Lifting the lid on the Global Market Forecast
Cities, Airports & Aircraft

Bob Lange
SVP Business Analysis and Market Forecast
The Global Market Forecast answers three questions

- **Traffic forecast**
  How many passengers will fly?

- **Network forecast**
  Where will passengers fly?

- **World fleets forecast**
  How will passengers fly?

Source: Airbus GMF 2019
## The Global Market Forecast in numbers

<table>
<thead>
<tr>
<th>Major traffic flows</th>
<th>Cities</th>
<th>Airports</th>
<th>City pairs (Origin - Destination)</th>
<th>Airlines</th>
</tr>
</thead>
<tbody>
<tr>
<td>~100</td>
<td>~3,200</td>
<td>~3,300</td>
<td>~600,000</td>
<td>~800</td>
</tr>
</tbody>
</table>

Source: OAG, Airbus GMF 2019
Traffic forecast: we consider many variables

Airlines Business models & strategy
- Jet fuel price
- Air fares

Liberalisation
- Tourism trends
- Geopolitics

Source: Airbus GMF 2019
By 2038, 5.8 billion people will live in cities or other urban centres.

Population (billion)

- Urban population: 2.7 billion (1998), 4.2 billion (2014), 5.8 billion (2038)
- Rural population: 7.3 billion (1998), 5.6 billion (2014), 3.2 billion (2038)

Urban population as % of total:
- 1998: 46%
- 2014: 55%
- 2038: 64%

Additional people per year (million):
- Urban: 76
- Rural: 1.5

Source: UN Population, Airbus GMF 19
The “Middle Class” will grow fastest in the emerging countries

Middle Class (millions) & Percentage of World population

<table>
<thead>
<tr>
<th>Year</th>
<th>CIS</th>
<th>North America</th>
<th>Middle East</th>
<th>Europe</th>
<th>Latin America</th>
<th>Africa</th>
<th>Asia-Pacific</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>2,860 (42%)</td>
<td>3,950 (52%)</td>
<td>5,060 (60%)</td>
<td>5,940 (66%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>3,950 (52%)</td>
<td>x1.3</td>
<td>x1.0</td>
<td>x1.3</td>
<td>x1.0</td>
<td>x1.4</td>
<td>x2.3</td>
</tr>
<tr>
<td>2028</td>
<td>5,060 (60%)</td>
<td>x1.6 vs. 2018</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2038</td>
<td>5,940 (66%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Middle-class: Households with yearly income between $20,000 and $150,000 at PPP in constant 2015 prices
Source: Oxford Economics, Airbus GMF 2019
In 2018, ~0.35 trips per capita in Emerging countries

Source: Sabre, IHS Markit, Airbus GMF 2019
Equivalent amount of passengers flying from/to/within the country
...and in 2038, ~0.95 trips per capita in Emerging countries

2038 trips per capita

2038 real GDP per capita
(2015 $US thousands at Purchasing Power Parity)

Bubble size proportional to population
- Advanced Economies
- Developing Economies
- Emerging Economies

United States, 2038
2.8 trips per capita

China, 2038
1.4 trips per capita

India, 2038
0.5 trips per capita

Source: Sabre, IHS Markit, Airbus GMF 2019
Equivalent amount of passengers flying from/to/within the country
Traffic is forecast to grow at 4.3% p.a.

World annual traffic (RPK billion) with main growing flows

Source: Airbus GMF 2019
Growing networks: most active new route creation 2017-2018

- Intra PRC
- Africa – Europe
- Transatlantic
- Short haul within Europe
- Long haul LCC

Source: OAG, Airbus GMF 2019
~800 airlines in our sample

No. of airlines in GMF by region

<table>
<thead>
<tr>
<th>Region</th>
<th>No. of Airlines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub Sahara</td>
<td>131</td>
</tr>
<tr>
<td>Europe</td>
<td>118</td>
</tr>
<tr>
<td>Asia</td>
<td>91</td>
</tr>
<tr>
<td>CIS</td>
<td>66</td>
</tr>
<tr>
<td>PRC</td>
<td>55</td>
</tr>
<tr>
<td>Middle East</td>
<td>54</td>
</tr>
<tr>
<td>South America</td>
<td>45</td>
</tr>
<tr>
<td>USA</td>
<td>35</td>
</tr>
<tr>
<td>Central Europe</td>
<td>34</td>
</tr>
<tr>
<td>Pacific</td>
<td>29</td>
</tr>
<tr>
<td>Central America</td>
<td>29</td>
</tr>
<tr>
<td>Canada</td>
<td>27</td>
</tr>
<tr>
<td>Indian Subcontinent</td>
<td>22</td>
</tr>
<tr>
<td>North Africa</td>
<td>20</td>
</tr>
</tbody>
</table>

