



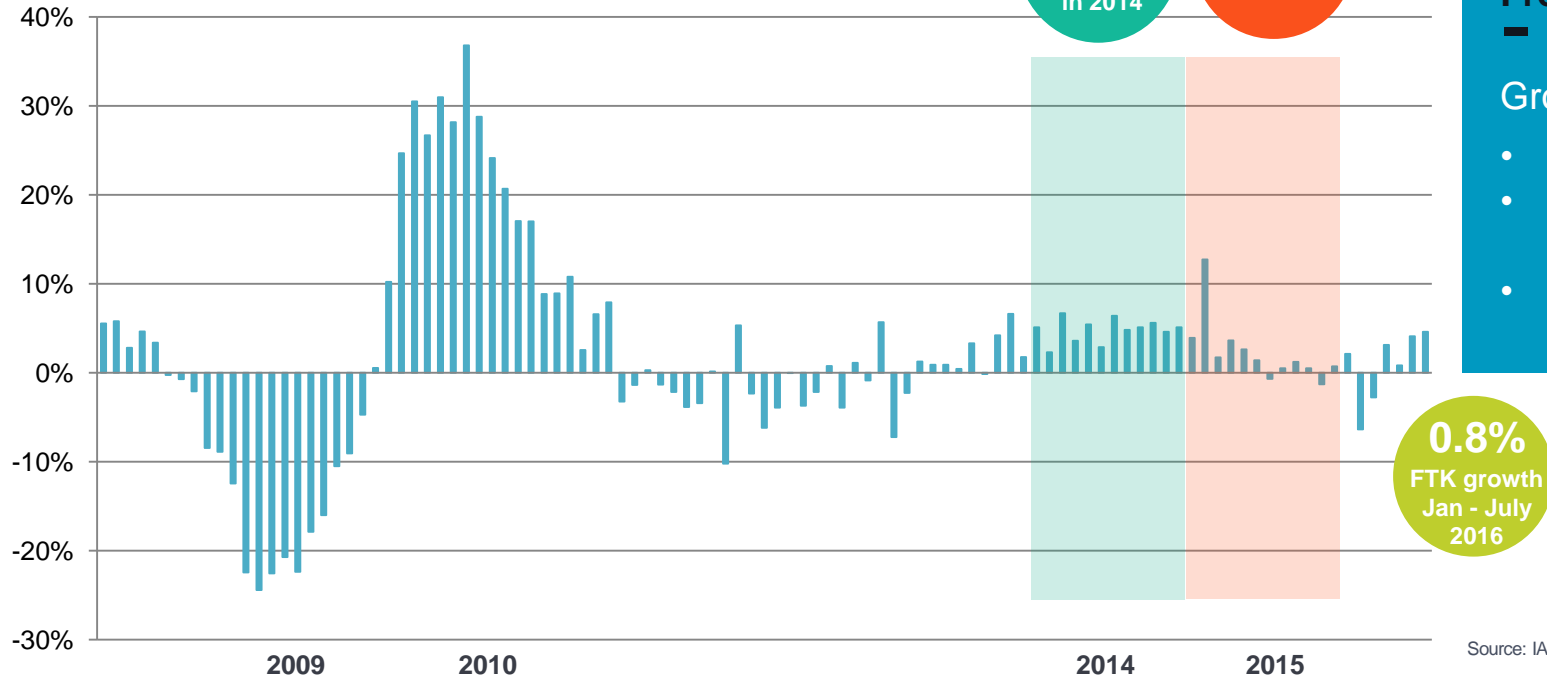
O. von Tronchin
Head of Freighter Marketing
Airbus

Airbus
General Market
Forecast 2016 – Cargo
Payload Asia – Maindeck

Air freight traffic evolution – growing slowly

Monthly YoY air freight traffic evolution

FTK% (Freight tonne kilometers)



