### Global Market Forecast 2016: Highlights

**GMF 2016 key numbers and 20-year change**

<table>
<thead>
<tr>
<th>World Fleet Forecast</th>
<th>2015</th>
<th>2035</th>
<th>vs. GMF15</th>
<th>% change 2015-2035</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPK (trillions)</td>
<td>6.6</td>
<td>16.0</td>
<td>+5.3%</td>
<td>142%</td>
</tr>
<tr>
<td>Passenger Aircraft Fleet</td>
<td>18,020</td>
<td>37,710</td>
<td>+5.5%</td>
<td>109%</td>
</tr>
<tr>
<td>New passenger aircraft deliveries</td>
<td>32,425</td>
<td></td>
<td>+650</td>
<td></td>
</tr>
<tr>
<td>Dedicated Freighters</td>
<td>1,560</td>
<td>2,110</td>
<td>-21.5%</td>
<td>35%</td>
</tr>
<tr>
<td>New freighter aircraft deliveries</td>
<td>645</td>
<td></td>
<td>-150</td>
<td></td>
</tr>
<tr>
<td><strong>Total New Aircraft Deliveries</strong></td>
<td>33,070</td>
<td>+500</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Passenger aircraft (≥ 100 seats)
- Jet freight aircraft (>10 tons)

**Source:** Airbus GMF 2016
20-year demand for more than 33,000 new passenger and freight aircraft

**Market Value of**

- **$5.2 trillion**

**23,530** single-aisle aircraft
100-210 seater passenger aircraft

**8,060** twin-aisle aircraft
250-400 seater passenger aircraft
10-80 tonne freighter aircraft

**1,480** very large aircraft
>400 seater passenger aircraft
>80 tonne freighter aircraft

**33,070** new aircraft

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Passenger aircraft (≥ 100 seats)
Jet freight aircraft (>10 tons)
Source: Airbus GMF 2016
### Single Aisle: 71% of units; Wide-bodies: 54% of value

20-year new deliveries of passenger and freighter aircraft

<table>
<thead>
<tr>
<th>Aircraft Type</th>
<th>GMF 2016-2035 Deliveries</th>
<th>% Units</th>
<th>% Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Aisle 100 to 210-seater</td>
<td>23,530</td>
<td>71%</td>
<td>46%</td>
</tr>
<tr>
<td>Twin Aisle 250-400 seater</td>
<td>8,060</td>
<td>24%</td>
<td>43%</td>
</tr>
<tr>
<td>Very Large Aisle &gt;400 seater</td>
<td>1,480</td>
<td>5%</td>
<td>11%</td>
</tr>
</tbody>
</table>

Source: Airbus GMF 2016

New Deliveries – 33,070

GMF 2016-2035

Passenger aircraft (≥ 100 seats) and jet freighter aircraft (>10 tons)

Source: Airbus GMF 2016
Passenger traffic is outperforming GDP growth

World real GDP and passenger traffic

% (year-over-year)


Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4

Source: IHS Economics, OAG, Airbus
Still a two-speed economic world

Comparison of year-over-year GDP growth

-4%  -2%  0%  2%  4%  6%  8%  10%


Advanced economies**

Emerging economies*

Source: IHS Economics, Airbus

* 54 emerging economies
** 32 advanced economies
Air transport growth is highest in expanding regions

Emerging/Developing

- China
- India
- Middle East
- Asia
- Africa
- CIS
- Latin America
- Eastern Europe

6.2 billion people 2015
Yearly RPK growth 2016 - 2035
+5.6 %

Advanced

- Western Europe
- North America
- Japan

1 billion people 2015
+3.7 %

Source: IHS Economics, Airbus GMF 2016
Middle Class* to move from 2.8 Billion to 4.8 Billion in 20 years

Middle Class* (millions of people)

<table>
<thead>
<tr>
<th>Year</th>
<th>Developed</th>
<th>Emerging</th>
<th>Mature</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995 e*</td>
<td>5.7</td>
<td>23%</td>
<td>46%</td>
</tr>
<tr>
<td>2005</td>
<td>6.5</td>
<td>29%</td>
<td>38%</td>
</tr>
<tr>
<td>2015</td>
<td>7.2</td>
<td>38%</td>
<td>46%</td>
</tr>
<tr>
<td>2025</td>
<td>8.1</td>
<td>46%</td>
<td>55%</td>
</tr>
<tr>
<td>2035</td>
<td>8.8</td>
<td>55%</td>
<td>55%</td>
</tr>
</tbody>
</table>

* Households with yearly income between $20,000 and $150,000 at PPP in constant 2015 prices
* Estimate for 1995 split by region

Source: Oxford Economics, Airbus
Economy is key factor in traffic growth but other drivers gaining importance…

