

# NAVIGATING THE FUTURE

## Global Market Forecast 2012-2031


Presented by: JOHN LEAHY  
COO, Customers



AIRBUS

# Global Market Forecast 2012: Highlights

## GMF 2012 key numbers and 20-year change



World Fleet Forecast	2011	<b>2031</b>	% Change
RPK (trillions)	5.1	<b>12.8</b>	150%
Passenger aircraft fleet	15,560	<b>32,550</b>	109%
New passenger aircraft deliveries		<b>27,350</b>	
Dedicated freighters	1,620	<b>2,940</b>	82%
New freighter aircraft deliveries		<b>850</b>	

**Total New Aircraft Deliveries**

**28,200**

**Market value of \$4 trillion**

Passenger aircraft ≥100 seats, Freight aircraft ≥10t

Source: Airbus GMF

# 20-year demand for 28,200 new passenger and freight aircraft

20-year new deliveries of passenger and freight aircraft



**19,520** single-aisle aircraft  
+353 aircraft over GMF 2011



**6,970** twin-aisle aircraft  
+60 aircraft



**1,710** very large aircraft  
+30 aircraft

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**28,200** new aircraft  
+443 aircraft

Passenger aircraft (≥ 100 seats)

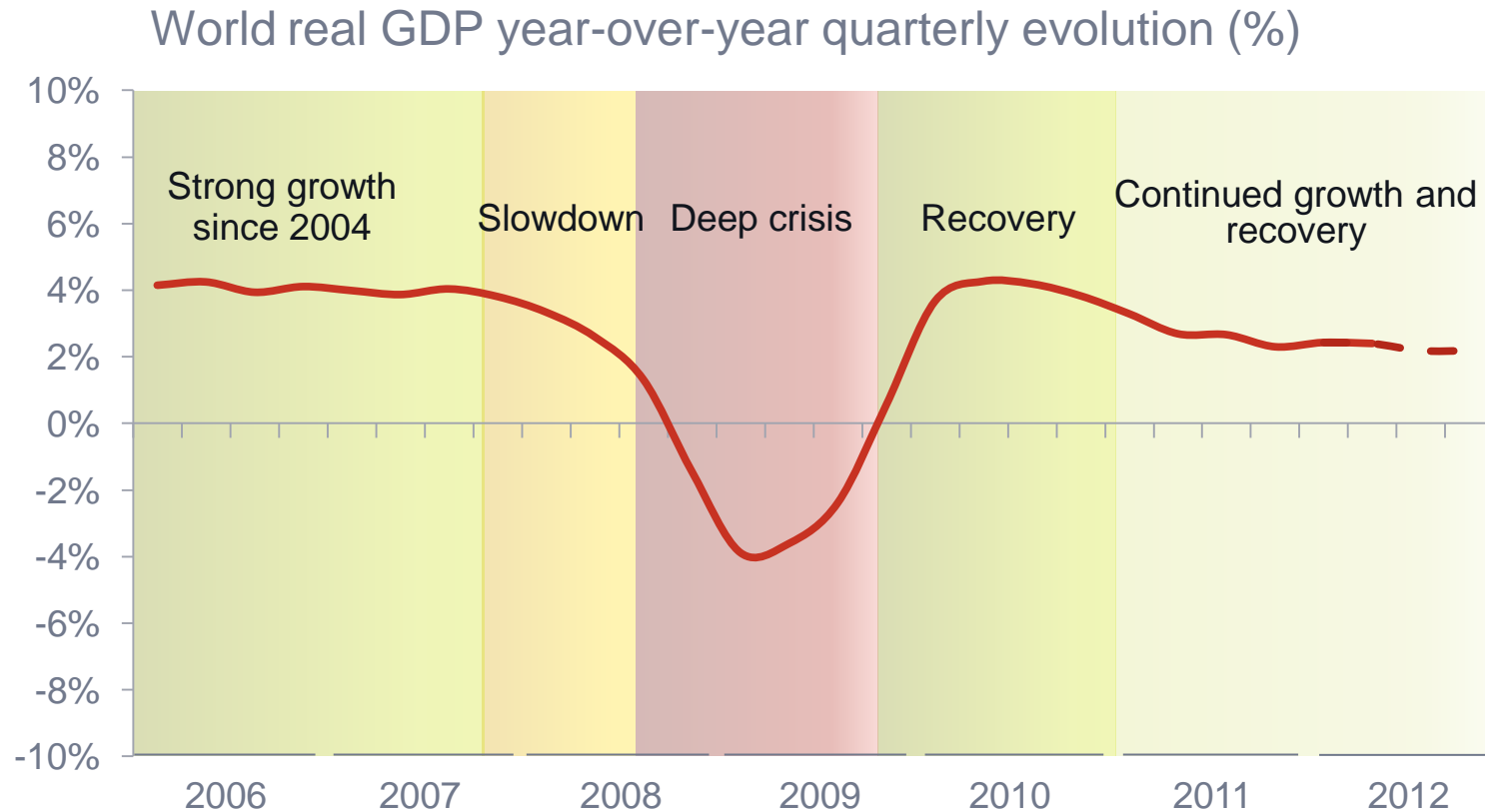
Jet freight aircraft (>10 tons)

**Market value of \$4 trillion**

Source: Airbus GMF



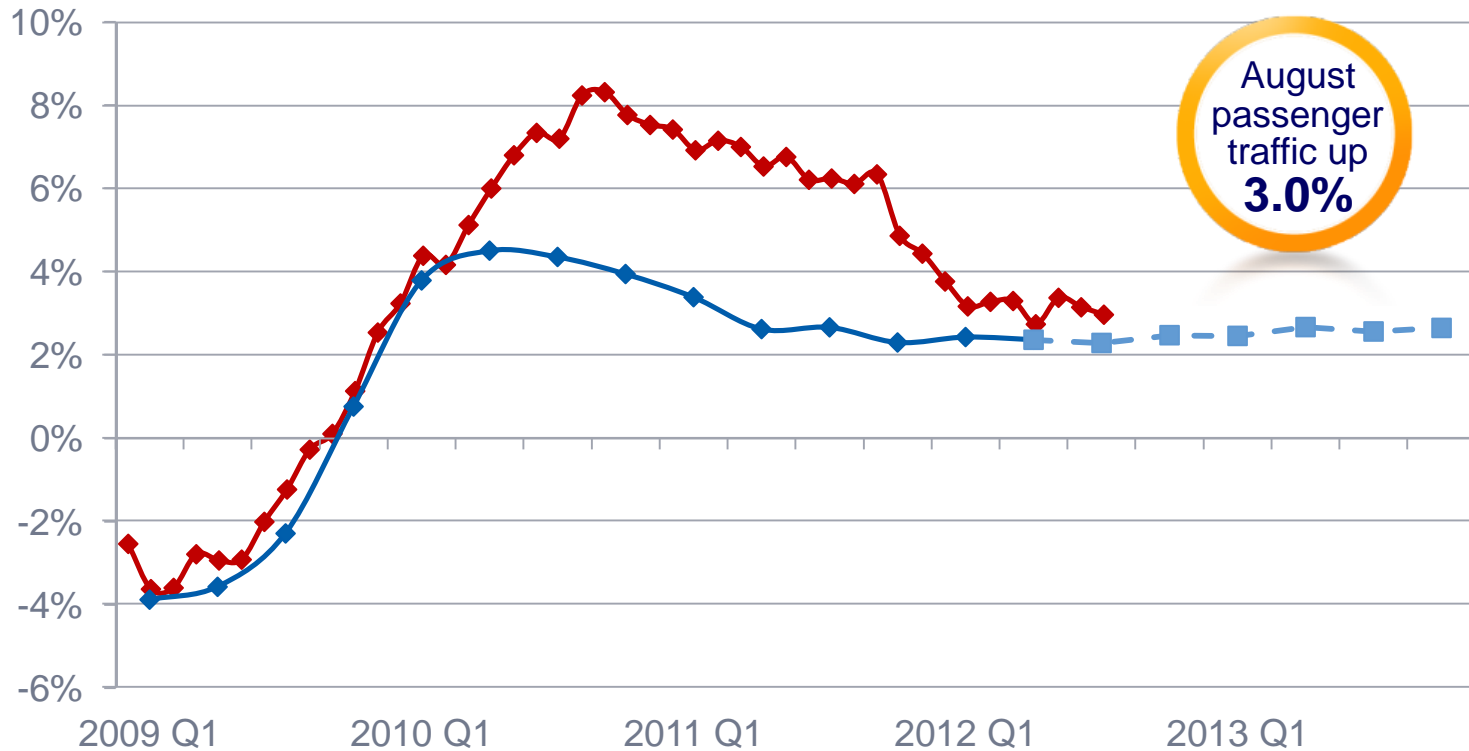
# Continued economic uncertainties leading to lower growth in 2011-2012