Freight traffic

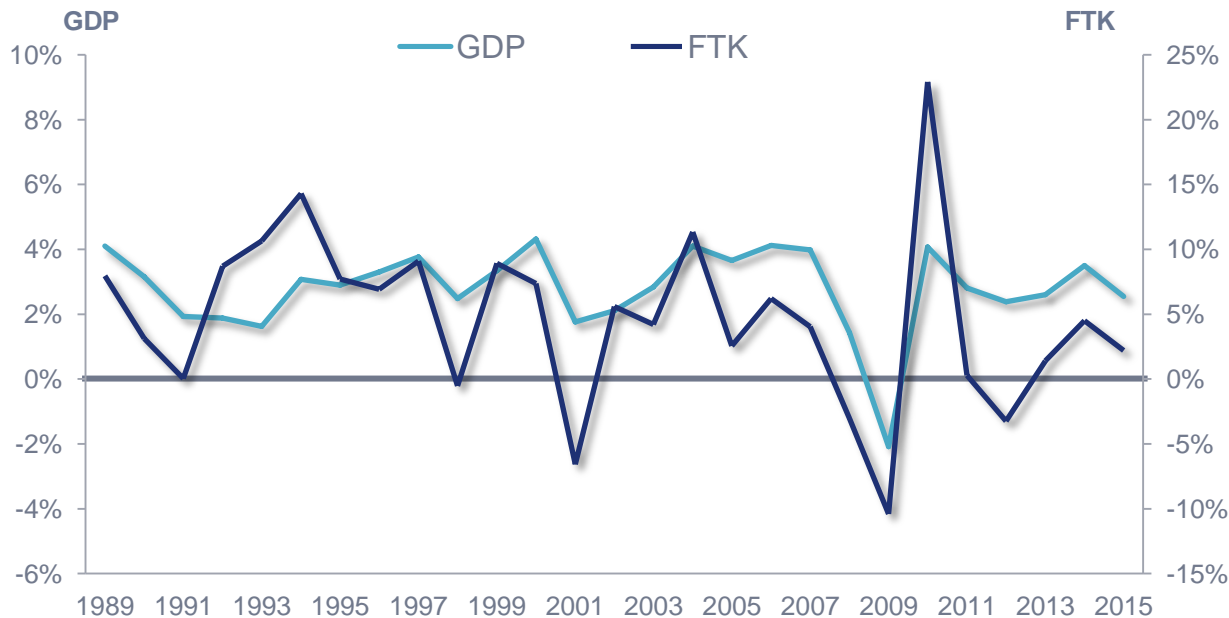
Growth drivers:

- Regional traffic
- Emerging economies
- Express traffic

Source: IATA

Freight traffic growth and GDP are closely linked

GDP and FTKs year on year growth



Source: Seabury, IATA, IHS Economics, Airbus

2015 YoY growth

GDP 2.5 %

FTK 2.2%

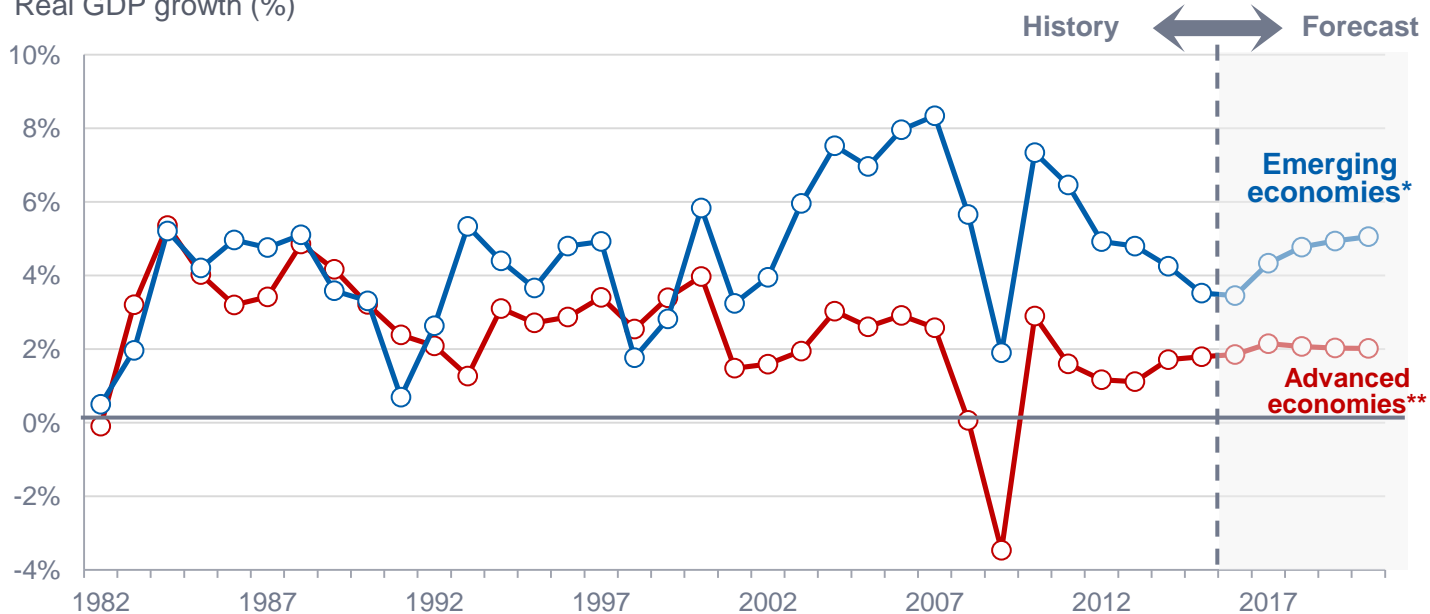
Traffic and world GDP continue to grow

By 2035:
World GDP is set to double

A two speed economic world

Comparison of year-over-year GDP growth

Real GDP growth (%)



