The first commercial flight was 100 years ago

Aviation’s benefit

- 23 minutes
- 2 hours
- 4 – 12 hours
- 20 hours
Global Market Forecast 2014: Highlights

GMF 2014 key numbers and 20-year change

<table>
<thead>
<tr>
<th>World Fleet Forecast</th>
<th>2013</th>
<th>2033</th>
<th>% change 2013-2033</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPK (trillion)</td>
<td>5.8</td>
<td>14.6</td>
<td>151%</td>
</tr>
<tr>
<td>Passenger Aircraft Fleet</td>
<td>16,855</td>
<td>34,818</td>
<td>107%</td>
</tr>
<tr>
<td>New passenger aircraft deliveries</td>
<td>30,555</td>
<td>1,605</td>
<td>65%</td>
</tr>
<tr>
<td>Dedicated Freighters</td>
<td>2,645</td>
<td>803</td>
<td></td>
</tr>
<tr>
<td>New freighter aircraft deliveries</td>
<td>803</td>
<td>1,605</td>
<td></td>
</tr>
</tbody>
</table>

Total New Aircraft Deliveries: 31,358

New aircraft deliveries

+2,132 aircraft

GMF 2014 vs. GMF 2013

Passenger aircraft (≥ 100 seats)
Jet freight aircraft (>10 tons)
Source: Airbus GMF
20-year demand for 31,358 new passenger and freight aircraft

20-year new deliveries of passenger and freight aircraft

- **22,071** single-aisle aircraft
- **7,786** twin-aisle aircraft
- **1,501** very large aircraft

31,358 new aircraft

Market Value of

- **$4.6 trillion**

Passenger aircraft (≥ 100 seats)
Jet freight aircraft (>10 tons)
Source: Airbus GMF
Single-aisle: 70% of units; Wide-bodies: 55% of value

20-year new deliveries of passenger and freighter aircraft

<table>
<thead>
<tr>
<th>Category</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>44%</td>
</tr>
<tr>
<td>Very Large Aircraft</td>
<td>5%</td>
<td>11%</td>
</tr>
</tbody>
</table>

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

Source: Airbus
Inflation-adjusted average yields have stabilised

Source: ICAO, IATA, Airbus
More movements, more connectivity….

**Airport movements**
- Avg. number of movements per airport

**Airport connectivity**
- Avg. number of destinations per airport

Source: OAG, Airbus
More seats per aircraft, and more of them filled

Offered seats per aircraft

Avg. number of offered seats per aircraft (000)


100 150 200 250

Load factors

World passenger load factors (%)


50% 55% 60% 65% 70% 75% 80% 85%

Source: OAG, Ascend, Airbus

Source: ICAO, OAG, Airbus

© AIRBUS all rights reserved. Confidential and proprietary document.
Less fuel burn, therefore less emissions...

**Fuel consumption**

Kilograms per passenger per trip (avg.)

Source: ICAO, IATA, Airbus

**CO2 emissions**

Kilograms per passenger per trip (avg.)

Source: ICAO, IATA, Airbus
Short term oil forecast revised down; high oil price consensus over long term

Source: IHS Energy, Airbus
Aircraft orders are correlated to airlines profitability

Airlines results & net orders

Operating margin (%)

Units

Source: Airbus, ICAO
Deliveries are much less volatile

Airlines results & net orders

Graph showing operating margin (%) and units from 1990 to 2010. The graph indicates that deliveries and net orders are much less volatile compared to operating margin. Source: Airbus, ICAO.
Air travel has proven to be resilient to external shocks

World traffic - 73% growth through multiple crises over the last ten years

Source: ICAO, Airbus
Passenger traffic is outperforming GDP growth

% (year-over-year)

Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
2008 2009 2010 2011 2012 2013 2014

World real GDP and passenger traffic

Source: IHS Global Insight, Airbus
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
The World of 2033 will be very different from today

<table>
<thead>
<tr>
<th>2013</th>
<th>2023</th>
<th>2033</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- US</td>
<td>1- China</td>
<td>1- China</td>
</tr>
<tr>
<td>2- China</td>
<td>2- US</td>
<td>2- US</td>
</tr>
<tr>
<td>3- Japan</td>
<td>3- India</td>
<td>3- India</td>
</tr>
<tr>
<td>4- Germany</td>
<td>4- Japan</td>
<td>4- Japan</td>
</tr>
<tr>
<td>5- France</td>
<td>5- Germany</td>
<td>5- Brazil</td>
</tr>
<tr>
<td>6- UK</td>
<td>6- UK</td>
<td>6- Germany</td>
</tr>
<tr>
<td>7- Brazil</td>
<td>7- France</td>
<td>7- UK</td>
</tr>
<tr>
<td>8- Russia</td>
<td>8- Brazil</td>
<td>8- Russia</td>
</tr>
<tr>
<td>9- Italy</td>
<td>9- Russia</td>
<td>9- France</td>
</tr>
<tr>
<td><strong>10- India</strong></td>
<td><strong>10- Italy</strong></td>
<td><strong>10- Indonesia</strong></td>
</tr>
</tbody>
</table>