**The depth of this crisis and ancillary economic factors  
have resulted in slower than expected growth**

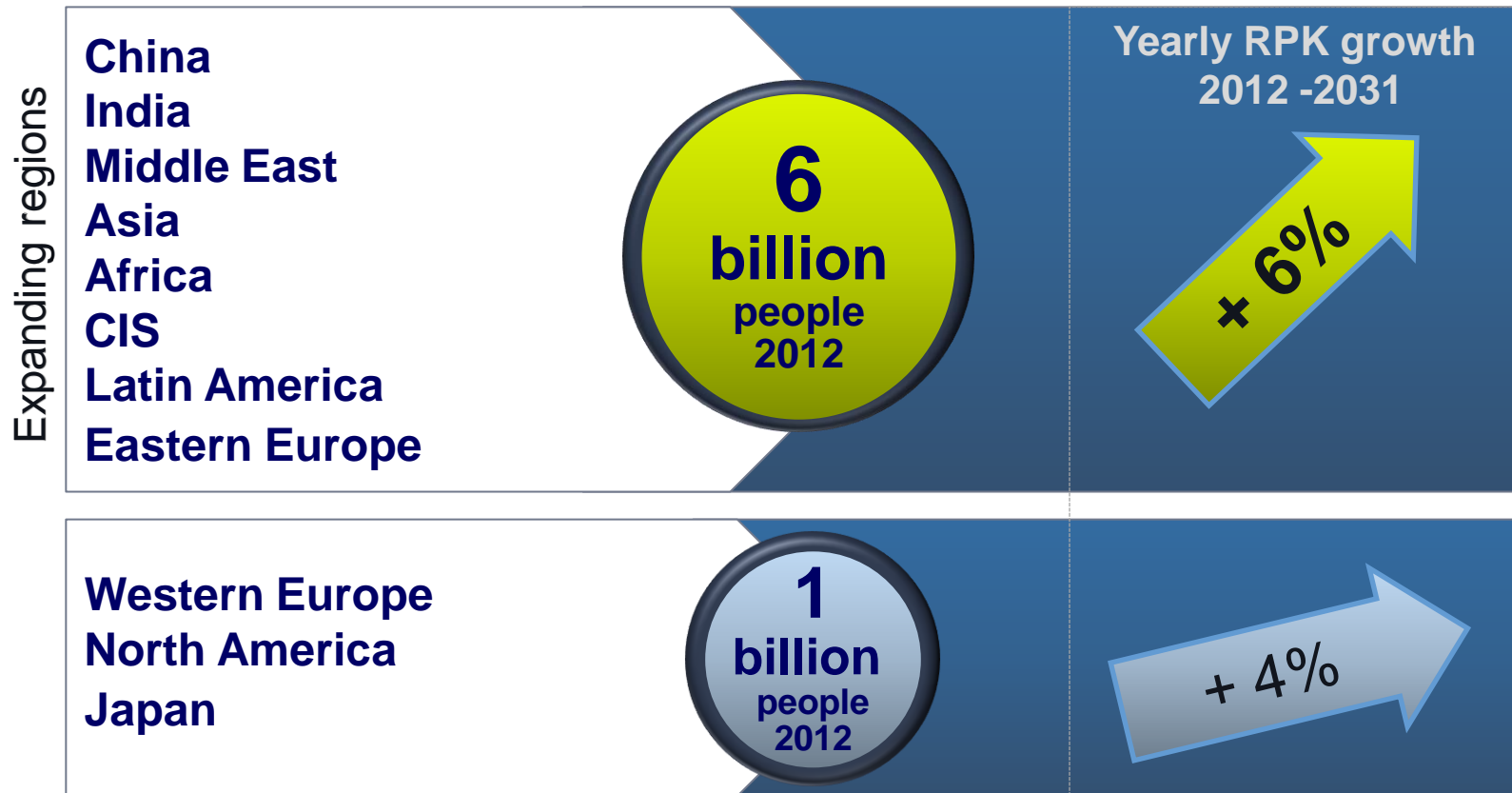
# After a strong recovery, ASK traffic now growing at a slower pace

World ASK year-on-year growth rate (monthly) vs. GDP year-on-year growth rate (quarterly)



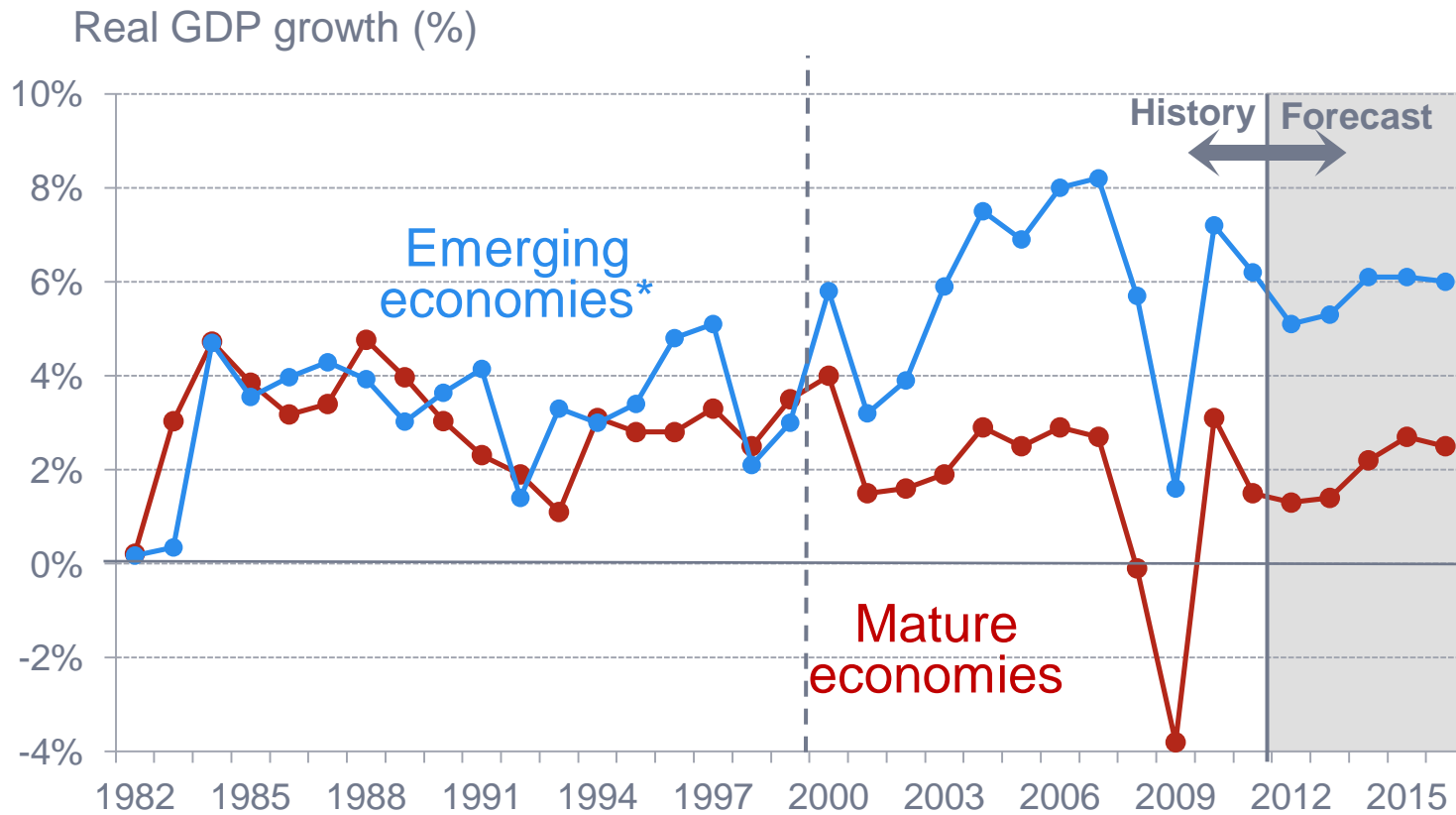
Source: IHS Global Insight, OAG, Airbus

# Air transport growth is highest in expanding regions



Billions of people will increasingly want to travel by air

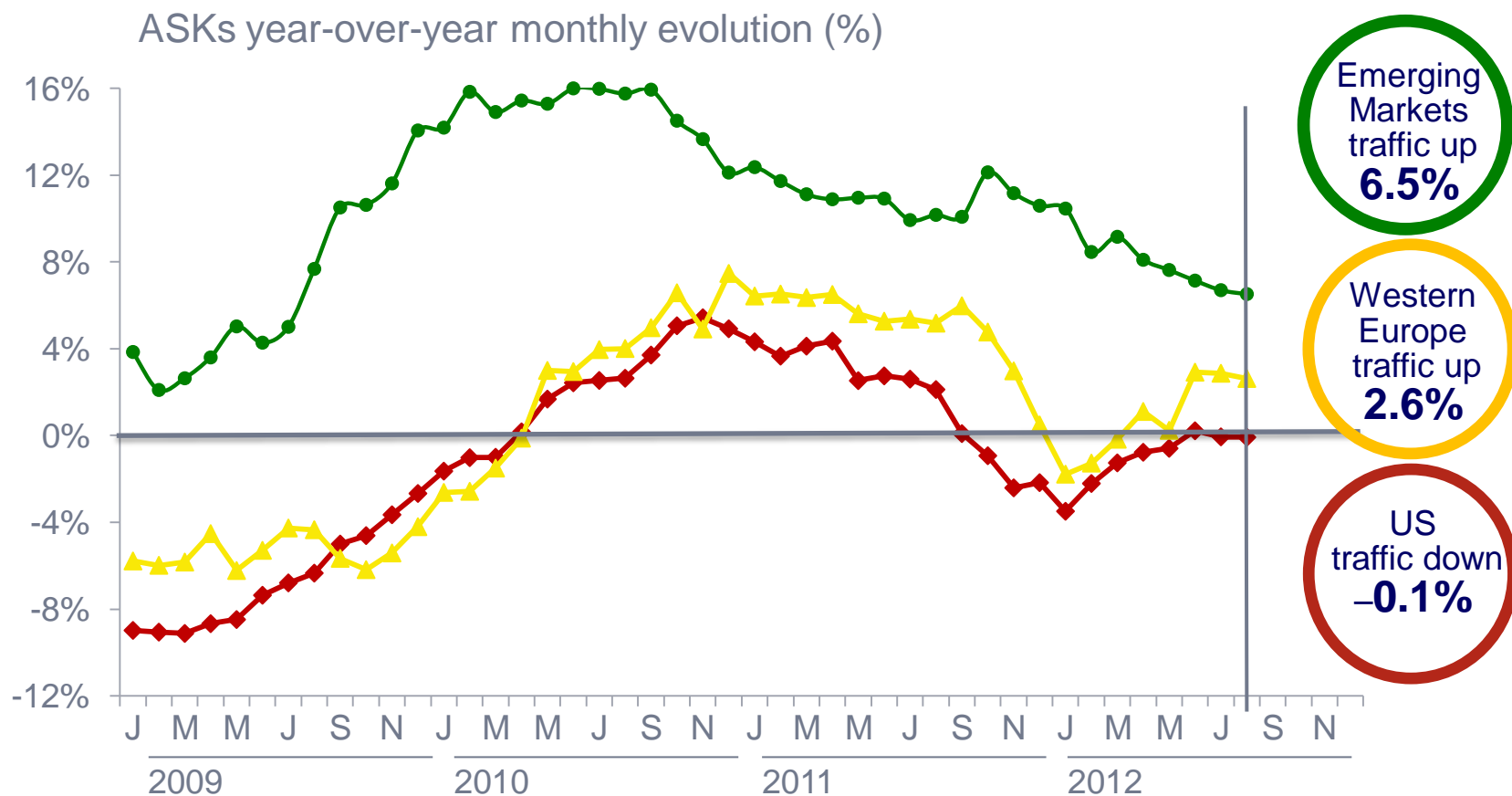
# A two-speed world



54 emerging economies.

