Global Market Forecast

Air Cargo Market Outlook

Overview of the Airbus Cargo Global Market Forecast 2014-2033
Recent years have not been kind to air cargo

Drop in air freight demand
Air freight overcapacity
More than 90 large freighters grounded
High fuel price
Declining yields

However cargo traffic growth is coming back!

...but today the air freight industry is growing again

**Monthly air freight evolution**

Billion FTKs (Freight tonne kilometres)

Air freight volumes just reached again the 2011 peak

**Growth drivers:**
- Regional traffic
- Express traffic
- Emerging economies

2014 growth rate estimate: **4.7%**

Source: Seabury, IATA, Airbus
Time sensitive express goods proved more resilient to the crisis

International air freight growth
year-over-year evolution (%)

Express Cargo grew 50% in 7 years
- General cargo stagnated in the last 7 years

Source: Seabury
Freight traffic growth and GDP are closely linked

GDP and FTKs year on year growth evolution

2014 YoY growth (estimates)

GDP 2.6%
FTK 4.7%

Together traffic and world GDP are recovering

Source: DOT, IATA, IHS Global Insight
World GDP is set to nearly double over 20 years

Total worldwide GDP evolution
Real in $US trillion

Distribution of worldwide GDP

Emerging economies will account for almost half of world GDP in 2033

Source: IHS Global Insight
World trade shows continuous signs of improvement

World trade is driven by emerging markets, which are experiencing solid growth momentum.

Source: ICAO, IATA, Airbus
World trade is set to more than double by 2033

Total world international trade evolution (Trillion $US)

In the future, the traditional air cargo trade links will further diversify

World trade will grow on average 4.3% over the next 20 years – Emerging countries’ trade to almost triple over the next 20 years

Source: IHS Global Insight, Airbus, Seabury
New trade links will alter the current trunk routes

World trade in 2013 and 2033 by region

<table>
<thead>
<tr>
<th>Region</th>
<th>2013 trade</th>
<th>2033 trade</th>
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<tbody>
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<td>Asia/Pacific</td>
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<td>Middle East</td>
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Traffic within Asia-Pacific will be equivalent to PRC-North America flow – Latin America and Africa will also drive growth

Geographic locations for supply and demand will be different – traffic and cargo capacity will follow

Source: IHS Global Insight
Africa, Middle East and Latin America to lead growth along with Asia-Pacific

GDP growth rate, historical and forecast

- Mature economies’ GDP to grow at **2.1%**
- Rest of the world to grow at **4.8%**

Asymmetric economic growth will alter cargo traffic

Source: IHS Global Insight, Airbus
Global supply: production centres will shift even further into emerging economies

In the future, air cargo traffic between production centres will be redefined

Further outsourcing of production to low labour cost countries
- More market fragmentation will be experienced
- New routes will add to traditional East-West trunk routes

Source: IHS Global Insight, Airbus
Global demand: purchasing power will follow suit

**Global Middle Class**
(Millions of people)

- **2013**
  - North America: 1,413
  - Europe: 264
  - Emerging countries: 2,356

- **2033**
  - North America: 252
  - Europe: 673
  - Emerging countries: 4,450

- **World Population**
  - 2013: 7,200
  - 2033: 8,500

- **% of world population**
  - 2013: 33%
  - 2033: 63%

**Source:** Kharas and Gertz, Airbus

Middle-class: Households with daily expenditures between $10 and $100 per person (at PPP)

Middle class in mature economies will stagnate
- Middle class in emerging countries will triple
Emerging economies are not only located in Asia-Pacific

Population in emerging countries in 2014

- Asia-Pacific: 3500 million people
- Africa: 430 million people
- Eastern Europe & CIS: 380 million people
- Middle East: 60 million people
- Latin America: 500 million people

Growing population and consumption will drive trade and air freight

Source: IHS Global Insight, Airbus
GMF freight forecast overview

• 20 years freighter aircraft demand forecast of jet freighters over 10 tonnes
• Traffic forecast modeling 150 distinct traffic flows
• Fleet build-ups covering 197 freight carriers

