Global Market Forecast
2015-2034
### Global Market Forecast 2015: Highlights

#### GMF 2015 key numbers and 20-year change

<table>
<thead>
<tr>
<th>World Fleet Forecast</th>
<th>2014</th>
<th>2034</th>
<th>% change 2014-2034</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPK (trillions)</td>
<td>6.2</td>
<td>15.2</td>
<td>145%</td>
</tr>
<tr>
<td>Passenger Aircraft Fleet</td>
<td>17,354</td>
<td>35,749</td>
<td>106%</td>
</tr>
<tr>
<td>New passenger aircraft deliveries</td>
<td>31,781</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dedicated Freighters</td>
<td>1,633</td>
<td>2,687</td>
<td>65%</td>
</tr>
<tr>
<td>New freighter aircraft deliveries</td>
<td>804</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total New Aircraft Deliveries</td>
<td></td>
<td>32,585</td>
<td>+1,227 aircraft</td>
</tr>
</tbody>
</table>

**New aircraft deliveries**

GMF 2015 vs. GMF 2014

Passenger aircraft (≥ 100 seats)

Jet freight aircraft (>10 tons)

Source: Airbus GMF2015
20-year demand for 32,600 new passenger and freight aircraft

20-year new deliveries of passenger and freighter aircraft

- **22,927** single-aisle aircraft
- **8,108** twin-aisle aircraft
- **1,550** very large aircraft
- **32,585** new aircraft

Market Value of

- **$4.9 trillion**

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

Source: Airbus GMF2015
Single-aisle: 70% of units; Wide-bodies: 55% of value

20-year new deliveries of passenger and freighter aircraft

- **Single-aisle**: 22,900
- **Twin-aisle**: 8,100
- **Very Large Aircraft**: 1,600

<table>
<thead>
<tr>
<th></th>
<th>% units</th>
<th>% value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-aisle</td>
<td>70%</td>
<td>45%</td>
</tr>
<tr>
<td>Twin-aisle</td>
<td>25%</td>
<td>43%</td>
</tr>
<tr>
<td>Very Large Aircraft</td>
<td>5%</td>
<td>12%</td>
</tr>
</tbody>
</table>

Source: Airbus GMF May 2015
Passenger traffic is outperforming GDP growth

World real GDP and passenger traffic

Source: IHS Economics, OAG, Airbus GMF2015
A two-speed economic world

Comparison of year-over-year GDP growth

Emerging economies will continue to lead the pack

* 54 emerging economies
** 32 advanced economies

Source: IHS Global Insight, Airbus GMF2015
Air transport growth is highest in expanding regions

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

6.3 billion people 2014
Yearly RPK growth 2015 - 2034
+5.8%

Advanced
- Western Europe
- North America
- Japan

1 billion people 2014
+3.8%
Middle Class to grow, doubling in emerging countries…

Middle Class*, millions of people

<table>
<thead>
<tr>
<th>Year</th>
<th>History</th>
<th>Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>1,120</td>
<td>1,792</td>
</tr>
<tr>
<td>2014</td>
<td>2,001</td>
<td>2,703</td>
</tr>
<tr>
<td>2024</td>
<td>2,936</td>
<td>3,671</td>
</tr>
<tr>
<td>2034</td>
<td>3,977</td>
<td>4,721</td>
</tr>
</tbody>
</table>

- **Emerging countries**
- **North America**
- **Europe**

**World Population**
- 2004: 6,400
- 2014: 7,200
- 2024: 8,000
- 2034: 8,600

**% of world population**
- 2004: 28%
- 2014: 37%
- 2024: 46%
- 2034: 55%

Source: Oxford Economics, Airbus GMF2015

* Households with yearly income between $20,000 and $150,000 at PPP in constant 2014 prices
Private consumption to become important growth driver in emerging markets

Share of total world private consumption (%)

- Emerging markets to represent 43% of the world private consumption by 2034, up from 31% today.

Source: IHS Economics, Airbus GMF2015
Europeans and North American are the most willing to fly…

2014 trips per capita

2014 real GDP per capita (2010 $US thousands at Purchasing Power Parity)

- Europe: 1.21 trips per capita
- North America: 1.63 trips per capita
- PRC: 0.30 trips per capita
- India: 0.07 trips per capita

Sources: Sabre, IHS Economics, Airbus GMF2015

Propensity to travel –

25% of the population of the emerging countries took a trip a year in 2014
…but by 2034, PRC will reach current European levels

Propensity to travel –

74% of the population of the emerging countries will take a trip a year in 2034

Sources: Sabre, IHS Economics, Airbus GMF2015
Air travel has proven to be resilient to external shocks

World annual traffic (RPKs - trillions)

World traffic - 85% growth since 9/11

Source: ICAO, Airbus
Air traffic will double in the next 15 years

Source: ICAO, Airbus

World annual RPK* (trillion)

Source: ICAO, Airbus GMF2015
Asia-Pacific to lead in world traffic by 2034

RPK traffic by airline domicile (billions)