* 54 emerging economies; ** 32 advanced economies

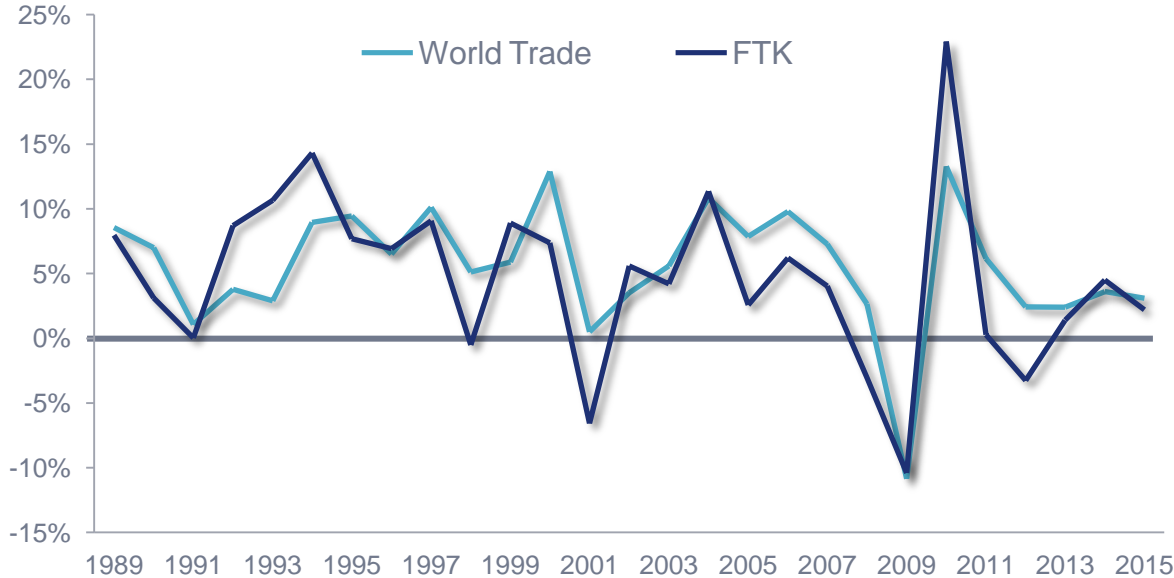
Source: IHS Economics, Airbus

GDP growth

Emerging economies grow more than twice as fast

World trade growth is closely linked to freight traffic

World trade and FTKs year on year growth



World trade

Close correlation to freight traffic

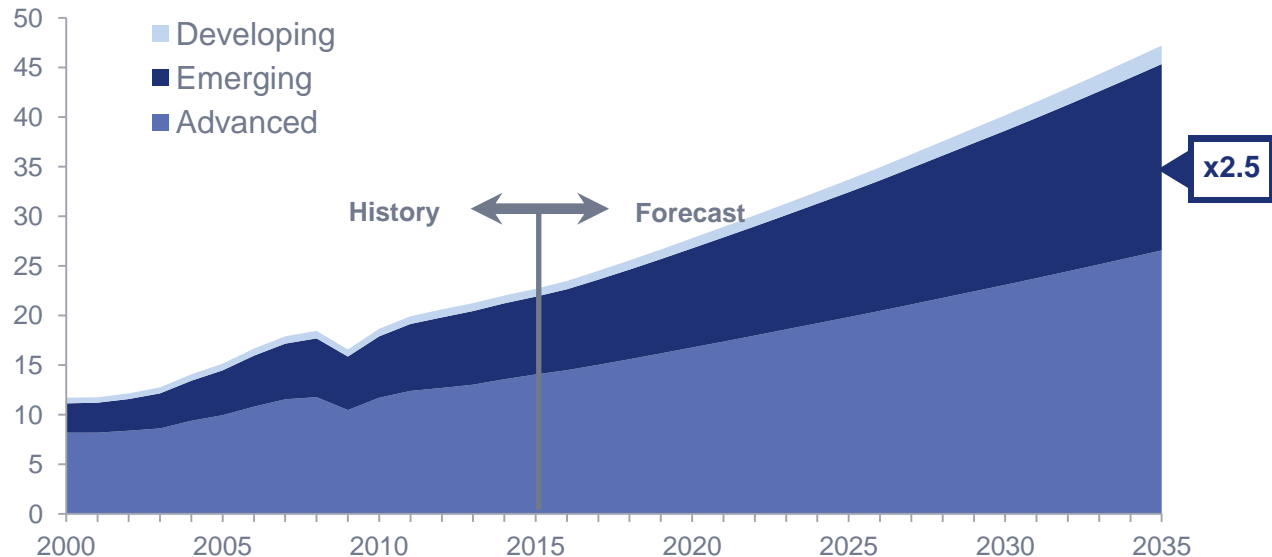
Trade growth stagnating since 2011

Source: Seabury, IATA, IHS Economics, Airbus

World trade is set to more than double over 20 years

Total international world trade evolution

Trillion \$US



World trade will grow on average **3.7%** over the next 20 years

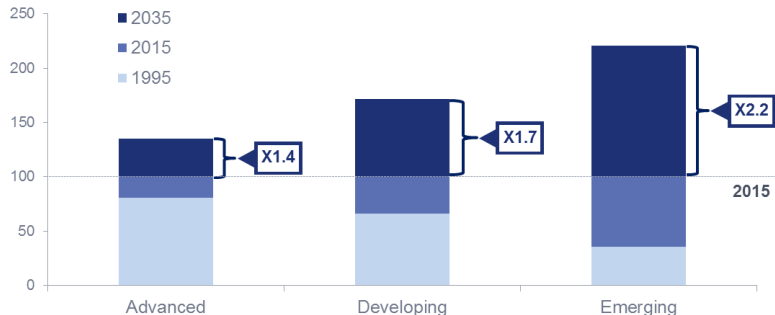
Emerging countries' trade to grow **2.5 times** over the next 20 years

