Asia Pacific Aviation

*Stronger Together*

Andrew Herdman
Director General
Association of Asia Pacific Airlines
Overview

- Asia Pacific aviation
- Business trends
- Future growth
- Sustainability
- Regulatory challenges
Aviation: delivering global mobility

- Safely connecting people and business
- Wider social and economic benefits
- Outstanding safety record
- Committed to sustainable growth

Source: IATA, Benefits of Aviation
Asia Pacific

• Diverse geographic region
• Home to more than 4 billion people
• Dynamic economies generate 35% of global GDP
• Aviation widely recognised as a key contributor to economic and social development
  - Supports 29 million jobs and US$626 billion in GDP
• Wide range of income levels, rapidly growing middle class
Growing middle class

Rapid growth of emerging market consumers

Source: Airbus GMF 2017-2036
Asia Pacific Aviation

US$166 billion revenue
US$7 billion net profit
1,340 million passengers
950 million domestic
390 million international
21 million tonnes of cargo
7,600 aircraft

Asia Pacific carriers overall market share:
33% of global passenger traffic
37% of global cargo traffic

Source: Combined AAPA + non-AAPA airlines GMT+5 to GMT+12
Traffic: IATA WATs 2017, Financials: AAPA Estimates, 2016 data
## World’s ten busiest international/regional routes

<table>
<thead>
<tr>
<th>Rank</th>
<th>Route</th>
<th>PAX (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hong Kong - Taipei</td>
<td>5.2</td>
</tr>
<tr>
<td>2</td>
<td>Jakarta - Singapore</td>
<td>3.4</td>
</tr>
<tr>
<td>3</td>
<td>Dublin – London</td>
<td>3.4</td>
</tr>
<tr>
<td>4</td>
<td>Bangkok – Hong Kong</td>
<td>3.0</td>
</tr>
<tr>
<td>5</td>
<td>Kuala Lumpur – Singapore</td>
<td>2.8</td>
</tr>
<tr>
<td>6</td>
<td>Hong Kong – Seoul</td>
<td>2.8</td>
</tr>
<tr>
<td>7</td>
<td>London – New York</td>
<td>2.7</td>
</tr>
<tr>
<td>8</td>
<td>Hong Kong – Singapore</td>
<td>2.6</td>
</tr>
<tr>
<td>9</td>
<td>Osaka – Taipei</td>
<td>2.6</td>
</tr>
<tr>
<td>10</td>
<td>Tokyo – Taipei</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Source: IATA WATS 2017, 2016 data
## World’s ten busiest domestic routes

<table>
<thead>
<tr>
<th>Rank</th>
<th>Route</th>
<th>PAX (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jeju – Seoul</td>
<td>11.6</td>
</tr>
<tr>
<td>2</td>
<td>Sapporo – Tokyo</td>
<td>7.7</td>
</tr>
<tr>
<td>3</td>
<td>Fukuoka – Tokyo</td>
<td>7.3</td>
</tr>
<tr>
<td>4</td>
<td>Melbourne – Sydney</td>
<td>7.3</td>
</tr>
<tr>
<td>5</td>
<td>Hanoi – Ho Chi Minh City</td>
<td>6.3</td>
</tr>
<tr>
<td>6</td>
<td>Beijing – Shanghai</td>
<td>6.3</td>
</tr>
<tr>
<td>7</td>
<td>Delhi – Mumbai</td>
<td>5.5</td>
</tr>
<tr>
<td>8</td>
<td>Jakarta – Surabaya</td>
<td>4.5</td>
</tr>
<tr>
<td>9</td>
<td>Jeddah – Riyadh</td>
<td>4.4</td>
</tr>
<tr>
<td>10</td>
<td>Beijing - Chengdu</td>
<td>4.4</td>
</tr>
</tbody>
</table>

Source: IATA WATS 2017, 2016 data
Global economic trends

World GDP Growth

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016</th>
<th>2017E</th>
<th>2018F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+3.4%</td>
<td>+3.2%</td>
<td>+3.6%</td>
<td>+3.7%</td>
</tr>
</tbody>
</table>

Positive momentum in business and consumer confidence

Source: IMF
Global passenger and cargo traffic

**Passenger traffic maintained robust growth**
*Trend rate +6.5% p.a.*

**Recent upswing in air cargo markets**
*Trend rate +4.4% p.a.*

Source: IATA
Evolving airline business strategies

- Business models continue to evolve, adapting to a dynamic marketplace
- Group structures & multiple brands
- Differentiated classes of service
- Unbundling ancillary services at a price
- Revenue optimisation through network connectivity & cooperative relationships

Asia Pacific airlines at the forefront of global industry developments
Business models share by region