Data Source: IHS Global Insight, Airbus

# Emerging markets, driving growth

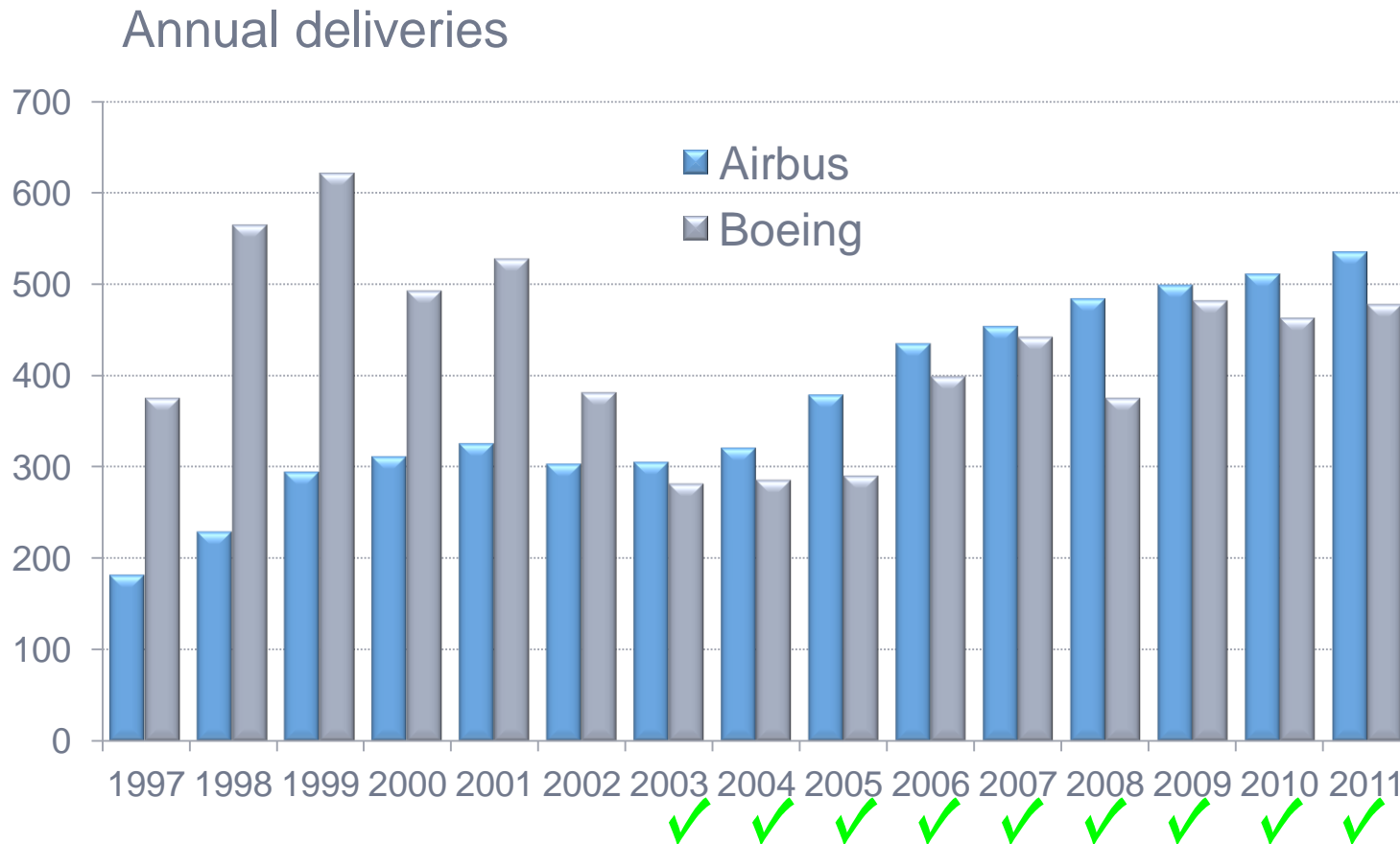


**Emerging economies continue to lead the way**

August 2012 data,  
Source OAG (ASKs data), Airbus



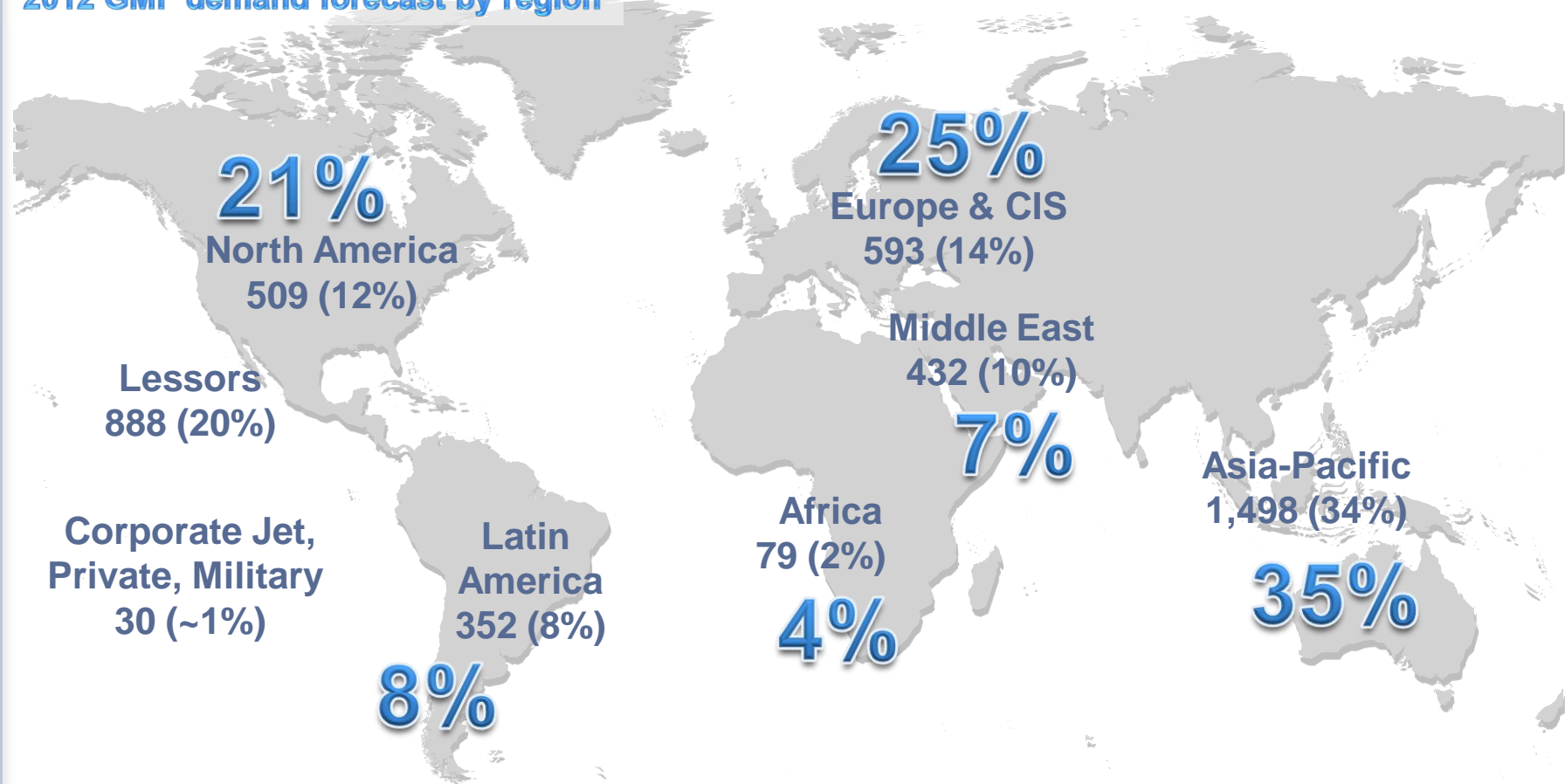
# Airbus is the market leader in deliveries



**Largest aircraft manufacturer for the last 9 years**

# Airbus order backlog

## 2012 GMF demand forecast by region

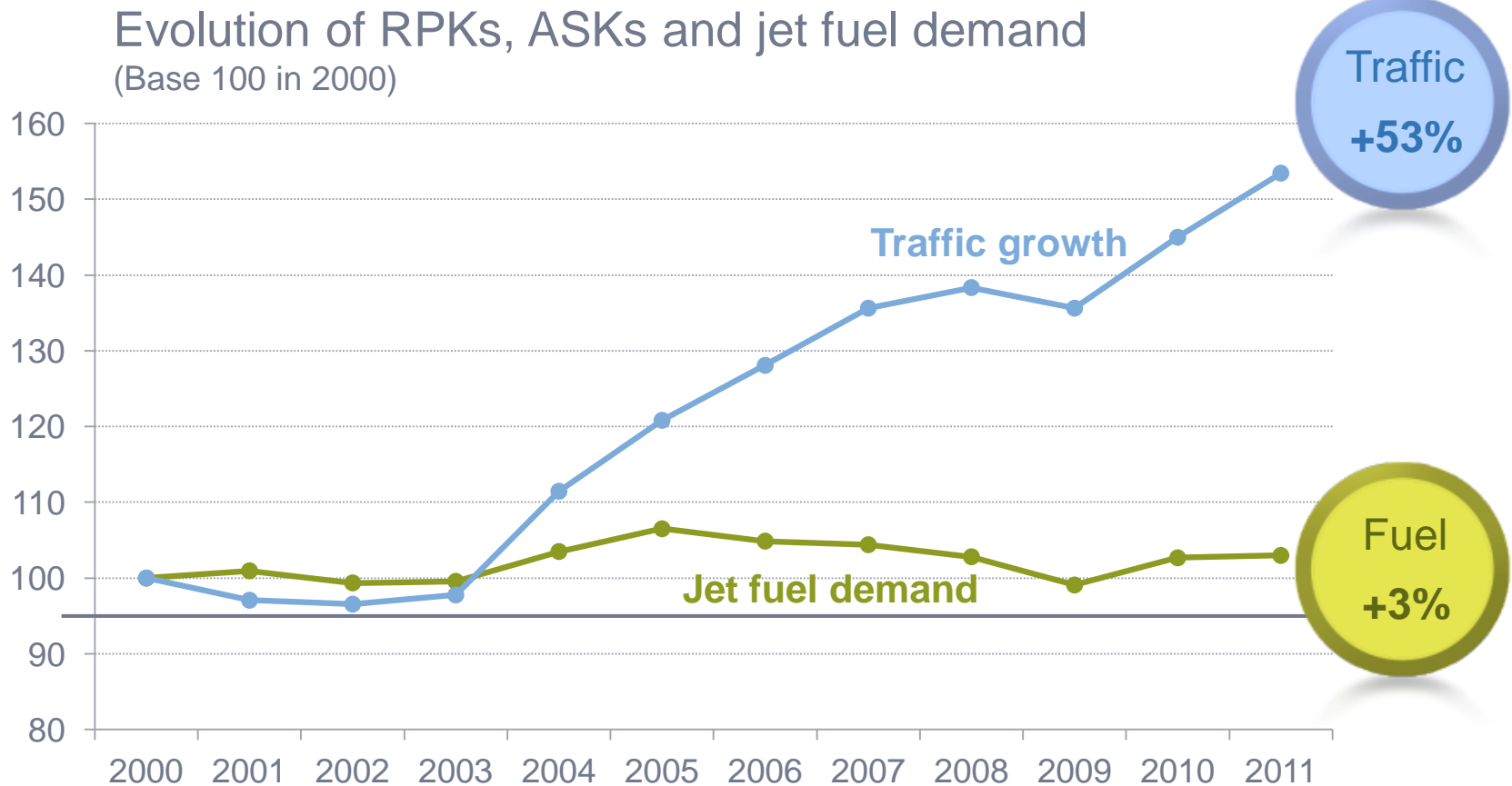


**Backlog of 4,381 aircraft**

At end July 2012, Percentages are rounded  
In addition, undisclosed orders for 2 aircraft  
Source: Airbus