Source: IHS Economics, Airbus

Industrial production and the middle class in emerging countries will double

Industrial production by market

Index base year 2015 = 100

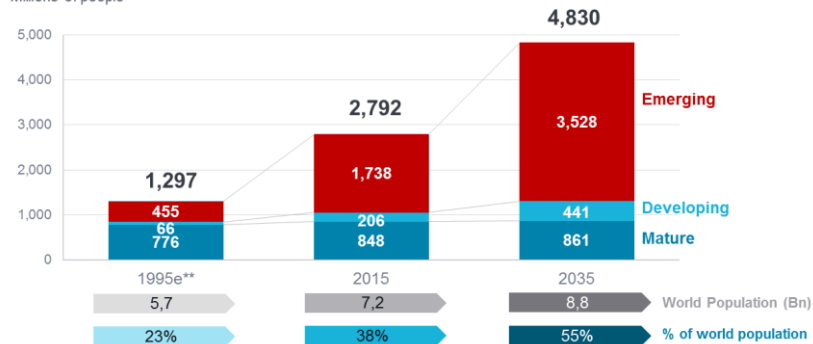


Outsourcing of production to low labour cost countries will lead to further route fragmentation

Middle class in emerging countries to double

Global Middle Class*

Millions of people



Middle class

Private consumption will drive e-commerce

GMF freight forecast overview

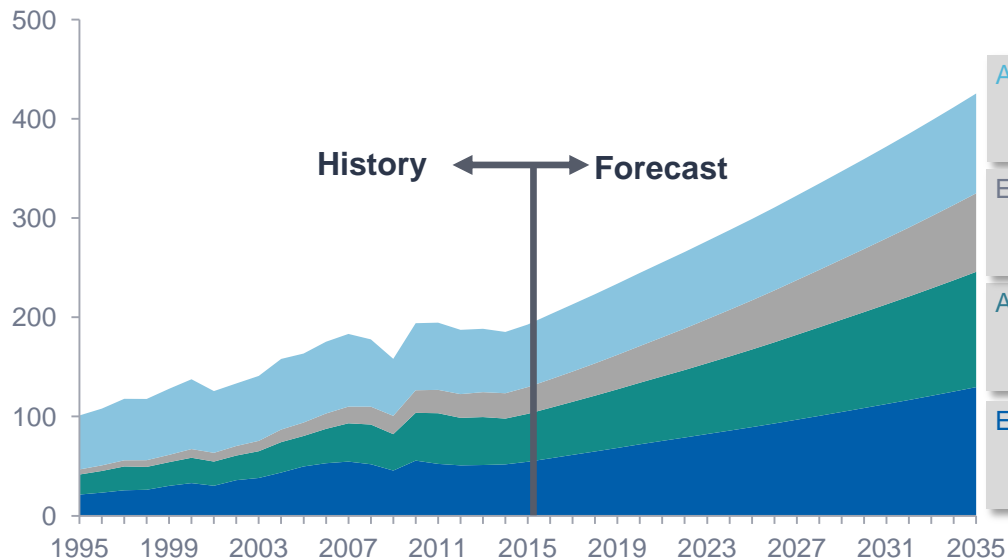
- **20 years freighter aircraft demand forecast of jet freighters over 10 tonnes**
- **Traffic forecast modeling 150 distinct traffic flows**
- **Fleet build-ups covering ~200 freight carriers**
- **Freighters fleet divided in 3 segments:**
 - **Small jet freighters: 10-30 tonnes**
 - **Mid-size freighters: 30-80 tonnes**
 - **Large freighters: >80 tonnes**

Source: Airbus GMF 2016

World FTK will grow by 4.0%, driven by the strong traffic growth of emerging countries

Freight traffic growth, domestic + international

FTKs (billions)