Traffic and GDP Growth (%)

Source: ICAO, IHS Economics, Airbus
42% of world’s private consumption to come from emerging markets

World private consumption (in trillion $US, 2010)

History ↔ Forecast

Emerging economies 42%
Advanced economies 58%

Source: IHS Economics (May 2016), Airbus GMF
Emerging economies’ discretionary spending will double in just 10 years

Emerging economies* spending on recreational good and services** (2010 $US, PPP)

- **Emerging + Developing economies**
- **Including restaurants and accommodation**

2015: $8.0 trillion
- Emerging economies: $3.1 trillion (38%)
- Rest of the world: $4.9 trillion (62%)

2025: $13.2 trillion
- Emerging economies: $6.1 trillion (46%)
- Rest of the world: $7.1 trillion (54%)

Source: Oxford Economics, Airbus GMF 2016

*Emerging + Developing economies
**Including restaurants and accommodation
Europeans and North Americans are the most willing to fly…

2015 trips per capita

2015 real GDP per capita

(2010 $US thousands at Purchasing Power Parity)

Propensity to travel — 25% of the population of the emerging countries took a trip a year in 2015

Sources: Sabre, IHS Economics, Airbus GMF 2016

Europe 1.8 trips per capita

North America 1.2 trips per capita

PRC 0.3 trips per capita

India 0.08 trips per capita

India

0.08 trips per capita
…but by 2035, PRC will reach current European levels

Propensity to travel — 75% of the population of the emerging countries will take a trip a year in 2035

Sources: Sabre, IHS Economics, Airbus GMF 2016
Air travel has proved to be resilient to external shocks.

Source: ICAO, Airbus GMF 2016

RPK = Revenue Passager Kilometre

~0.4 trillion RPK

Source: ICAO, Airbus GMF 2016

RPK = Revenue Passager Kilometre
Air traffic will double in the next 15 years

World annual traffic (trillion RPK)

Source: ICAO, Airbus GMF 2016
Asia-Pacific lead in world traffic will increase further by 2035

Source: Airbus GMF2016

<table>
<thead>
<tr>
<th>Region</th>
<th>2015 Traffic</th>
<th>2016-2035 Traffic</th>
<th>% of 2015 world RPK</th>
<th>20-year growth</th>
<th>% of 2035 world RPK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia-Pacific</td>
<td></td>
<td></td>
<td>30%</td>
<td>5.7%</td>
<td>36%</td>
</tr>
<tr>
<td>Europe</td>
<td></td>
<td></td>
<td>25%</td>
<td>3.7%</td>
<td>22%</td>
</tr>
<tr>
<td>North America</td>
<td></td>
<td></td>
<td>24%</td>
<td>2.9%</td>
<td>19%</td>
</tr>
<tr>
<td>Middle East</td>
<td></td>
<td></td>
<td>9%</td>
<td>5.7%</td>
<td>11%</td>
</tr>
<tr>
<td>Latin America</td>
<td></td>
<td></td>
<td>5%</td>
<td>4.8%</td>
<td>5%</td>
</tr>
<tr>
<td>CIS</td>
<td></td>
<td></td>
<td>4%</td>
<td>4.1%</td>
<td>4%</td>
</tr>
<tr>
<td>Africa</td>
<td></td>
<td></td>
<td>3%</td>
<td>4.8%</td>
<td>3%</td>
</tr>
</tbody>
</table>

20-year world annual traffic growth: 4.5%

Source: Airbus GMF2016
Domestic Chinese traffic flow to be number one

Annual traffic per leg flow (billion RPK)

Asia Pacific leading growth —

50% of the top twenty traffic flows will involve Asia Pacific

Source: Airbus GMF 2016
Domestic traffic in India to grow more than 5-fold over next 20 years

Source: DGCA India, Airbus GMF
70% of traffic growth until 2035 will come from existing network

Source: Airbus GMF 2016
There are currently 55 Aviation Mega-Cities…

2015 Aviation Mega-Cities

- 55 Aviation Mega-cities
- 1M Daily Passengers: long-haul traffic to/from/via Mega-Cities
- 90%+ of long-haul traffic on routes to/from/via 55 cities
- 25% of World GDP in 2015

- >50,000 daily long-haul passengers
- >20,000 daily long-haul passengers
- >10,000 daily long-haul passengers

Routes between Aviation Mega-Cities have more premium passengers

Percentage of premium passengers on routes types

- Aviation Mega-City to Aviation Mega-City: 14%
- Aviation Mega-City to Secondary City: 9%
- Secondary City to Secondary City: 7%

Cities with more than 10,000 daily passengers, Long-haul, flight distance >2,000nm, excl. domestic traffic

Source: Sabre (September 2015 data), Airbus GMF 2016
47 of 55 Aviation Mega-Cities main airports are schedule-constrained

