Growing Horizons
Global Market Forecast
2017 - 2036
## Global Market Forecast 2017: Highlights

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2036</th>
<th>vs. GMF16</th>
<th>% change 2016-2036</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPK (trillions)</td>
<td>7.0</td>
<td>16.5</td>
<td>+3.1%</td>
<td>135%</td>
</tr>
<tr>
<td>Passenger Aircraft Fleet</td>
<td>18,890</td>
<td>40,120</td>
<td>+6.4%</td>
<td>112%</td>
</tr>
<tr>
<td>New passenger aircraft deliveries</td>
<td>34,166</td>
<td></td>
<td>+1,741</td>
<td></td>
</tr>
<tr>
<td>Dedicated Freighters</td>
<td>1,610</td>
<td>2,410</td>
<td>+14.2%</td>
<td>50%</td>
</tr>
<tr>
<td>New freighter aircraft deliveries</td>
<td>733</td>
<td></td>
<td>+88</td>
<td></td>
</tr>
<tr>
<td><strong>Total New Aircraft Deliveries</strong></td>
<td><strong>34,899</strong></td>
<td></td>
<td><strong>+1,829</strong></td>
<td></td>
</tr>
</tbody>
</table>

Notes: Passenger aircraft (≥ 100 seats) | Jet freight aircraft (>10 tonnes)
Source: Airbus GMF 2017
20-year demand for almost 35,000 new passenger and freighter aircraft

- **24,807** single-aisle aircraft
  - +1,277 vs GMF 2016

- **8,686** twin-aisle aircraft
  - +626

- **1,406** very large aircraft
  - -74

- **34,899** new aircraft
  - +1,829

Notes: Passenger aircraft (≥ 100 seats) | Jet freight aircraft (>10 tonnes)
Source: Airbus GMF 2017

$US trillion
Single-aisle represent 71% of units, and widebodies represent 54% of value.
<table>
<thead>
<tr>
<th>Number of aircraft*</th>
<th>Beginning 2017</th>
<th>2036</th>
<th>New Deliveries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passenger aircraft (≥ 100 seats)</td>
<td>20,500</td>
<td>22,030</td>
<td>34,900</td>
</tr>
<tr>
<td>Jet freight aircraft (&gt;10 tonnes)</td>
<td>-</td>
<td>7,630</td>
<td></td>
</tr>
</tbody>
</table>

Notes: Passenger aircraft (≥ 100 seats) | Jet freight aircraft (>10 tonnes), Rounded figures to the nearest 10
Source: Airbus GMF 2017
2016 was a good year

Number of countries

% - ASK growth 2015-2016

142 countries

- 20 countries with <0% growth
- 42 countries with 0% - 5% growth
- 64 countries with 5% - 10% growth
- 78 countries with >10% growth

81% of world population
88% of world GDP

Source: ICAO, OAG, IHS Economics, Airbus GMF
World load factors remain at record levels

World passenger load factor - %

Source: ICAO, OAG, IHS Economics, Airbus GMF
Air transport growth is highest in expanding regions

**Emerging/Developing**
- China
- India
- Middle East
- Rest of Asia
- Africa
- CIS
- Latin America
- Central Europe

6.4 billion people in 2016

Yearly RPK growth 2016 - 2036

+5.8 %

**Advanced**
- Western Europe
- Israel
- North America
- Japan
- Singapore
- South Korea
- Australia/New Zealand

1 billion people in 2016

+3.2 %

Source: IHS Economics, Airbus GMF 2017
Middle Class to almost double over the next 20 years

People in Middle Class* (million)

<table>
<thead>
<tr>
<th>Year</th>
<th>Emerging countries</th>
<th>Developing countries</th>
<th>Advanced countries</th>
<th>World Population (M.)</th>
<th>% of world population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996e**</td>
<td>5,820</td>
<td>6,600</td>
<td>7,430</td>
<td>8,200</td>
<td>23%</td>
</tr>
<tr>
<td>2006</td>
<td>1,950</td>
<td>1,822</td>
<td>2,16</td>
<td>2,695</td>
<td>322</td>
</tr>
<tr>
<td>2016</td>
<td>1,350</td>
<td>1,822</td>
<td>2,695</td>
<td>3,900</td>
<td>3,22</td>
</tr>
<tr>
<td>2026</td>
<td>1,950</td>
<td>2,695</td>
<td>3,900</td>
<td>4,950</td>
<td>456</td>
</tr>
<tr>
<td>2036</td>
<td>1,350</td>
<td>2,695</td>
<td>3,900</td>
<td>4,950</td>
<td>859</td>
</tr>
</tbody>
</table>

*Rounded total to nearest 50
**Households with yearly income between $20,000 and $150,000 at PPP in constant 2016 prices
**Estimate for 1996 split by region
Source: Oxford Economics, Airbus GMF
Almost 50% of world’s private consumption to come from emerging markets

World private consumption (trillion 2010 $US)

Source: IHS Economics, Airbus GMF
~60% of international tourists to be transported by air in 2036

International tourist arrivals (million)

>1.2bn tourists

>2.4bn tourists

Tourism by surface (Road, Water, Rail)

Tourism by Air

Share of tourists travelling by air

2006 2011 2016 2021 2026 2031 2036

0 200 400 600 800 1,000 1,200 1,400 1,600 1,800 2,000 2,200 2,400 2,600

48% 51% 54% 57% 59% 61% 62%

Source: UNWTO, Sabre GDD, Airbus GMF
Low Cost Carrier market penetration has increased significantly since 2006

Low Cost Carrier seats offered on domestic and intra-regional flights (million)

Source: OAG – September of each year, Airbus GMF
~30% of the people from emerging countries took a flight in 2016...