Source: IHS Global Insight, Airbus

GDP ranking based on nominal GDP expressed in US$
Asia-Pacific and other emerging markets are leading traffic growth

ASKs year-over-year monthly evolution

- **Emerging Markets Traffic**: +9.4%
- **Asia - Pacific Traffic**: +6.5%
- **Western Europe Traffic**: +2.6%
- **US Traffic**: +2.5%

Source: OAG, Airbus
Emerging economies are driving future growth

Today

- Population: 69% Emerging economies, 36% All other countries
- GDP: 42% Emerging economies, 58% All other countries
- Passengers trips: 50% Emerging economies, 50% All other countries

2033

- Population: 67% Emerging economies, 33% All other countries
- GDP: 54% Emerging economies, 46% All other countries
- Passengers trips: 59% Emerging economies, 41% All other countries

Source: IHS Global Insight, Airbus

* Nominal GDP in US$
Airlines network in 2033: ~80% of RPK on current network

Source: Airbus GMF14
Emerging regions will account for the largest share of origin and destination traffic worldwide

World annual RPK (trillion)

Source: ICAO, Sabre GDD, Airbus GMF

- Advanced – Advanced: 2.6% p.a.
- Emerging – Advanced: 5.0% p.a.

Source: ICAO, Sabre GDD, Airbus GMF
Air transport growth is highest in expanding regions

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

**Yearly RPK growth 2014 - 2033**
- 6.2 billion people 2014
- +6.0%

**Advanced**
- Western Europe
- North America
- Japan

**Yearly RPK growth 2014 - 2033**
- 1 billion people 2014
- +4.2%

Billions of people will increasingly want to travel by air
Global Middle Class to more than double

Global Middle Class**
(Millions of people)

<table>
<thead>
<tr>
<th>Year</th>
<th>Emerging countries</th>
<th>North America</th>
<th>Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013*</td>
<td>2,356</td>
<td>1,413</td>
<td>679</td>
</tr>
<tr>
<td></td>
<td>264</td>
<td>679</td>
<td></td>
</tr>
<tr>
<td>2023</td>
<td>3,740</td>
<td>2,782</td>
<td>697</td>
</tr>
<tr>
<td></td>
<td>261</td>
<td>697</td>
<td></td>
</tr>
<tr>
<td>2033</td>
<td>5,375</td>
<td>4,450</td>
<td>252</td>
</tr>
<tr>
<td></td>
<td>252</td>
<td>673</td>
<td></td>
</tr>
</tbody>
</table>

World Population

- 2013: 7,200
- 2023: 7,900
- 2033: 8,500

% of world population

- 2013: 33%
- 2023: 48%
- 2033: 63%

Source: Kharas and Gertz, Airbus
* EOY 2013

** Households with daily expenditures between $10 and $100 per person (at PPP)
North Americans and Europeans are the most willing to fly

2013 trips per capita

- North America: 1.6 trips per capita
- Europe: ~1 trip per capita
- India 2013: 0.06 trips per capita
- China 2013: 0.25 trips per capita

2/3 of the population of the emerging countries will take a trip a year in 2033

Source: Sabre (annualized September 2013 data), IHS Global Insight, Airbus

*Passengers originating from respective country
Bubble size proportional to population
...but by 2033, China’s potential will reach European levels

- India 2033: 0.26 trips per capita
- China 2033: 0.95 trips per capita
- Europe 2033: 1.9 trips per capita
- North America 2033: 2.1 trips per capita

66% of the population of the emerging countries will take a trip a year in 2033

Source: Sabre (annualized September 2013 data), IHS Global Insight, Airbus

*Passengers originating from respective country

Bubble size proportional to population

2033 GDP per capita (thousands $US)

2033 trips per capita
Long-haul traffic grows stronger than short haul traffic

Evolution of long-haul vs short-haul traffic (ASKs), 1973-2013, (Base 100 in 1973)

Long-haul traffic has grown 1% p.a. faster than short-haul traffic.