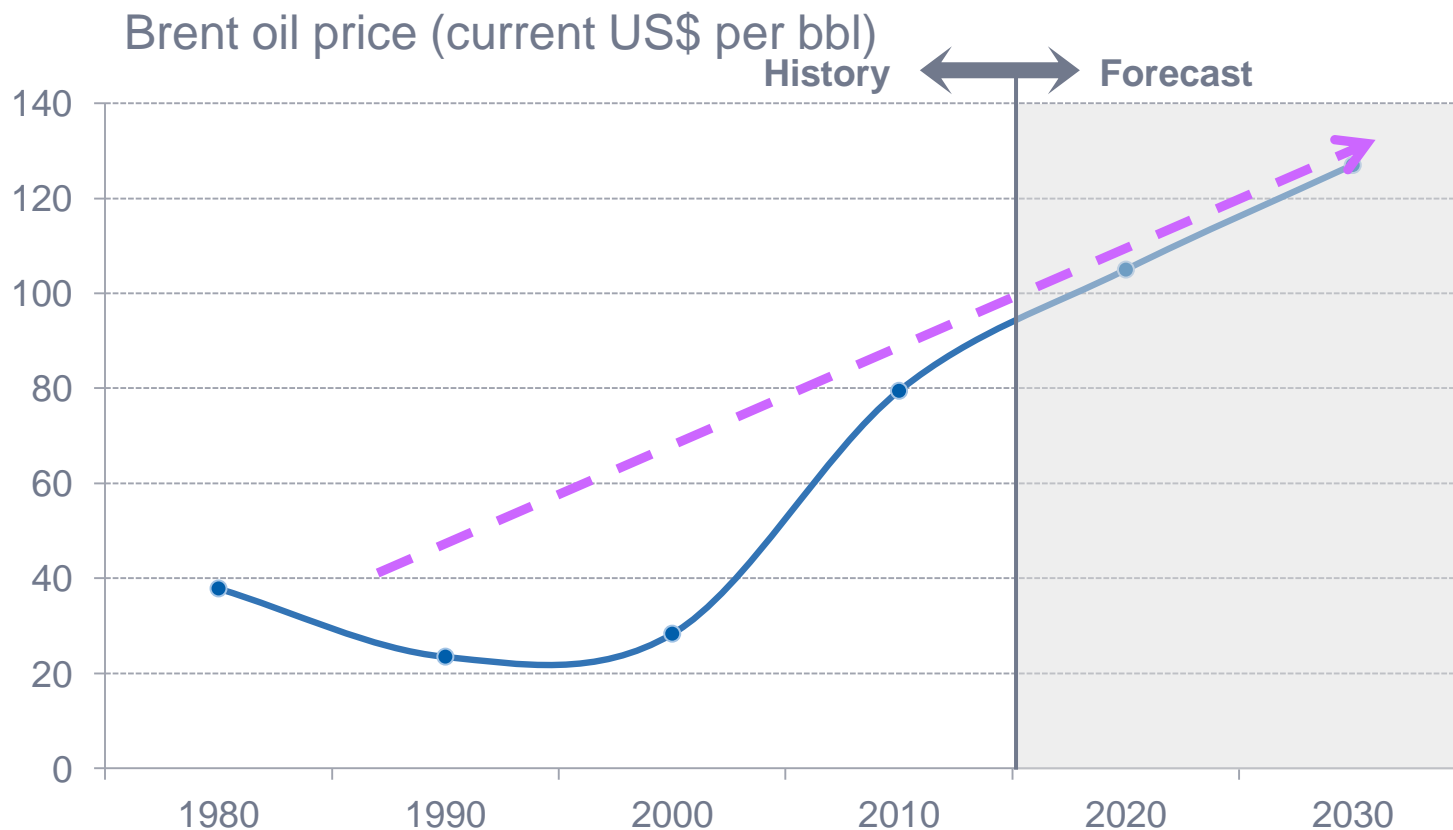
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# Since 2000, air travel has grown 53%, with relatively flat growth in fuel demand



Source: IHS CERA, ICAO, OAG, Airbus

# High oil prices here for the long-term



Source: IHS CERA, Airbus; Average price in the year displayed

# A320neo development is on schedule



**EIS of A320neo in October 2015**

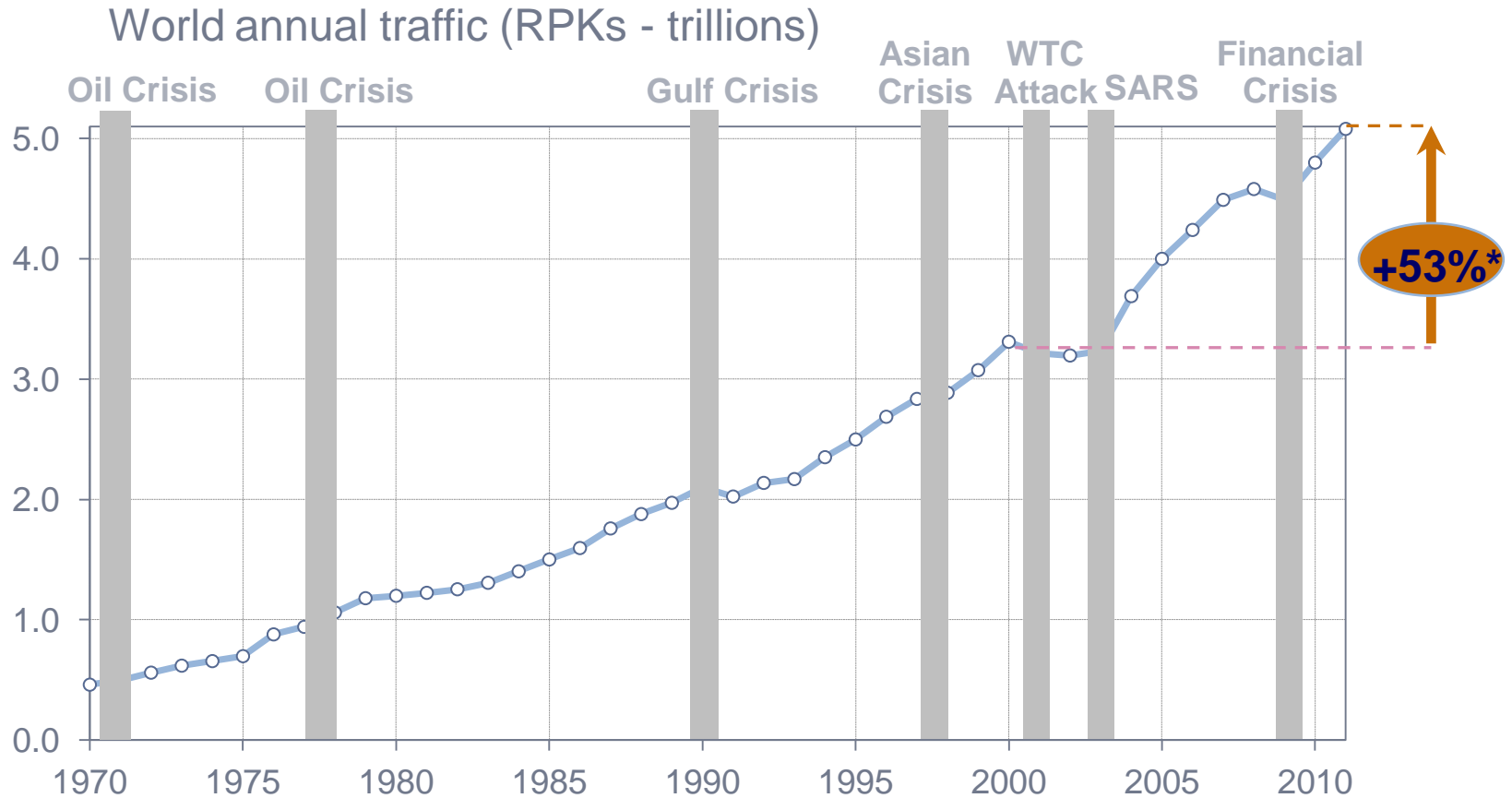
# A320neo offers environmental benefits

- Annual fuel savings of 15% equate to:  
1.4 m litres of fuel: the consumption of 1000 mid size cars
- 3,600 tonnes of CO<sub>2</sub>  
the CO<sub>2</sub> absorption of 240,000 trees
- NO<sub>x</sub> emissions 50% below CAEP/6
- 500nm more range  
or 2 tonnes more payload
- Aircraft noise up to 15dB below Stage IV

