Agenda

Market performance and trends
Current Market Outlook (CMO)
Global market performance 2010 – 2015

- Passenger traffic growth: 6.0%
- Cargo traffic growth: 1.6%
- Airline profits: $96B
2016 global market expectations

- **Passenger traffic growth**: 6%
- **Cargo traffic growth**: 2-3%
- **Airline profits**: $39B

**SOURCES:** Boeing estimates for growth, IATA forecast for airline profits
Global aviation market trends

Growth driven by emerging economies, LCCs

Continued strong replacement demand

New airplanes, capabilities opening new markets
<table>
<thead>
<tr>
<th></th>
<th>GDP growth 2015-2035</th>
<th>GDP contributions 2015-2035</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emerging Markets and China</td>
<td>4.3%</td>
<td>$35 trillion</td>
</tr>
<tr>
<td>Advanced Economies</td>
<td>1.8%</td>
<td>$20 trillion</td>
</tr>
</tbody>
</table>
LCCs taking >1/3 of new single-aisle deliveries

Single-aisle airplane fleet

- **2015**
  - LCC: 25%
  - Charter/IT: 4%
  - Broad Network: 44%

- **2025**
  - LCC: 25%
  - Charter/IT: 4%
  - Broad Network: 41%

- **2035**
  - LCC: 26%
  - Charter/IT: 4%
  - Broad Network: 37%
  - Other Networks: 33%

*SOURCE: Boeing CMOs*
Replacement demand increasing

Single-aisle
Excludes >700 airplanes older than 25 years

Twin-aisle
Excludes >300 airplanes older than 25 years
787 Dreamliner opening new markets

>100 new nonstop markets now connected with the 787

As of June 24, 2016
Agenda

Market performance and trends

Current Market Outlook (CMO)

Products and customers
What’s in the CMO?

20-year forecast
- Traffic
- Product

Global coverage
- 63 traffic flows

All jets >30 seats
- No turbo props
- No biz jets
- No military

Freighters

All flights
- Scheduled
- Nonscheduled
Why the CMO?

- Product strategy
- Long-range business plan
- Suppliers and airline customers
Market forecast drivers and considerations

- Economic growth
- Market liberalization
- Emerging markets
- Competitive landscape
- Infrastructure
- Environment
- Fuel price
- Airline strategies & business models
- Airplane capabilities
- Economic growth
Resilient, growing market expected to continue

5% long-term growth rate

RPKs = Revenue Passenger Kilometers
SOURCE: ICAO scheduled traffic
20-year forecast: continued long-term growth

Average annual growth rates

- World economy (GDP): 2.9%
- Number of airline passengers: 4.0%
- Passenger traffic (RPK): 4.8%
- Cargo traffic (RTK): 4.2%
Airlines need 39,620 new airplanes valued at $5.9 trillion

Airplane deliveries: 39,620

<table>
<thead>
<tr>
<th>Airplane Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional jets</td>
<td>$110B</td>
</tr>
<tr>
<td>Single-aisle</td>
<td>$3,000B</td>
</tr>
<tr>
<td>Small wide-body</td>
<td>$1,350B</td>
</tr>
<tr>
<td>Medium wide-body</td>
<td>$1,250B</td>
</tr>
<tr>
<td>Large wide-body</td>
<td>$220B</td>
</tr>
<tr>
<td>World Total</td>
<td>$5,930B</td>
</tr>
</tbody>
</table>

Market value: $5,930B

NOTE: market share may not equal 100% due to rounding
World fleet will double

- Retained fleet: 5,620
- Replacement: 16,890
- Growth: 22,730

2015 - 2035

Units
50,000
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0

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Emerging markets are driving economic growth