Source: OAG

* Long haul traffic: flight distance >2,000nm
Long-haul traffic consolidation

Evolution of traffic per long-haul airline (ASKs), 1973-2013, (Base 100 in 1973)

ASK per airline have nearly quadrupled since 1973

Source: OAG, Airbus

* Long haul traffic: flight distance >2,000nm
Urbanisation to increase

World population and share of urban agglomeration evolution

<table>
<thead>
<tr>
<th>Rural</th>
<th>Urban</th>
<th>Urban share</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>49%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>60%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>67%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>40%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>60%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>70%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>80%</td>
<td></td>
</tr>
</tbody>
</table>

Urban population:
- 1950: 1.3bn
- 1960: 2.3bn
- 1970: 3.5bn
- 1980: 5.0bn
- 1990: 6.4bn

Source: UN population division, Airbus
42 Aviation Mega-Cities in 2013

2013 Aviation Mega-Cities

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

Source: McKinsey, UNPD, Airbus GMF

- 42 Aviation Mega-cities
- 0.8M Daily Passengers: Long Haul traffic to/from/via Mega Cities
- 90%+ of long-haul traffic on routes to/from/via 42 cities
- 22% of World GDP in 2013

© AIRBUS all rights reserved. Confidential and proprietary document.
… and 91 Mega-Cities by 2033

2033 Aviation Mega-Cities

91 Aviation Mega-cities

2.2M 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 2013

Source: McKinsey, UNPD, Airbus GMF
The bigger the city, the wealthier the population

2013 Aviation Mega-Cities and 2013 GDP per capita (real 2010 $US, thousands)

GDP per capita in Aviation Mega-Cities

4x

World average

Source: McKinsey, UNPD, IHS Global Insight, Airbus GMF

Other large cities: urban agglomerations with a population above 300,000 people
Routes between Aviation Mega-Cities carry a greater share of premium passengers

Percentage of premium passengers on route types
Based on 2012 Aviation Mega-Cities

- Aviation Mega-City to Aviation Mega-City: 14%
- Aviation Mega-City <> Secondary City: 12%
- Secondary City to Secondary City: 6%

Source: SABRE, Airbus Market Research and Forecasts
Cities with more than 10,000 daily passengers, Long-haul traffic: flight distance >2,000nm, excl. domestic traffic

13% of passengers between AMCs are Premium customers
Airbus Global Market Forecast

A 20 year aircraft demand and passenger traffic forecast

**Market Research**

- Trends Analysis
  - Consumer & Travel Surveys
  - Tourism
  - Migration
  - Traffic flows
  - Passenger demands

- Airlines
  - Business Models
  - Operations
  - Competition
  - Geopolitics

- Governments & Regulators
  - Liberalization/ deregulation
  - Investments and constraints
  - Geopolitics

**Forecast**

- Traffic
  - Economics and Econometrics
  - Fuel costs
  - Yields
  - Load Factors
  - Trade and Value of Goods

- Network Development
  - Route planning
  - Origin and destination demand
  - Population centers

- Fleet trends
  - Aircraft economics
  - Utilization
  - Fleet age and retirements
Around 800 airlines and their subsidiaries are analysed…

Airlines distribution per region

Airlines distribution per type

Installed seats in service (outside circle)
Number of airlines (inside circle)
Despite “ups and down”, GMF traffic forecasts track the long term trend.
Air traffic will double in the next 15 years

Source: ICAO, Airbus GMF 2014

World annual RPK* (trillion)

Source: ICAO, Airbus GMF 2014
Domestic PRC to become number one within 10 years

Billion RPKs

<table>
<thead>
<tr>
<th>Region</th>
<th>20-year annual growth*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic PRC</td>
<td>7.1%</td>
</tr>
<tr>
<td>Domestic USA</td>
<td>1.9%</td>
</tr>
<tr>
<td>Intra Western Europe</td>
<td>2.9%</td>
</tr>
<tr>
<td>Western Europe - USA</td>
<td>2.9%</td>
</tr>
<tr>
<td>Domestic Asia Emerging</td>
<td>6.9%</td>
</tr>
<tr>
<td>Asia Emerging - Western Europe</td>
<td>4.0%</td>
</tr>
<tr>
<td>Domestic India</td>
<td>9.5%</td>
</tr>
<tr>
<td>Indian Sub-Continent - Middle East</td>
<td>6.8%</td>
</tr>
<tr>
<td>Western Europe - Middle East</td>
<td>4.6%</td>
</tr>
<tr>
<td>Domestic Brazil</td>
<td>6.0%</td>
</tr>
<tr>
<td>Western Europe - PRC</td>
<td>5.6%</td>
</tr>
<tr>
<td>PRC - USA</td>
<td>6.6%</td>
</tr>
<tr>
<td>Western Europe - South America</td>
<td>4.3%</td>
</tr>
<tr>
<td>South America - USA</td>
<td>5.3%</td>
</tr>
<tr>
<td>Asia Emerging - PRC</td>
<td>7.5%</td>
</tr>
<tr>
<td>Central Europe - Western Europe</td>
<td>5.4%</td>
</tr>
<tr>
<td>Indian Sub-Continent - USA</td>
<td>6.4%</td>
</tr>
<tr>
<td>Asia Emerging - Middle East</td>
<td>6.8%</td>
</tr>
<tr>
<td>Asia Advanced - Asia Emerging</td>
<td>5.6%</td>
</tr>
<tr>
<td>Sub Sahara Africa - Western Europe</td>
<td>4.3%</td>
</tr>
</tbody>
</table>