Notes: Passenger aircraft (≥100 seats)
Source: Airbus 2019
Business models are evolving…

Share of each business model on Domestic and Intra-regional flights

<table>
<thead>
<tr>
<th>Region</th>
<th>Million seats offered</th>
<th>Full Service Carrier</th>
<th>Low Cost Carrier</th>
<th>Regional/Commuter</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia/Pacific</td>
<td>951</td>
<td>576</td>
<td>970</td>
<td>222</td>
<td>68</td>
</tr>
<tr>
<td>North America</td>
<td>970</td>
<td>576</td>
<td>570</td>
<td>222</td>
<td>68</td>
</tr>
<tr>
<td>Europe</td>
<td>764</td>
<td>450</td>
<td>314</td>
<td>222</td>
<td>68</td>
</tr>
<tr>
<td>Latin America</td>
<td>222</td>
<td>576</td>
<td>68</td>
<td>85</td>
<td>68</td>
</tr>
<tr>
<td>Middle East</td>
<td>85</td>
<td>576</td>
<td>85</td>
<td>17</td>
<td>68</td>
</tr>
<tr>
<td>CIS</td>
<td>57</td>
<td>576</td>
<td>57</td>
<td>0</td>
<td>68</td>
</tr>
<tr>
<td>Africa</td>
<td>68</td>
<td>576</td>
<td>68</td>
<td>0</td>
<td>68</td>
</tr>
</tbody>
</table>

Source: OAG, Airbus GMF 2019. Business models defined based on 2018 operations
Business models are evolving…

Share of each business model on Domestic and Intra-regional flights

<table>
<thead>
<tr>
<th>Region</th>
<th>Million seats offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia/Pacific</td>
<td>1,983</td>
</tr>
<tr>
<td>North America</td>
<td>1,056</td>
</tr>
<tr>
<td>Europe</td>
<td>953</td>
</tr>
<tr>
<td>Latin America</td>
<td>342</td>
</tr>
<tr>
<td>Middle East</td>
<td>204</td>
</tr>
<tr>
<td>CIS</td>
<td>112</td>
</tr>
<tr>
<td>Africa</td>
<td>97</td>
</tr>
</tbody>
</table>

2018

Source: OAG, Airbus GMF 2019, Business models defined based on 2018 operations
In today’s operations, aircraft are used flexibly in capacity and range.

Shades of blue are proportional to the number of aircraft in service.
Increasing deliveries in 175-seat and now 210-seat neutral categories

Rolling past 10-year deliveries overlaid on neutral seating categories

Past deliveries 10-year period
- 1998-2007
- 1999-2008
- 2000-2009
- 2001-2010
- 2002-2011
- 2003-2012
- 2004-2013
- 2005-2014
- 2006-2015
- 2007-2016
- 2008-2017
- 2009-2018

Source: Cirium, Airbus GMF 2019
Strongest category also has highest proportion of Low Cost Carriers

2009-2018 deliveries overlaid on neutral seating categories

Airline business models
- Other
- Full Service Carriers
- Regional/Commuter
- Low Cost Carriers

Notes: Passenger aircraft (≥100seats)
Source: Cirium, Airbus GMF 2019
Forecast new deliveries: move upwards to 210-seat neutral category

Forecast deliveries 2019-2038

Notes: Passenger aircraft (≥100 seats) | Rounded figures to nearest 5
Source: Airbus GMF 2019
Regional distribution of 20-year new deliveries

- **Asia-Pacific airlines:** 42% of new aircraft demand
- **Europe & North America airlines:** 35% of new aircraft demand
- **Middle-East, Latin America, CIS & Africa airlines:** 22% of new aircraft demand

Notes: Passenger aircraft (≥100 seats), Freight (>10t) | Figures rounded to nearest 10
Source: Airbus 2019
Global demand for 39,210 new passenger & freighter aircraft

<table>
<thead>
<tr>
<th>Region</th>
<th>Demand (in units)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>6,380</td>
<td>17%</td>
</tr>
<tr>
<td>Latin America</td>
<td>2,700</td>
<td>7%</td>
</tr>
<tr>
<td>Europe &amp; CIS</td>
<td>9,080</td>
<td>23%</td>
</tr>
<tr>
<td>Middle-East</td>
<td>3,240</td>
<td>8%</td>
</tr>
<tr>
<td>Asia/Pacific</td>
<td>16,540</td>
<td>42%</td>
</tr>
</tbody>
</table>

Source: Airbus GMF 2019 | Figures rounded to nearest 10
Note: demand for all commercial aircraft above 100 seats & freighters above 10t

Excludes undisclosed, lessor backlog, military derivatives & ACJ