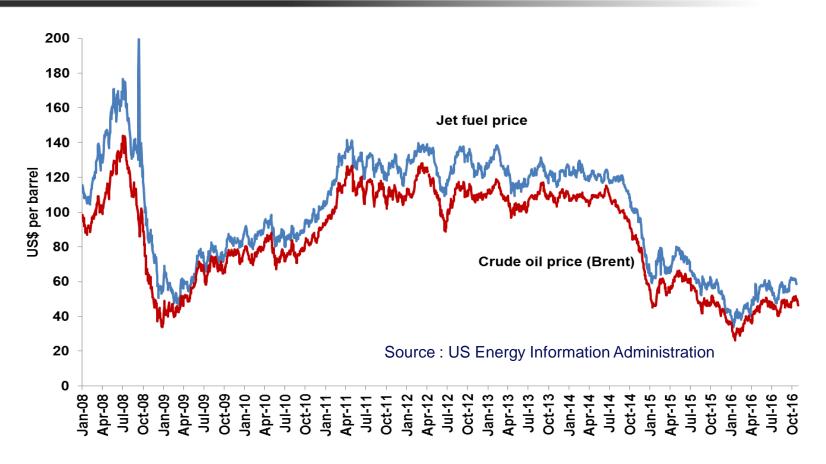
- Further convergence of business models
- Group structures: single or multiple brands
- Service differentiation: 1, 2, 3 or 4 classes
- Value added services at a price
- High density seating driving cost efficiency
- Revenue optimisation through network connectivity & cooperative relationships

Asia Pacific airlines at the forefront of global industry developments



Oil prices fluctuate but drive efficiency

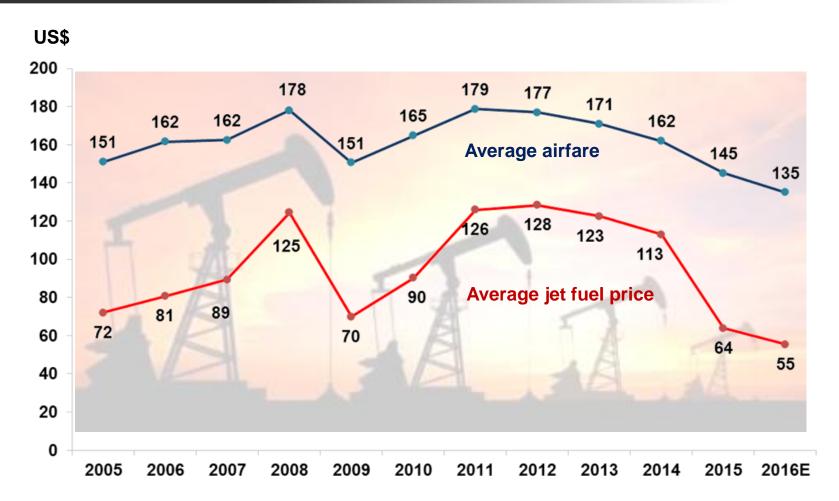




Fuel costs typically represent between 15% and 35% of total airline costs so always strong incentives to improve fuel efficiency



Airfares track changes in oil prices



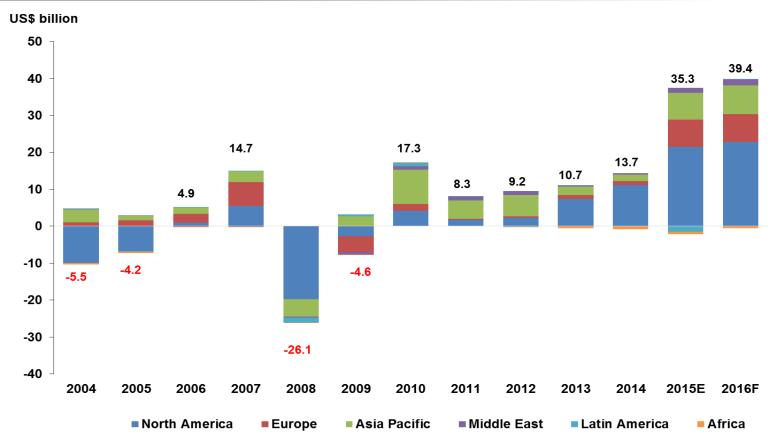
Widespread availability of affordable airfares gives added boost to travel demand