2015 Aviation Mega-Cities

- **IATA WSG level 1**: airport infrastructure is adequate
- **IATA WSG level 2**: airports with potential for congestion
- **IATA WSG level 3**: airports where conditions make it impossible to meet demand

Source: IATA WSG database, Airbus GMF 2016
38 of the Aviation Mega-Cities fly the A380

Flying the A380

There will be 93 Aviation Mega-Cities by 2035

- 93 Aviation Mega-cities
- 2.5M Daily Passengers: Long-Haul traffic to/from/via Mega-Cities
- 95%+ of long-haul traffic on routes to/from/via 93 cities
- 35% of World GDP in 2035

Demand for some 33,000 new passenger and freighter aircraft

Fleet in service evolution: 2016-2035

- Beginning 2016: 19,580
- 2035: 39,820
  - New aircraft: 20,240
  - Replacement: 12,830
  - Stay in service: 6,750

Note: Passenger aircraft ≥100 seats, Freighter aircraft ≥10 tonnes

Source: Airbus GMF 2016
### In 2015, an aircraft generates 50% more RPKs than in 1995

#### 1995

- **9,800** pax/a/c above 100 seats
- 7.6 hours/day
- **160** seats/flight
- **68%** load factor

#### 2015

- **18,000** pax/a/c above 100 seats
- 8.6 hours/day
- **172** seats/flight
- **80%** load factor

**Yearly RPK per a/c**

<table>
<thead>
<tr>
<th>Year</th>
<th>RPK per a/c</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>1</td>
</tr>
<tr>
<td>2015</td>
<td><strong>1.5x</strong></td>
</tr>
<tr>
<td>1995</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: ICAO, OAG, Ascend, Airbus
Airline profitability - Q2/2016 update

**US AIRLINES**
(sample representing 20% of world traffic)

- EBIT margin (%)
- Q1, Q2, Q3, Q4

**EUROPEAN AIRLINES**
(sample representing 15% of world traffic)

- EBIT margin (%)
- Q1, Q2, Q3, Q4

**EMERGING MARKETS AIRLINES**
(sample representing 15% of world traffic)

- EBIT margin (%)
- Q1, Q2, Q3, Q4

**AIRLINES WORLDWIDE**
(sample representing 60% of world traffic)

- EBIT margin (%)
- Q1, Q2, Q3, Q4

Source: The Airline Analyst, Airbus
Productivity increasing, stored aircraft around historical low

**PASSENGER AIRCRAFT PRODUCTIVITY**

- **ASKs per aircraft in service year-over-year monthly evolution (%)**

  - **Single-Aisle**
  - **Twin-Aisle**
  - **+ VLA**

  - 2014: -4%
  - 2015: -2%
  - 2016: 0%
  - 2017: 2%

**STORED PASSENGER AIRCRAFT**

- **Number of aircraft stored at end of the period**
- **Share of fleet (%)**

  - 2014: New 400, Mid 800, Old 1,200, Share 20%
  - 2015: New 300, Mid 700, Old 1,100, Share 18%
  - 2016: New 200, Mid 600, Old 1,000, Share 16%

*Western-built passenger aircraft ≥100 seats*

Source: Ascend, OAG, Airbus
Backlog x 2.7 since 2006 – Cancellations within historic bounds

- Swaps A320-A330ceo/neo
- Cancellations
- Backlog

% Cancellations year N / Backlog year N-1

- 2% 5% 4% 1% 2% 5% 2% 2% 1% 4%

% Swaps ceo to neo

- +2% +1% +1%
Backlog and delivery ratio above 10:1 in 2015

Airbus backlog

Airbus deliveries
(scale 1/5 x backlog)
Backlog and delivery ratio at 7:1 in 2020, A320 at rate 60 from mid 2019

Airbus backlog

Airbus deliveries

(scale 1/5 x backlog)
Demand for ~8,900 additional new passenger widebody aircraft until 2035

Passenger large Wide-body (number of aircraft)

- **Growth**: 9,760
- **Replacement**: 5,910
- **Stay in Service**: 2,990
- **New Widebody Aircraft**: 8,900

Source: GMF2016
Backlog based on GMF –September 2015
Summary

• Strong and resilient passenger traffic growth

• **Air traffic (RPK) doubles** every 15 years

• As air transport develops, **new drivers** become more significant

• Demand for 33,070 new aircraft by 2035: ~**32,430** passenger aircraft and **650** freighters

• **40%** of passenger aircraft demand needed for *replacement*, and **60%** for growth

• Single-aisle represent 71% of units, and wide-bodies represent 54% of value

• VLA demand largely concentrated on **Aviation Mega-Cities** and network efficiencies will facilitate new VLA destinations