Source: Sabre, IHS Economics, Airbus GMF 2017
… in 2036, it will be 83%

2036 trips per capita

United States, 2036
2.5 trips per capita

China, 2036
1.3 trips per capita

India, 2036
0.4 trips per capita

Sources: Sabre, IHS Economics, Airbus GMF 2017
Air travel has proved to be resilient to external shocks

World annual traffic (trillion RPKs)

- Oil Crisis
- Oil Crisis
- Gulf Crisis
- Asian Crisis
- WTC Attack
- SARS
- Financial Crisis

+60% growth over the last 10 years

x2 since 9/11

Source: ICAO, Airbus GMF
Traffic doubles every 15 years

World annual traffic (trillion RPKs)

ICAO total traffic

Airbus GMF 2017: 4.4% growth p.a.

Source: ICAO, Airbus GMF 2017

RPK = Revenue Passenger Kilometre

16
Asia-Pacific continues to grow in importance

Traffic by airline domicile (trillion RPKs)

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

Source: Airbus GMF 2017
Domestic Chinese traffic to become number one

Annual traffic per leg flow

- Domestic PRC
- Domestic USA
- Western Europe - USA
- Intra-Western Europe
- Western Europe - Middle East
- Domestic Asia Emerging
- Middle East - USA
- Indian Subcontinent - Middle East
- Domestic India
- PRC - USA
- Asia Emerging - Middle East
- Asia Emerging - PRC
- Western Europe - PRC
- Central Europe - Western Europe
- Western Europe - South America
- Asia Developed - Asia Emerging
- Asia Developed - PRC
- Domestic Brazil
- Intra-Middle East
- South America - USA

Source: ICAO, Airbus GMF 2017
Trend towards densification, especially for Low Cost Carriers

All Airlines average single-aisle aircraft capacity per flight

LCCs average single-aisle aircraft capacity per flight

Note: Aircraft capacity above 100 seats and below 210 seats
Source: OAG – September of each year, Airbus GMF
A320 Family cabin enablers can raise A320 Family seat counts by up to 10%

- Slim-line seats
- Space-Flex New rear galley configuration
- Smart-Lav New lavatory design
- New doors rating Increased exit limit
- Airbus Cabin-Flex A321neo new door configuration

A319 156 → 160 seats  
A320 180 → 189 seats  
A321 220 → 240 seats
Airlines are choosing cabin enablers to increase seat count beyond 180 seats

A320 deliveries above 180 seats (% total deliveries)

Source: Airbus
The single-aisle market continues to move towards higher capacity aircraft

Source: Airbus, End December 2016, includes NEO
A321 – growing in popularity

65% of net orders
41% of deliveries

of Airbus single aisles in 2016 were A321s
### A321neo vs. 737 MAX 10

<table>
<thead>
<tr>
<th></th>
<th>Capacity</th>
<th>Range</th>
<th>Fuel per seat</th>
</tr>
</thead>
<tbody>
<tr>
<td>A321neo vs. 737 MAX 10</td>
<td>+10 seats</td>
<td>+1,000nm</td>
<td>10% lower</td>
</tr>
</tbody>
</table>

**A321neo**

Up to 240 seats & 4,000nm range with unbeatable fuel efficiency
A330neo

... beats the 787 on comfort, fuel and economics at $20m to $25m lower capital cost
25% lower
- operating cost
- fuel burn
- CO₂ emissions

Compared to previous generation

A350 XWB
In 2016, 10% of all passengers at London Heathrow travelled on 54 daily A380 flights*.
A380 new revenue enablers

Over 80 additional seats with same comfort level as current deliveries

- New rear stair: 14 seats
- New forward stair*: 20 seats
- Upper deck door 3 deactivation*: 8 seats
- Upper deck sidewall stowage removal: 6 seats
- Combined crew rest compartment: 3 seats
- Premium Economy Class at 9-abreast: 11 seats
- Economy class at 11-abreast: 23 seats

* Project development study
Backlog development 2007 - 2016

2007

Industry backlog

Airbus 2,533 (51%)
Boeing 2,455 (49%)

Data to end December 2016

End 2016

Industry backlog

Airbus 6,874 (55%)
Boeing 5,715 (45%)

X 2.7
X 2.3

4,988 aircraft

12,589 aircraft

Boeing
Airbus
Net market share last 10 years

Airbus
9,995
53%

Boeing
8,978
47%

Data to end December 2016
Drivers

**Strong & resilient** passenger traffic growth

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

**Middle-class** to almost **double** by 2036
Summary

Traffic forecast

Air traffic (RPK) doubles every 15 years

Airbus traffic (RPK) forecast to grow 4.4% p.a.
Summary

Fleet forecast

34,900 new deliveries by 2036:

~34,170 passenger aircraft
730 freighters

40% of new deliveries for replacement, 60% for growth

Single-aisle: 71% of units
Wide-bodies: 54% of value
Summary

Airbus Family

**A321** an ideal entry-point into **medium to long-haul markets**

**A330neo & A350XWB:**
the lowest total cost widebody family with superior comfort levels

**A380:** The solution for future traffic growth