Source : EIA and IATA



Airline profitability reaches new high





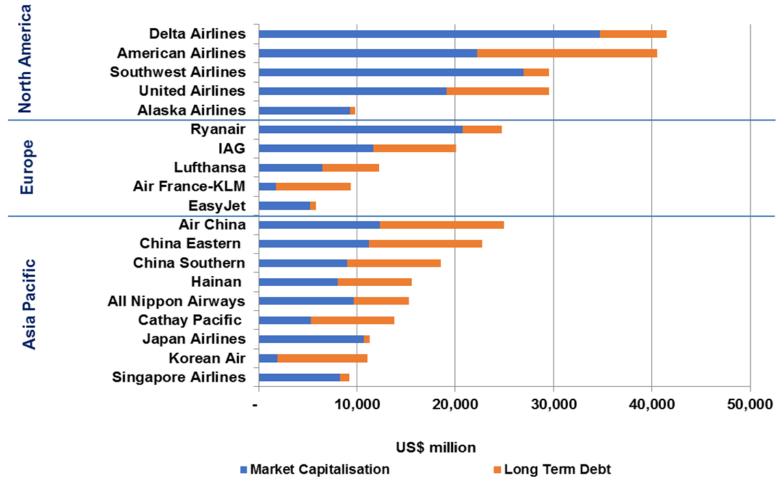
Source: IATA

- Robust passenger demand & lower oil prices
- Profit recovery led by North American carriers
- Average profit margin still only 5% or \$10 per passenger



Airline Enterprise Values by Region

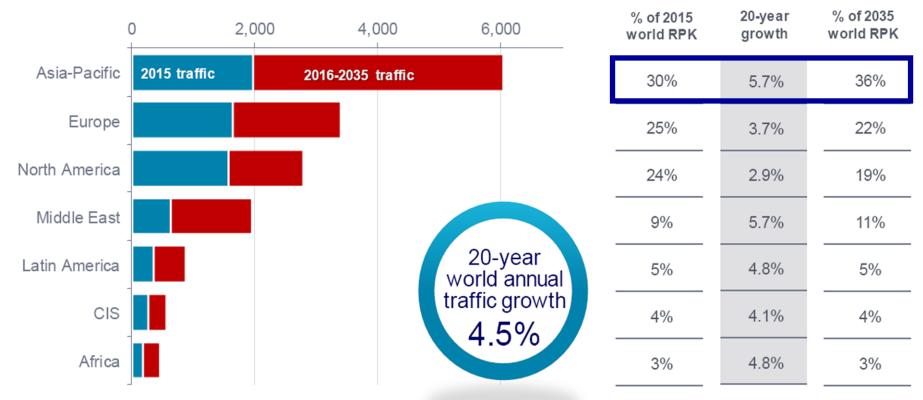






Asia Pacific markets to lead future growth

RPK traffic by airline domicile (billions)



Source: Airbus GMF2016

- Major capital investment required
- Asia Pacific represents 40% of future aircraft orders
 & associated infrastructure requirements

Source: Airbus GMF 2016-2035



Infrastructure

- Aviation is a complex global system
- Aviation infrastructure must keep pace with rapid traffic growth
- Chronic congestion and delays already evident in some areas
- Greater focus on operating efficiency, productivity and cost-effectiveness
- Managing our environmental impact
- Government responsibility to coordinate planning and long term investment required

Infrastructure is critically important, governments & industry must work together