• Freighters fleet divided in 3 segments:
  • Small jet freighters: 10-30 tonnes
  • Mid-size freighters: 30-80 tonnes
  • Large freighters: >80 tonnes

Source: Airbus GMF 2014
4.5% world FTK growth, driven by the strong traffic growth of emerging countries

Freight traffic growth, domestic + international
FTKs (billions)

Future traffic with emerging economies will alter today’s freighter fleets and networks

Source: Airbus GMF 2014
Belly capacity to capture market shares over main deck

Worldwide share of belly vs dedicated cargo traffic
Estimates FTKs (billion)

Due to the faster expansion of passenger traffic, belly capacity will capture market shares - Impact is mainly on long haul flows and larger freighters

Source: Airbus GMF 2014
**Belly shift will impact particularly long haul flows**

### Share of belly vs dedicated cargo traffic

*Estimated FTKs (billion)*

#### Short haul
- 1,500nm
- **Cargo growth 3.4% p.a.**
- **Belly growth 3.6% p.a.**

#### Medium haul
- 1,500nm & <5,000nm
- **Cargo growth 4.8% p.a.**
- **Belly growth 4.9% p.a.**

#### Long Haul
- >5,000nm
- **Cargo growth 4.7% p.a.**
- **Belly growth 5.6% p.a.**
Freighter fleet will increase to almost 2700 aircraft over 20 years

55% of deliveries are for replacement – Future fleet will be a mix of new built and converted freighters

Source: Airbus GMF 2014
The future freighter fleet distribution will reflect the growing influence of emerging markets.

World fleet

2033: 2645
2014: 1605

North America fleet is mainly a replacement market

Europe & CIS

452
337

Asia Pacific fleet is set to triple as growth market

798
303

North America

775
709

Latin America

162
74

Middle East

67
170

Africa

86
49

Source: Airbus GMF 2014, ASCEND
800 new built freighters to be delivered over the next 20 years

Freighter deliveries over the next 20 years

Mid-size drivers
- Replacement for: US, EU
- Large growth in Asia Pacific
- New routes in Middle East, Latin America, Africa

Large freighters will face increasing competition from belly capacity

Source: Airbus GMF 2014
## Airbus 2014 forecast key numbers

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<thead>
<tr>
<th></th>
<th>20 year annual FTK growth</th>
<th>20 year demand for aircraft deliveries</th>
<th>Business volume for new freighters</th>
<th>Proportion of future freighters</th>
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<tr>
<td>20 year annual FTK growth</td>
<td>4.5%</td>
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<td>New</td>
<td>803</td>
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<td>Total</td>
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<td>Source: Airbus GMF 2014</td>
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Airbus recognises the need for mid-size freighters

Nearly 50% of all freighters will be mid-size

The A330-200F is the most modern mid-size freighter on the market

A330 Freighters: From short, regional express routes to long haul general cargo
The A330F concept:
Connecting diverse economies with diverse networks

204,447
flight hours

59,614
take-offs

99.5%
reliability

Flying East-West, North-South, long-haul, short-haul, regional operations and to new markets

Source: Airbus (Data up to September 2014 OR = >15’ delays + Cancellations + Diversions + IFTBs)
Today’s large freighters only work on the heaviest trade lanes

Costs per tonne carried

As the global economy changes shape, airlines must adapt their capacity and network

Large freighters need high demand and payloads all year

Mid-size freighters are more efficient when fuel, demand or yields fluctuate

COC*: Cash Operating Costs - Includes Fuel, Maintenance, Nav&Landing fees, Crew costs 3,000nm sector – JAR 5% flight profile
The ‘one-type-fits-all’ air cargo model no longer works

100t+ freighters
- For a limited number of high demand trunk routes
- **Challenged by growing belly lift on longer hauls**

Mid-sized freighters
- When belly cargo is non existent or insufficient
- For diversified networks
- A flexible option for a changing industry

Belly cargo
- Basic cargo offering: limited cost, limited risk
- Growing available capacity on long haul trunk routes