<table>
<thead>
<tr>
<th>Region</th>
<th>2014 traffic</th>
<th>2015-2034 traffic</th>
<th>% of 2014 world RPK</th>
<th>20-year growth</th>
<th>% of 2034 world RPK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia-Pacific</td>
<td></td>
<td></td>
<td>29%</td>
<td>5.7%</td>
<td>36%</td>
</tr>
<tr>
<td>Europe</td>
<td></td>
<td></td>
<td>25%</td>
<td>3.6%</td>
<td>21%</td>
</tr>
<tr>
<td>North America</td>
<td></td>
<td></td>
<td>25%</td>
<td>2.5%</td>
<td>17%</td>
</tr>
<tr>
<td>Middle East</td>
<td></td>
<td></td>
<td>9%</td>
<td>6.7%</td>
<td>13%</td>
</tr>
<tr>
<td>Latin America</td>
<td></td>
<td></td>
<td>5%</td>
<td>5.2%</td>
<td>6%</td>
</tr>
<tr>
<td>CIS</td>
<td></td>
<td></td>
<td>4%</td>
<td>4.9%</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 GMF2015

20-year world annual traffic growth 4.6%
Domestic PRC will be the largest O&D traffic flow

Annual O&D traffic per flow (billion RPK)

- Domestic PRC
- Domestic USA
- Intra Western Europe
- Western Europe - USA
- Domestic Asia Emerging
- Western Europe - Middle East
- Domestic India
- Indian Subcontinent - Middle East
- PRC - USA
- Western Europe - South America
- Asia Emerging - Western Europe
- South America - USA
- Domestic Brazil
- Western Europe - PRC
- Indian Subcontinent - USA
- Central Europe - Western Europe
- Australia & New Zealand - Western Europe
- Middle East - USA
- Sub Sahara Africa - Western Europe
- Asia Advanced - Asia Emerging

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

Source: Airbus GMF2015
More productive seats…

**Yearly offered seats per aircraft**

Avg. number of yearly offered seats per aircraft (000)

- 1980: 100
- 1985: 110
- 1990: 120
- 1995: 130
- 2000: 140
- 2005: 150
- 2010: 160
- 2014: 170

**Load factors**

World passenger load factors (%)

- 1980: 50%
- 1985: 55%
- 1990: 60%
- 1995: 65%
- 2000: 70%
- 2005: 75%
- 2010: 80%
- 2014: 85%

+17 percentage points

Source: OAG, Ascend, ICAO, Airbus GMF2015
Less fuel burn, therefore less emissions…

Kilograms per 100 RPKs (avg.)

Source: ICAO, IATA, Airbus GMF2015
Short to medium term forecasts have been revised down

Brent oil price (US$ per bbl. in nominal 2015)

Oil prices
- Oil price down but trend uncertain
  Short-term good for airline profitability
  Medium-term boost for global GDP

Source: IHS Energy, Oxford Economics
70% of traffic growth until 2034 will be coming from existing network
47 Aviation Mega-Cities in 2014

2014 Aviation Mega-Cities

- 47 Aviation Mega-cities
- 0.9M Daily Passengers: long-haul traffic to/from/via Mega-Cities
- 90%+ of long-haul traffic on routes to/from/via 47 cities
- 22% of World GDP in 2014

... and 91 Mega-Cities by 2034

2034 Aviation Mega-Cities

- 91 Aviation Mega-cities
- 2.3M Daily Passengers: Long-Haul traffic to/from/via Mega-Cities
- 95%+ of long-haul traffic on routes to/from/via 91 cities
- 35% of World GDP in 2034


- >50,000 daily long-haul passengers
- >20,000 daily long-haul passengers
- >10,000 daily long-haul passengers
These airports are already largely congested

Source: IATA WSG database, Airbus GMF

39 out of the 47 Aviation Mega Cities are schedule-constrained today

*Aviation Mega-Cities International Airports

- **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
The bigger the city, the wealthier the population

GDP per capita ratio between Aviation Mega-Cities and regional average

North America +25%
Europe +60%
CIS +300%
Asia Pacific +290%
Latin America +90%
Africa +320%
Middle East +160%

Source: Oxford Economics, UNPD, IHS Global Insight, Airbus GMF2015
Routes between Aviation Mega-cities have more premium passengers

Percentage of premium passengers on routes types

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

Source: Sabre (September 2014 data), Airbus GMF2015

14% compared to 11% average international long-haul
Demand for some 32,600 new passenger and freighter aircraft

Fleet in service evolution: 2015-2034

- **Beginning 2015**: 19,000
- **2034**: 38,500
  - **Growth**: 19,500
  - **Replacement**: 13,100
  - **Stay in service**: 5,900

**Source**: Airbus

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

- Strong and resilient passenger traffic growth
- Oil price down but trend uncertain
  - Short-term good for airline profitability
  - Medium-term boost for global GDP
- Demand for 32,600 new aircraft by 2034 – ~31,800 passenger aircraft and 800 freighters
- 13,100 passenger aircraft needed for replacement, largely single-aisle
- Single-aisle represent 70% of demand in units, but wide-bodies represent 55% of value
- VLA demand largely concentrated on Aviation Mega-cities
  but network efficiencies will drive proliferation of new VLA destinations