**Significant environmental improvements**



# Air travel has proved to be resilient to external shocks



\*Since 2000

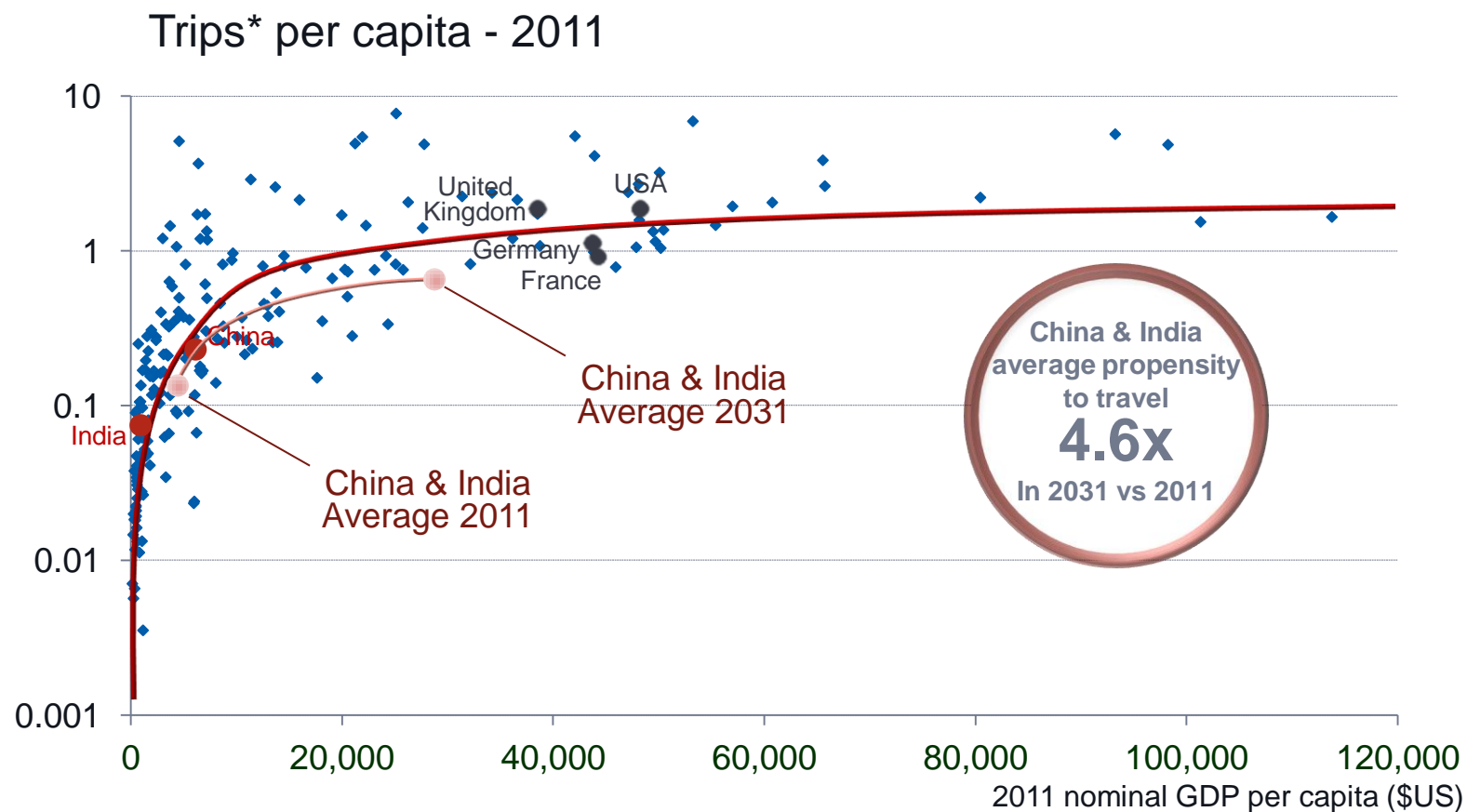
Source: ICAO, Airbus

# Main drivers of traffic and fleet growth

- More people, bigger cities, more wealth
- Emerging markets, more first time flyers and a growing middle class
- Growing tourism and internationalisation will stimulate demand
- More liberalisation to come, particularly in Asia, Africa and Latin America
- Replacement of less eco-efficient aircraft,
  - 2/3 of existing fleet will be replaced
- Low cost model set to grow in Asia-Pacific and Africa
- Growth in the number of Aviation mega-cities driving demand for VLAs



# Emerging economies drive strong travel growth

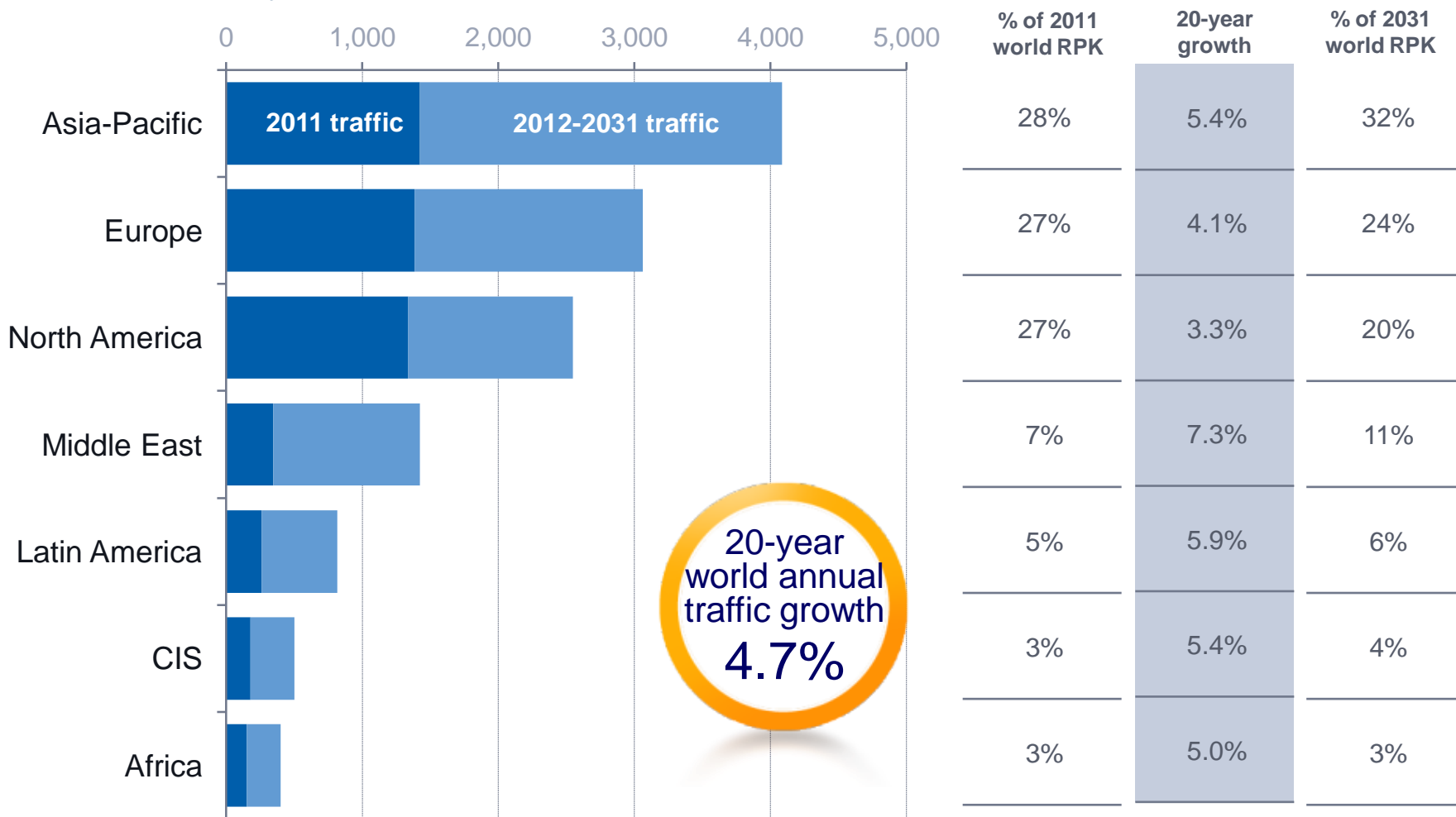


\* Passengers originating from respective country

Source: Sabre (annualized September 2011 data), IHS Global Insight, Airbus

# Asia-Pacific airlines to lead in world traffic by 2031

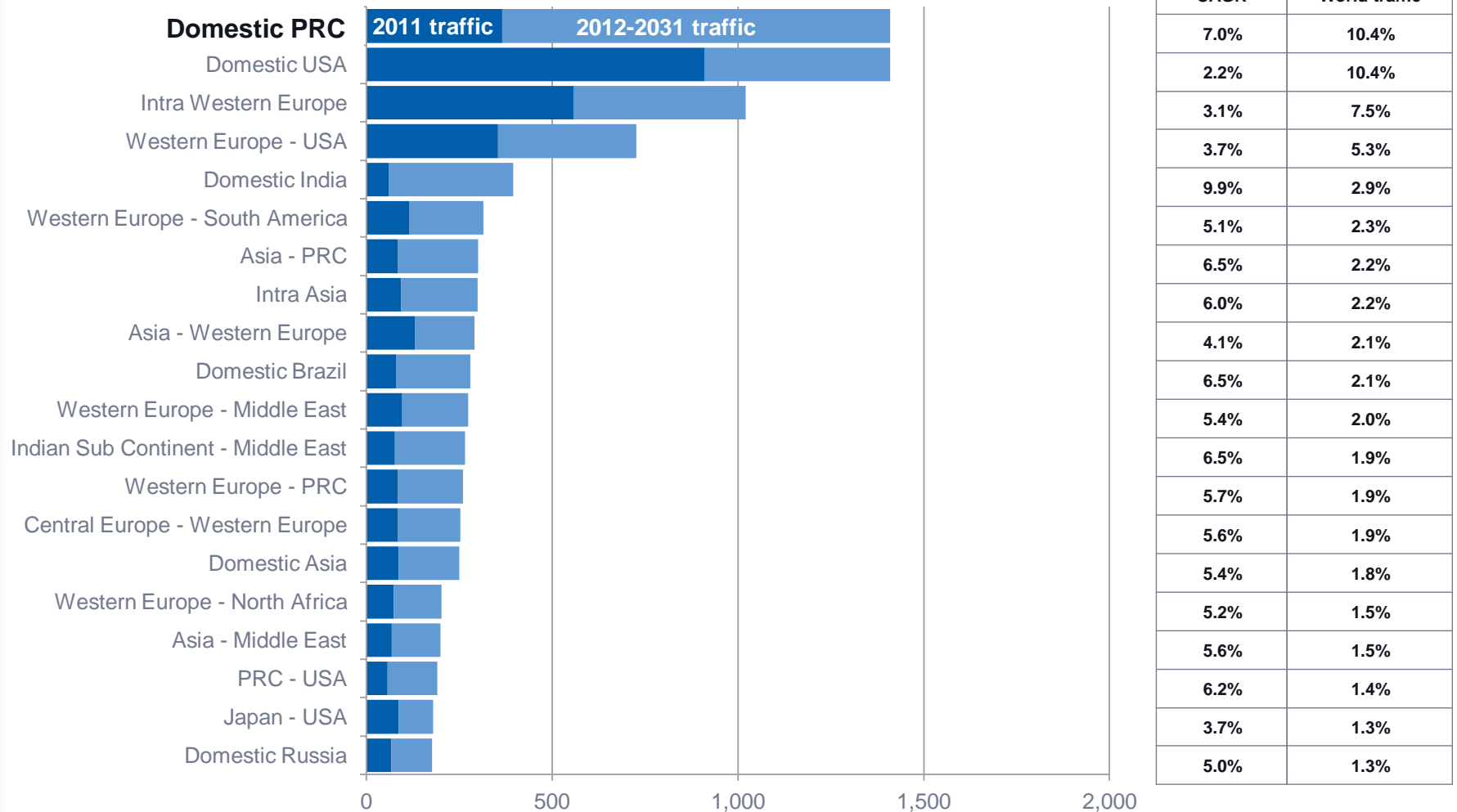
World Traffic by airline domicile (RPK billions)