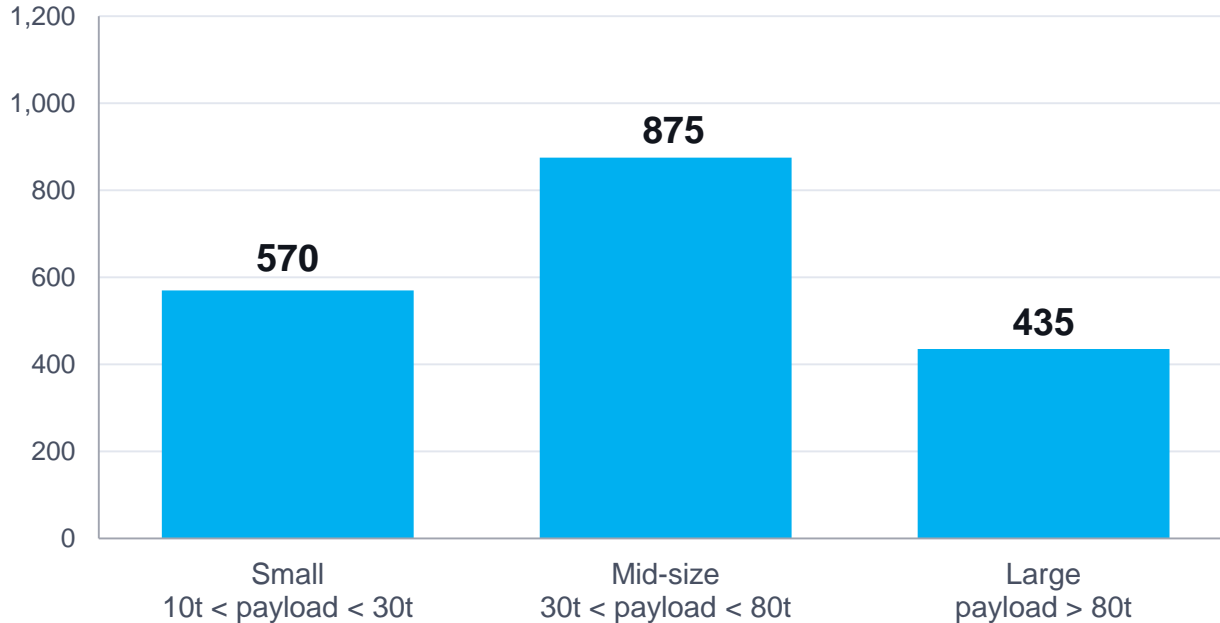
20 year world
annual FTK growth

4.0 %

Total traffic growth
for main deck and
belly

1,880 additional freighters required
650 new built freighters to be delivered over the next 20 years