<table>
<thead>
<tr>
<th>Region</th>
<th>Annual GDP growth, 2015 – 2035</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td>4.1</td>
</tr>
<tr>
<td>Middle East</td>
<td>3.8</td>
</tr>
<tr>
<td>Africa</td>
<td>3.7</td>
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<tr>
<td>Latin America</td>
<td>2.9</td>
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<tr>
<td>World</td>
<td>2.9</td>
</tr>
<tr>
<td>CIS</td>
<td>2.5</td>
</tr>
<tr>
<td>North America</td>
<td>2.3</td>
</tr>
<tr>
<td>Europe</td>
<td>1.8</td>
</tr>
</tbody>
</table>

SOURCE: IHS Economics
### Air travel growth varies by market

<table>
<thead>
<tr>
<th>Region</th>
<th>2015 Traffic</th>
<th>Added Traffic 2016-2035</th>
<th>Annual Growth %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within Asia*</td>
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<tr>
<td>Within China</td>
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<tr>
<td>Within North America</td>
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<tr>
<td>Within Europe</td>
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<td></td>
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<tr>
<td>Middle East - Asia</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Europe - Asia</td>
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<tr>
<td>North Atlantic</td>
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<tr>
<td>Transpacific</td>
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<tr>
<td>North America - Latin America</td>
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<tr>
<td>Within Latin America</td>
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<tr>
<td>Within/to CIS</td>
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<tr>
<td>Europe - Latin America</td>
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<tr>
<td>Africa - Europe</td>
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</tbody>
</table>

#### Traffic Growth:
- **World Traffic Growth:** 4.8%
- **World GDP Growth:** 2.9%

*Does NOT include travel within China*
Market to become even more geographically balanced

New airplane deliveries by region
2016–2035
Region | Airplanes
--- | ---
Asia | 15,130
North America | 8,330
Europe | 7,570
Middle East | 3,310
Latin America | 2,960
C.I.S. | 1,170
Africa | 1,150
World Total | 39,620

Market value by region
2016–2035
Region | $B
--- | ---
Asia | 2,350
North America | 1,030
Europe | 1,120
Middle East | 770
Latin America | 350
C.I.S. | 140
Africa | 170
World Total | $5,930B

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Airlines will need 28,140 single-aisles valued at $3 trillion to 2035.

**Share of fleet**

- 2015 Airplanes: 14,870
- 2035 Airplanes: 32,280

**Delivery units**

- Asia: 40%
- Europe: 21%
- North America: 19%
- Latin America: 9%
- Middle East: 5%
- Africa: 3%
- C.I.S.: 3%
Single-aisle seat capacity growing at ~1% per year

Average single-aisle seat capacity

- Market
- LCC

~1% annually across both categories.
Single-aisle seating capacity increasing

Fast growing LCCs

Improved cabin efficiencies

Modest upgauging
Medium-size aircraft are at heart of single-aisle market

76%

Small – MAX 7 size

Backlog

Medium – MAX 8 size

19%

Large – MAX 9 size

5%

SOURCE: Ascend Online Data June 28, 2016
All passenger jet airplanes >110 seats in commercial use

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Airlines will need 9,100 wide-bodies valued at $2.8 trillion.

**Share of fleet**

- **2015 Airplanes**: 5,040
- **2035 Airplanes**: 10,450

**Delivery units**

- **Asia**: 41%
- **North America**: 15%
- **Europe**: 17%
- **Middle East**: 19%
- **Latin America**: 3%
- **C.I.S.**: 2%
- **Africa**: 3%
In 1990, >30 routes to/from Tokyo were served by large airplanes

SOURCE: OAG / Innovata
In 2016, only 8 routes to / from Tokyo served by large airplanes

SOURCE: OAG / Innovata
Shift from large to smaller wide-bodies

30% of fleet

11% of fleet

747
A380
777
A340
MD11
787
A330
A350-900
767
A300/A310

SOURCE: Ascend commercial passenger widebody fleet in service at year-end
Market summary

Market remains resilient, long-term growth continues
Single-aisle stays fastest growing segment
Wide-body fleet will double