Aviation & Sustainable Development



- Aviation committed to sustainable future growth
- Aviation pursuing multi pillar strategy:
 - Fuel efficiency through technology
 - Operational efficiencies
 - Infrastructure improvements
 - Development of alternative fuels
 - Additional emissions reductions using carbon offsets through ICAO CORSIA

Aviation has set ambitious targets and is delivering on its commitments



Other Regulatory Challenges

Aviation is subject to intensive regulation

- Safety
- Security
- Air Services
- Taxes & Charges
- Consumer Protection
- Passenger Facilitation





Global Regulatory Influences



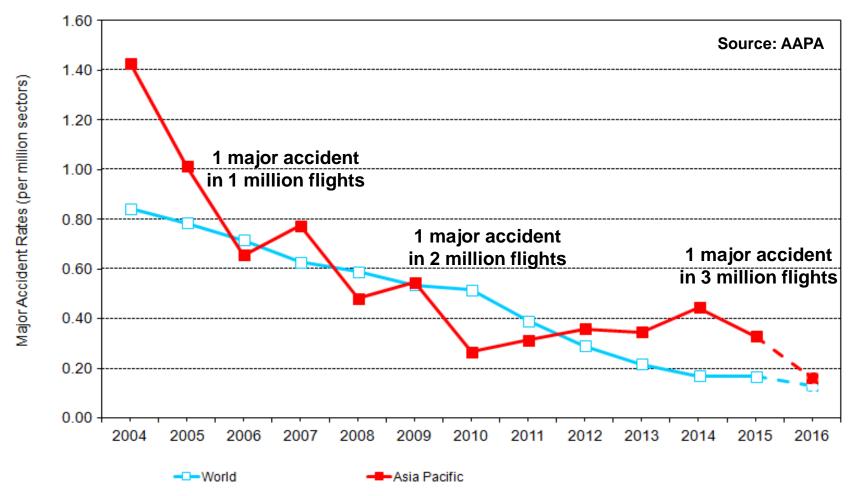
- Wider impact of US and EU regulations
- Asia Pacific needs a unified voice
- Need for harmonised global standards



Aviation Safety Performance Trends

Western-built Jet Aircraft Major Accident Rates

by Operator Region 2004 - 2016 3-year moving averages

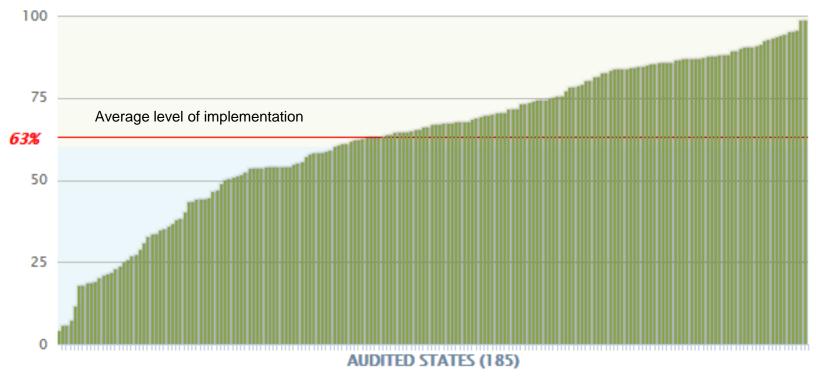


^{* 2016} data as of 31 Oct 2016

Variable quality of regulatory oversight

ICAO Safety Audit Results for World-ICAO Member States

Effective Implementation of safety oversight systems by State



- Lack of quality assurance leads to unnecessary duplication of oversight, multiple audits and sanctions
- ICAO 'No Country Left Behind' campaign aims to raise levels of effective implementation

Aviation Security



- Aviation remains highly secure despite perceived threats
- Aviation is a global system requiring close international cooperation and coordination
- Security policy responses need to be risk-based, and focused on desired outcomes
- Recognise the benefits of mutual recognition of respective aviation security regimes

Learn the lessons from aviation safety: building trust, information sharing & collaboration