Freighter deliveries over the next 20 years



Market drivers

Replacement for
US and Europe

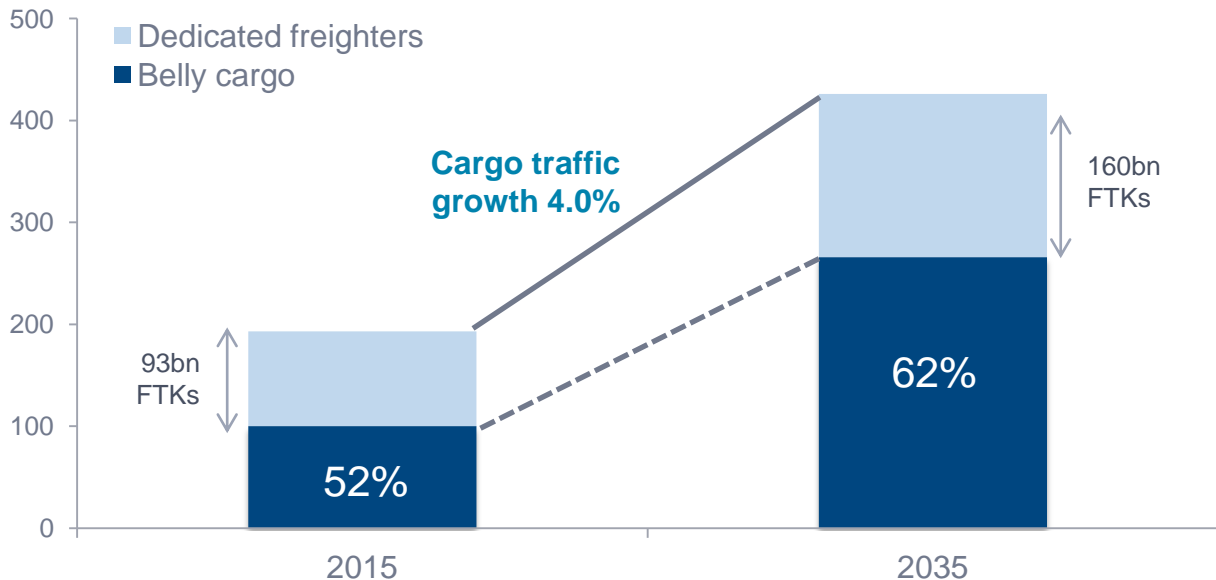
Large growth in
Asia Pacific

New routes in
Middle East, Latin
America, Africa

Belly capacity will capture more market share from main deck freighters

Worldwide share of belly vs dedicated cargo traffic

Estimates FTKs (billion)



Belly capacity

4.6% RPK growth

8,900 new widebody passenger aircraft

Impact is mainly on long haul flows

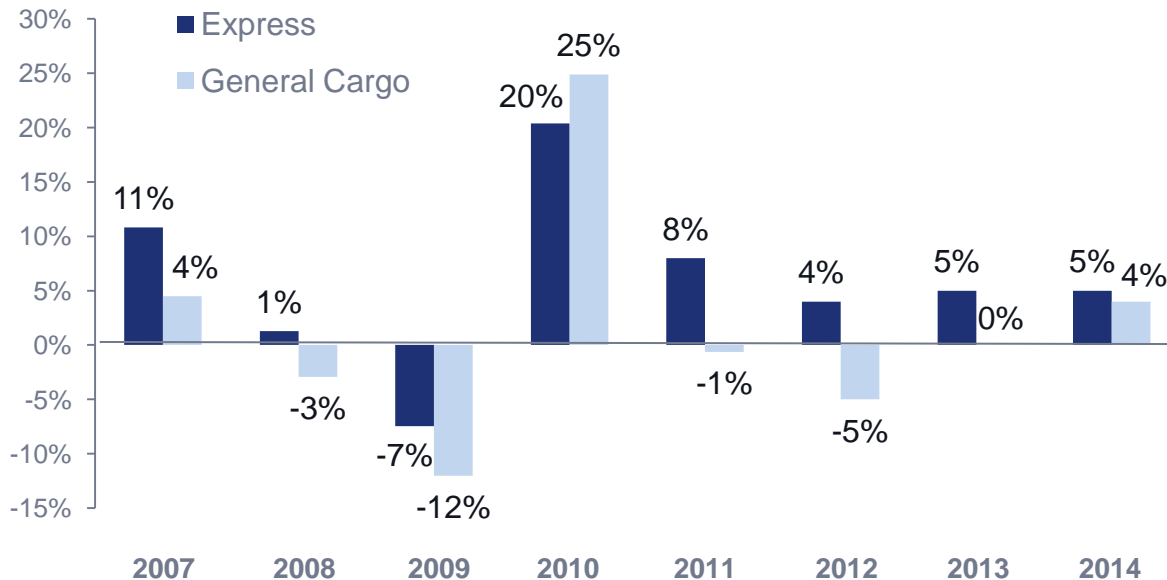
Main assumption:
Belly load factors remain stable

Source: Airbus GMF 2016

Express freight is taking market share away from general freight

International air freight growth

Year-over-year evolution (%)



**Express vs.
General cargo**

Over the last 8
years

**Express cargo
grew 55%**

General cargo
8%

Source: Seabury

Airbus - A busy ten years for freighters

Programs launched

2007



A330-200F

2012



A330P2F (-200/-300)

2015



A320P2F (A320/A321)

Over the last ten years 3 new freighter programs launched

Entry Into Service

2010

A330-200F

2017

A330-300P2F

2018

A330-200P2F

2018

A321P2F

2019

A320P2F

Airbus Freighters

Over the next 4 years:

4 new freighter products will enter service

Summary – Maindeck freighter market

20 year annual
FTK growth

4.0%

20 year demand for
aircraft deliveries

Total **1881**
New **646**

Business volume
for new freighters

\$**185**_{bn}

Proportion of future
freighters

Small **22%**
Mid-size **45%**
Large **33%**

Source: Airbus GMF 2016

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