Source: Airbus

# Domestic PRC and Domestic India lead the growth in RPKs 2011 to 2031

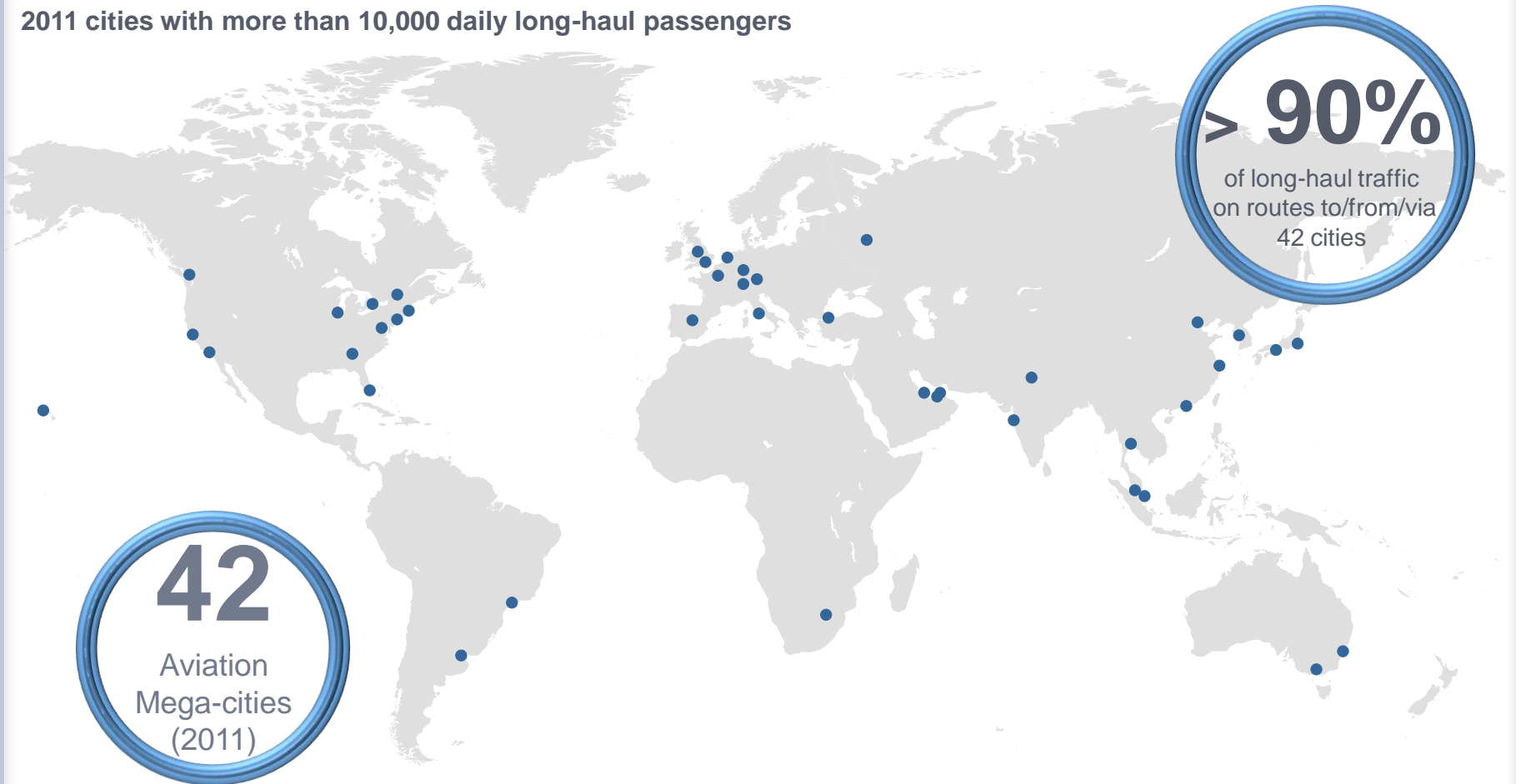
Largest 20 flows in 2031, by RPK (billion)



Source: Airbus

# 42 cities in the world handle more than 10,000 long haul passengers per day, ...

2011 cities with more than 10,000 daily long-haul passengers



**Long-haul traffic is concentrated on a few main aviation centres**

Traffic as of month of September; Source: Airbus

Long haul traffic: flight distance >2,000nm, excl. domestic traffic;

... and by 2031 it will be over 90

2031 cities with more than 10,000 daily long-haul passengers



**Long-haul traffic is concentrated on a few main aviation centres**

Traffic as of month of September. Source: Airbus

Long haul traffic: flight distance >2,000nm, excl. domestic traffic;

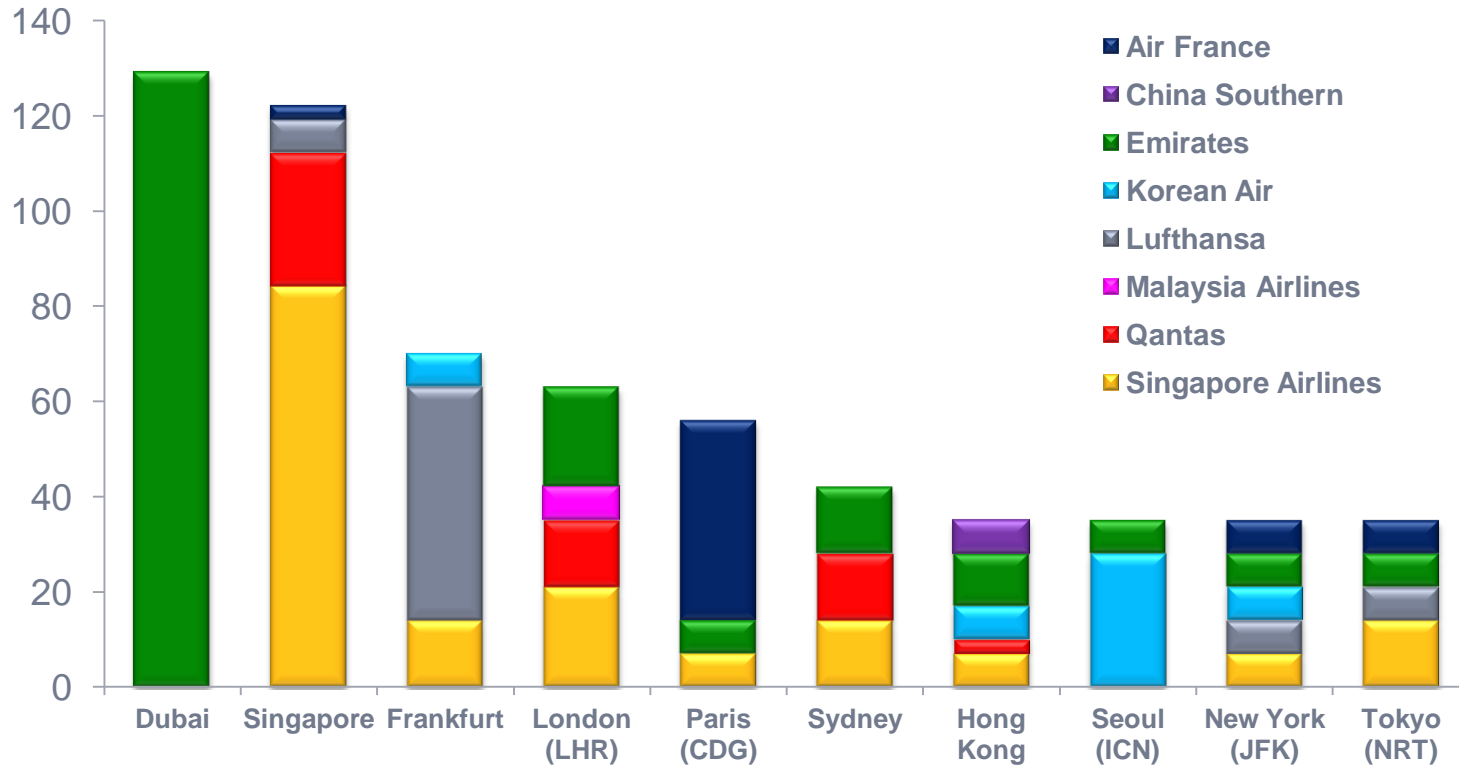
The 80<sup>th</sup> A380 was delivered to SIA on July 31<sup>st</sup> 2012



**81 A380 deliveries to end August**

# A380s link the worlds Aviation Mega-cities

Top 10 A380 airports ranked by weekly departures



**Over 100 flights per day carrying more than 1m passengers per month**



# An A380 takes off or lands every 7 minutes



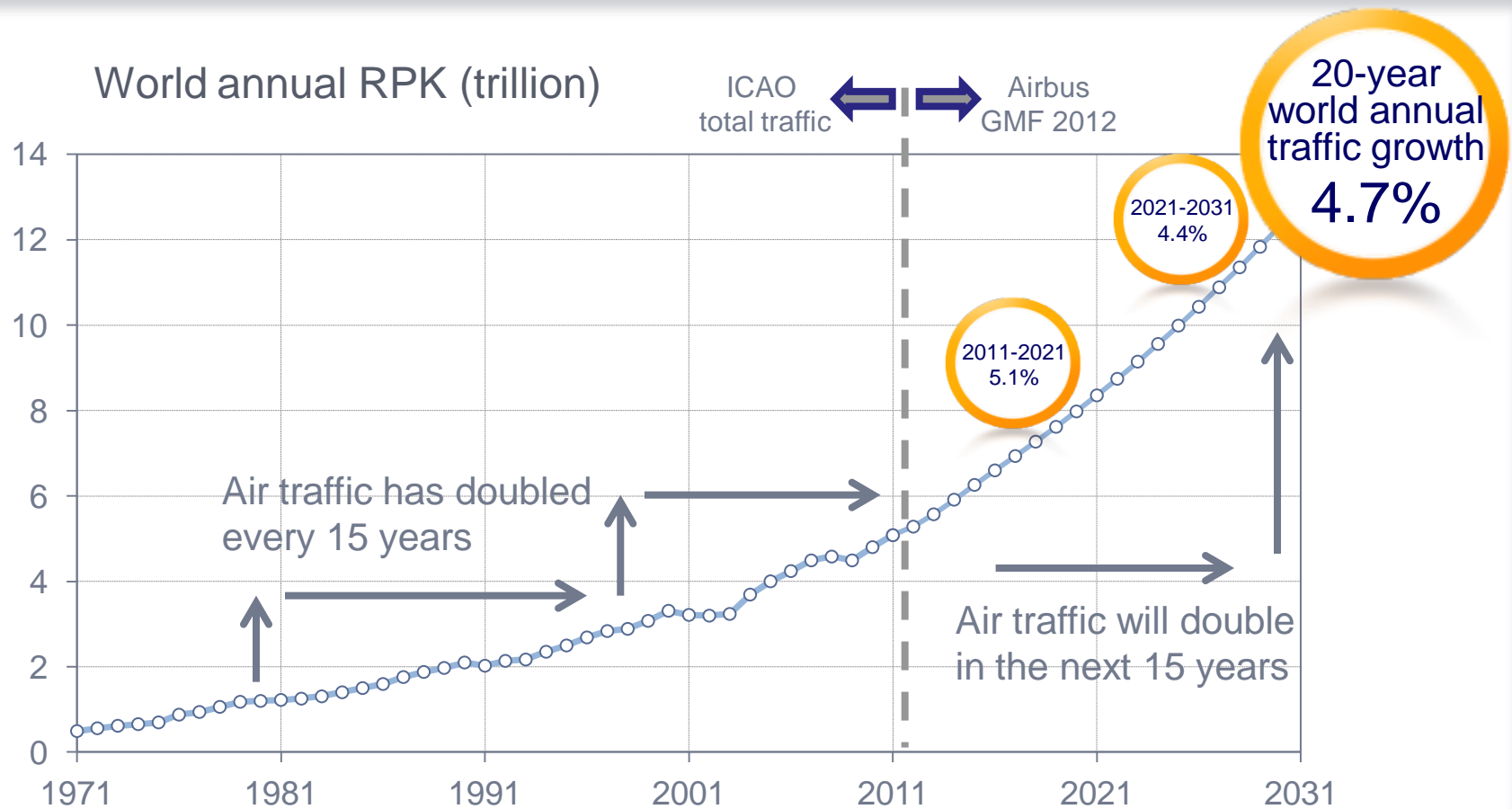
## Carrying more passengers in more comfort to more and more destinations