Air Services Development

- Asia Pacific region the seat of experimentation & innovation in airline business models
- Evolving regulatory frameworks
- ASEAN Open Skies and ASEAN + X
- Progressive liberalisation, but protectionist sentiments sometimes evident
- Ongoing debate on interpretation of ownership & control restrictions, subsidies, fair competition

Evolution of global regulatory framework must keep pace with changing markets



Taxes & Charges

- Aviation is a positive catalyst for economic growth & social development
- Taxes and charges make air travel less affordable
- Taxes hurt the wider economy and inhibit job creation
- User charges must be transparent, cost-based, non-discriminatory
- Economic regulation of monopoly service providers



Consumer Protection

- ICAO core principles on consumer protection
- Over 70 jurisdictions have aviation-specific consumer protection regimes
- Overlapping national regimes often create inconsistencies and confusion for travellers
- Regulators underestimate the power of the market to adapt to changing consumer preferences

Lighter regulation preserves incentive for innovation in customer service standards



Passenger Facilitation



- Challenges of handling 10 million daily passengers
- Lengthy queues still common at immigration & security checkpoints
- Deterioration in passenger travel experience
- Opportunities to streamline integration of airline, security & border control processes using available technologies

Balancing efficient passenger facilitation and security screening needs

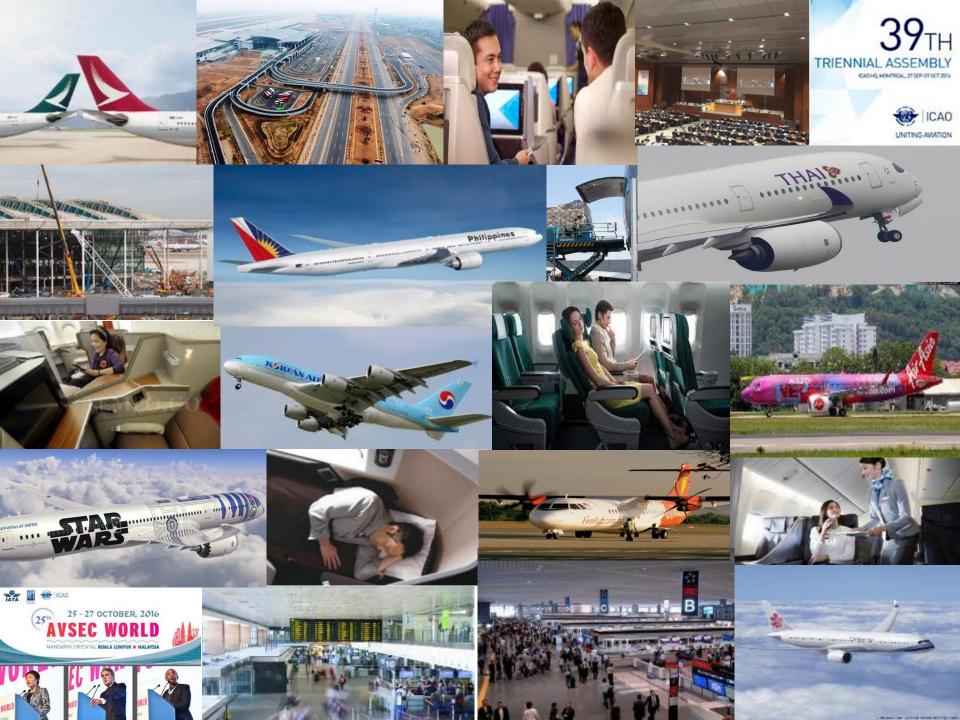


Closing Thoughts

- Flying is extraordinarily safe and secure
- Aviation drives economic and social development
- Infrastructure planning is a shared challenge
- Airline business strategies are responding to changes in market demand and consumer preferences
- Regulatory oversight should focus on close adherence to global standards
- Asia Pacific airlines shaping the development of global aviation

Aviation: connecting the world







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