<table>
<thead>
<tr>
<th>Region</th>
<th>Full Service</th>
<th>Low Cost</th>
<th>Market Share</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global</td>
<td>77%</td>
<td>20%</td>
<td></td>
<td>+6%</td>
</tr>
<tr>
<td>Asia Pacific</td>
<td>82%</td>
<td>18%</td>
<td></td>
<td>+13%</td>
</tr>
<tr>
<td>Europe</td>
<td>66%</td>
<td>23%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latin America</td>
<td>74%</td>
<td>26%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle East</td>
<td>94%</td>
<td>6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>North America</td>
<td>74%</td>
<td>23%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: IATA WATS 2017, 2016 data
Air fares remain highly competitive

- Airfares track changes in fuel costs
- Competition constrains margins

Source: EIA and IATA
Global airline profitability trends

- Robust passenger and air cargo markets
- Average profit margin only 4% or US$8 per passenger

Source: IATA
Asia Pacific markets to lead future growth

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

Source: Airbus GMF 2017-2036

Traffic by airline domicile (trillion RPKs)

<table>
<thead>
<tr>
<th>Region</th>
<th>2016 traffic</th>
<th>2017-2036 traffic</th>
<th>20-year CAGR</th>
<th>Share of 2016 RPKs</th>
<th>Share of 2036 RPKs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia Pacific</td>
<td></td>
<td></td>
<td>5.6%</td>
<td>30%</td>
<td>38%</td>
</tr>
<tr>
<td>Europe</td>
<td></td>
<td></td>
<td>3.4%</td>
<td>26%</td>
<td>21%</td>
</tr>
<tr>
<td>North America</td>
<td></td>
<td></td>
<td>2.6%</td>
<td>22%</td>
<td>16%</td>
</tr>
<tr>
<td>Middle East</td>
<td></td>
<td></td>
<td>6.1%</td>
<td>10%</td>
<td>13%</td>
</tr>
<tr>
<td>Latin America</td>
<td></td>
<td></td>
<td>4.5%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>CIS</td>
<td></td>
<td></td>
<td>4.0%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Africa</td>
<td></td>
<td></td>
<td>5.3%</td>
<td>3%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: Airbus GMF 2017-2036
Aviation & Sustainable Development

• Aviation pursuing multi-pillar strategy:
  - Fuel efficiency through technology
  - Operational enhancements
  - Infrastructure improvements
  - Sustainable alternative fuels
  - Supplementary carbon offsets through ICAO CORSIA

• Aviation is the first industry sector to implement a global market based measure
  - ICAO CORSIA technical guidelines - 2018
  - Airline international emissions reporting - 2019
  - ICAO CORSIA carbon offsetting obligations - 2020 onwards

Aviation has set ambitious targets and is delivering on its commitments
Infrastructure

• Airports and airspace modernisation must keep pace with rapid traffic growth to avoid congestion and delays

• Significant capital investment required

• Slots management is an interim measure, not a solution

• Governments need to think beyond national borders and develop regional air traffic flow management systems

*Government role to coordinate infrastructure planning and investment*
Global regulatory influences

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

Western-built Large Jet Aircraft Major Accident Rates by Operator Region 2006-2017*
3-year moving averages

1 major accident in 1 million flights
1 major accident in 2 million flights
1 major accident in 3 million flights
1 major accident in 4 million flights

Source: AAPA
* 2017 data as of 10 Oct 2017

Striving for continuous improvement
Aviation Security

- Aviation remains highly secure despite perceived risks
- Threats and challenges evolving: no room for complacency
- Shared global concern requires close international coordination
- Mitigation measures need to be proportionate, focus on the probable threat, avoid unnecessary disruption
- Support ICAO leadership and multilateral cooperation involving trusted relationships between governments and industry
Global regulatory framework must keep pace with evolving market dynamics

- Barriers to cross-border consolidation
- Emergence of complex group holding structures
- Varying interpretations of ownership & control restrictions, subsidies, fair competition
- Trade protectionist sentiments holding back liberalisation efforts
- Cooperation, codeshares, joint ventures
Taxes & Charges

• Rising taxes and user charges increase overall cost of travel
• User charges must be transparent, cost-related, non-discriminatory & for current use
• Economic regulation of monopoly service providers often lacking
• Opportunistic taxes hurt the wider economy and inhibit job creation
Balancing passenger facilitation and security needs

- Challenges of processing 10 million daily passengers
- Opportunities to streamline integration of airline, security & border control processes using biometric technologies
- Passenger Name Record (PNR) transfers raise privacy issues
- Border control is a government function and costs must be borne by government authorities
Closing thoughts

• Aviation drives economic and social development
• Flying is safer than ever
• Governments need to rethink their approach to aviation security
• Future infrastructure planning is today’s challenge
• Governments need to keep pace with changing market dynamics
• Asia Pacific airlines are shaping the future of global aviation
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