EK Photo credit Markyharky



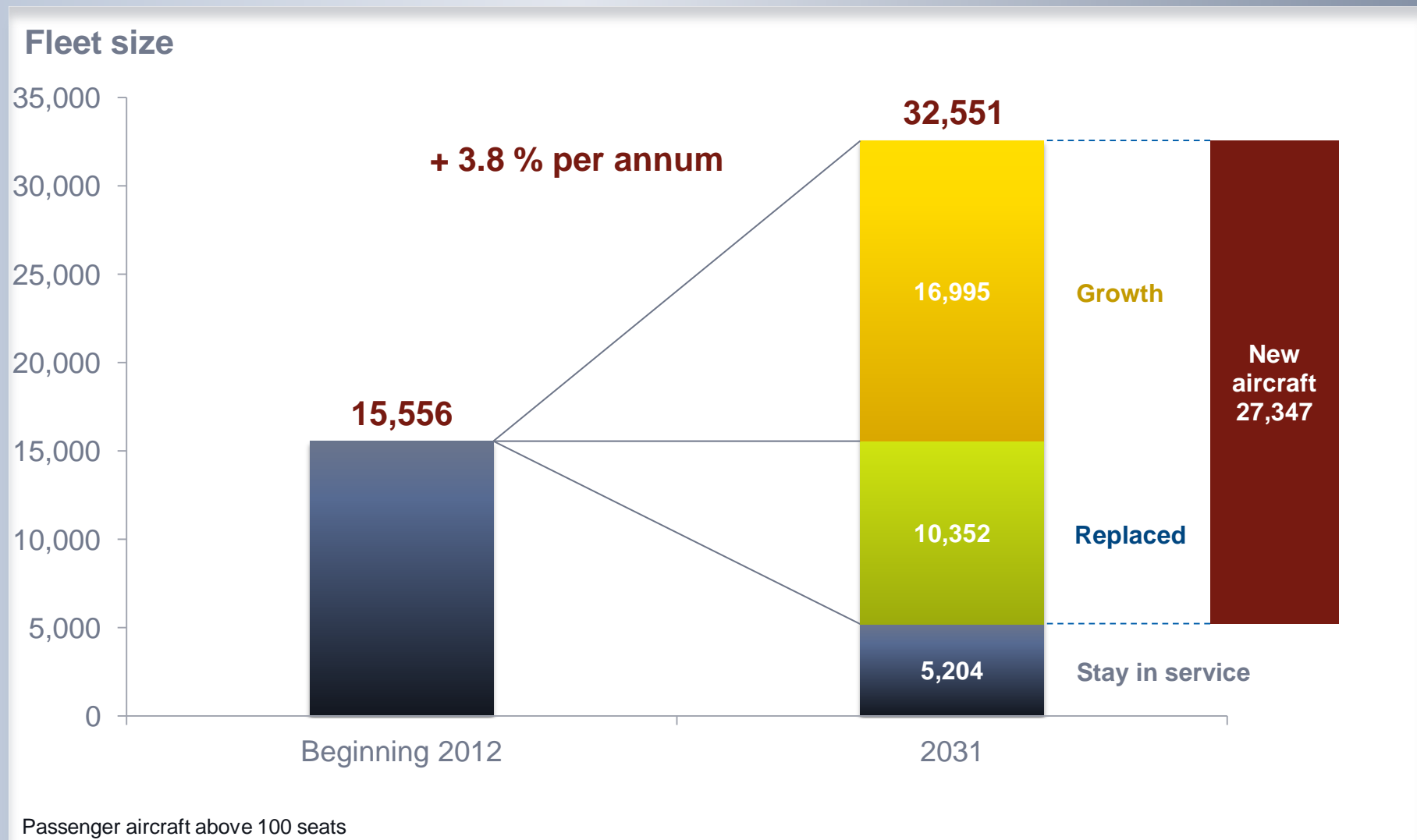


# Air travel remains a growth market



Source: ICAO, Airbus

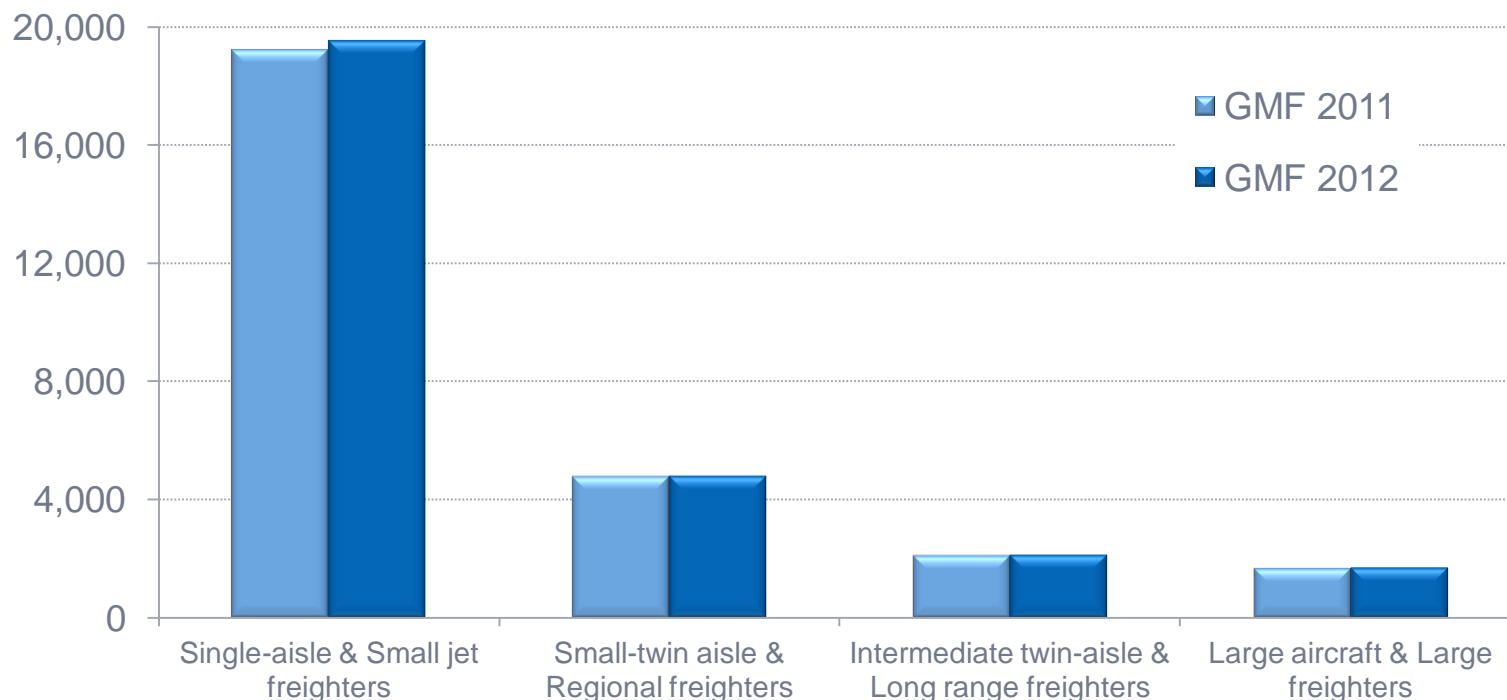
# Demand for over 27,000 new passenger aircraft



Source: Airbus

# Single-aisle: 69% of units; Twin-aisle: 44% of value

20-year new deliveries of passenger and freighter aircraft



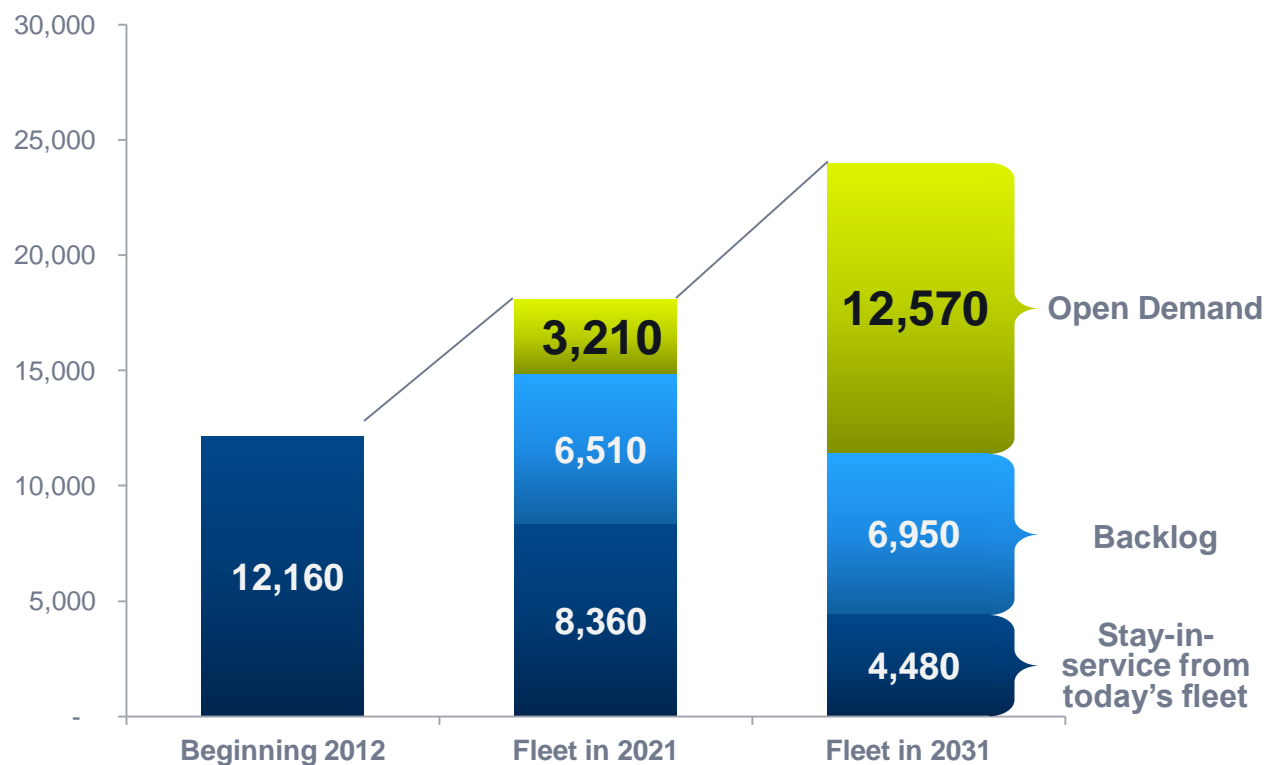
% units	69%	17%	8%	6%
% value	40%	27%	17%	16%