* 20-year annual growth rate (CAGR)
Source: Airbus GMF
Asia-Pacific to lead in world traffic by 2033

RPK traffic by airline domicile (billions)

<table>
<thead>
<tr>
<th>Region</th>
<th>2013 Traffic</th>
<th>2014-2033 Traffic</th>
<th>% of 2013 world RPK</th>
<th>20-year growth</th>
<th>% of 2033 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>3.6%</td>
<td>20%</td>
</tr>
<tr>
<td>North America</td>
<td></td>
<td></td>
<td>24%</td>
<td>2.9%</td>
<td>17%</td>
</tr>
<tr>
<td>Middle East</td>
<td></td>
<td></td>
<td>8%</td>
<td>7.1%</td>
<td>13%</td>
</tr>
<tr>
<td>Latin America</td>
<td></td>
<td></td>
<td>5%</td>
<td>5.4%</td>
<td>6%</td>
</tr>
<tr>
<td>CIS</td>
<td></td>
<td></td>
<td>4%</td>
<td>5.4%</td>
<td>5%</td>
</tr>
<tr>
<td>Africa</td>
<td></td>
<td></td>
<td>3%</td>
<td>4.7%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: Airbus GMF 2014
Demand for around 31,400 new aircraft

Fleet in service evolution; 2014-2033

- 18,500 Aircraft in service at Beginning 2014
- 37,500 Aircraft in service in 2033
- 19,000 Growth
- 12,400 Replacement
- 6,100 Stay in service

Growth: +3.7% per annum

Source: Airbus

Note: Passenger aircraft ≥100 seats, Freighter aircraft ≥10 tonnes
Airbus order backlog by region vs. 20 year market forecast

<table>
<thead>
<tr>
<th>Region</th>
<th>Backlog</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>12%</td>
<td>19%</td>
</tr>
<tr>
<td>Latin America</td>
<td>5%</td>
<td>7%</td>
</tr>
<tr>
<td>Europe &amp; CIS</td>
<td>17%</td>
<td>24%</td>
</tr>
<tr>
<td>Middle East</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>Africa</td>
<td>1%</td>
<td>3%</td>
</tr>
<tr>
<td>Asia Pacific</td>
<td>27%</td>
<td>40%</td>
</tr>
<tr>
<td>Lessors</td>
<td>20%</td>
<td></td>
</tr>
</tbody>
</table>

Backlog - 6,386 aircraft worth over $850 billion

At end December 2014. Values are rounded. Does not include orders from undisclosed customers.
Backlog today extends 3 to 4 years further in time than before

Share of backlog delivered/scheduled to be delivered

- 40% of the backlog is for delivery beyond 5 years
- In 2003, this value was 5%

Source: Airbus analysis from ASCEND database

Aircraft above 100 seats
Each year, deliveries represent on average 7% of the in service fleet.

Deliveries as % of fleet

- Estimated ratio for 2015-2018 deliveries is 7.6% of the in-service fleet.

Source: Airbus analysis from ASCEND database

Aircraft >= 100 seats
Share of Open Demand over total demand forecast per region*

- Asia-Pacific: 76%
- Asia: 62%
- PRC: 90%
- Indian Subcontinent: 75%
- Pacific: 73%
- Middle-East: 56%
- CIS: 68%
- Europe: 71%
- North America: 68%

(*) Aircraft >= 100 seats

Source: Airbus GMF 2014
Summary

• **Strong growth in passenger traffic** – resilient growth through a difficult, but improving economic period

• **Demand for 31,400 new aircraft by 2033** – ~30,600 passenger aircraft and nearly 800 freighter aircraft

• **Replacement of ageing fleets** – 20 year demand for 12,400 passenger aircraft for replacement, largely in the single-aisle segment

• **Single-aisle aircraft represent 70% of demand in units, but wide-body aircraft represent 55% of value**

• **VLA demand driven by aviation mega-cities** – more than 95%+ of all long-haul passengers will fly to, from or through 91 aviation mega-cities by 2033