Passenger aircraft ( $\geq 100$  seats) and jet freight aircraft ( $>10$  tons)

Source: Airbus

# Strong open demand for A320ceo and A320neo

## Single-aisle aircraft in-service



**A320neo will continue to build on success of the A320 Family**

# Summary

- **Strong growth in passenger traffic** – resilient growth through in a turbulent economy
- **Demand for over 28,000 new aircraft by 2031** – ~27,300 passenger aircraft and nearly 900 freighter aircraft
- **Replacement of ageing fleets** – 20 year demand for more than 10,000 passenger aircraft for replacement, largely in the single-aisle segment
- **A quarter of the demand for twin-aisle aircraft** – demand for nearly 7,000 small and intermediate twin-aisle aircraft
- **VLA demand driven by aviation mega-cities** – more than 90% of all long-haul passengers will fly to, from or through these cities

# NAVIGATING THE FUTURE

## Global Market Forecast 2012-2031

Presented by: CHRIS EMERSON  
SVP, Future Programmes & Market Strategy



AIRBUS

# Aviation is a major driver of the world economy

2,681,000,000

*passengers carried in 2010*

\$5.3 trillion

*worth of cargo shipped by  
air in 2010*

2%

*of global man-made CO<sub>2</sub>  
emissions come from aviation*

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Globally  
contributes

56.6<sup>million</sup>

Job supported  
**World-wide**

\$2.2<sup>trillion</sup>

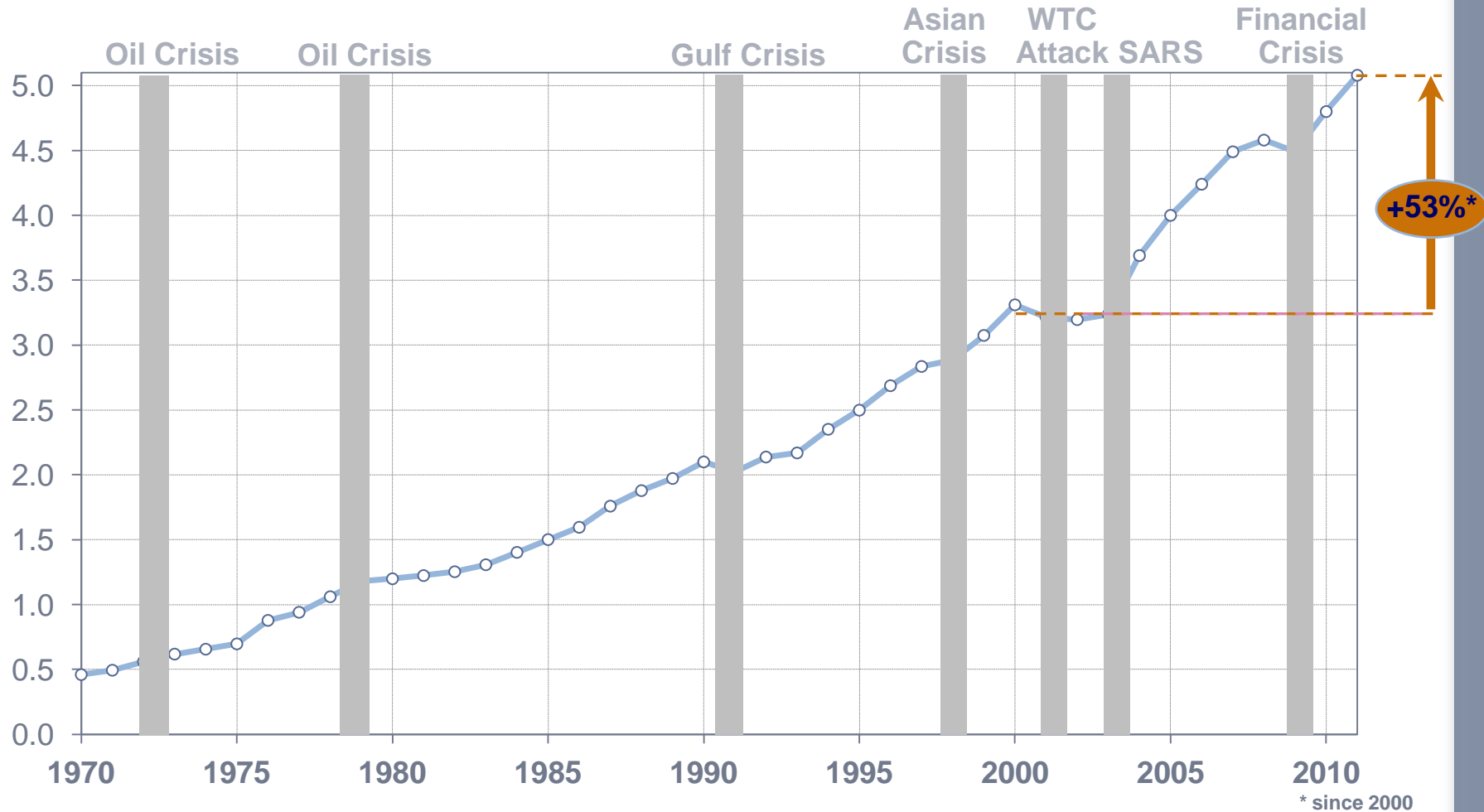
Aviation's global  
economic **impact**

19th

If aviation was a  
country ranked  
by **GDP**

# Despite economic uncertainties, the world traffic continued to post strong growth...

World annual traffic (RPKs - trillions)

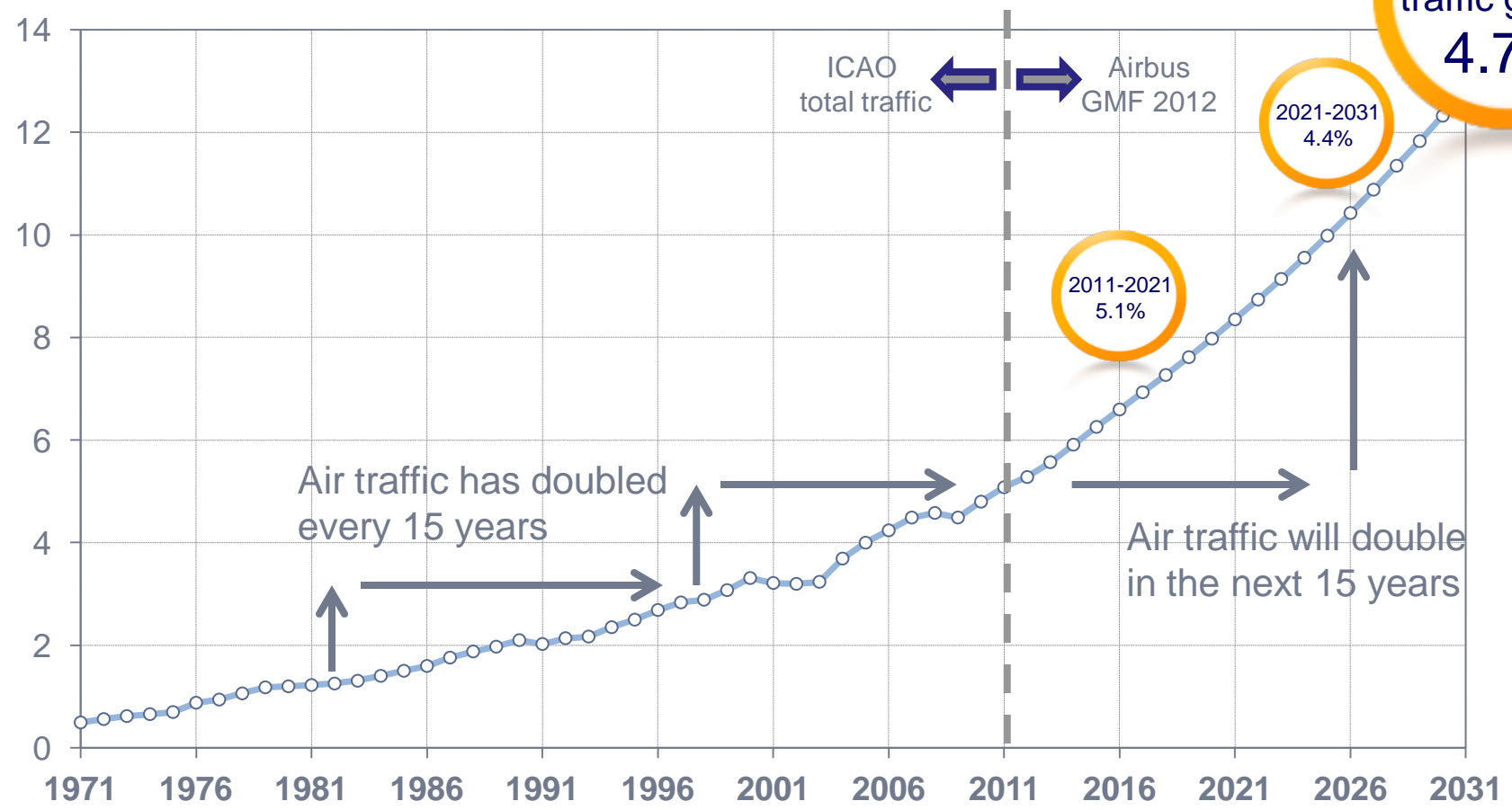


Source: ICAO, Airbus



# ...and is expected to remain resilient in the future

World annual RPK (trillion)

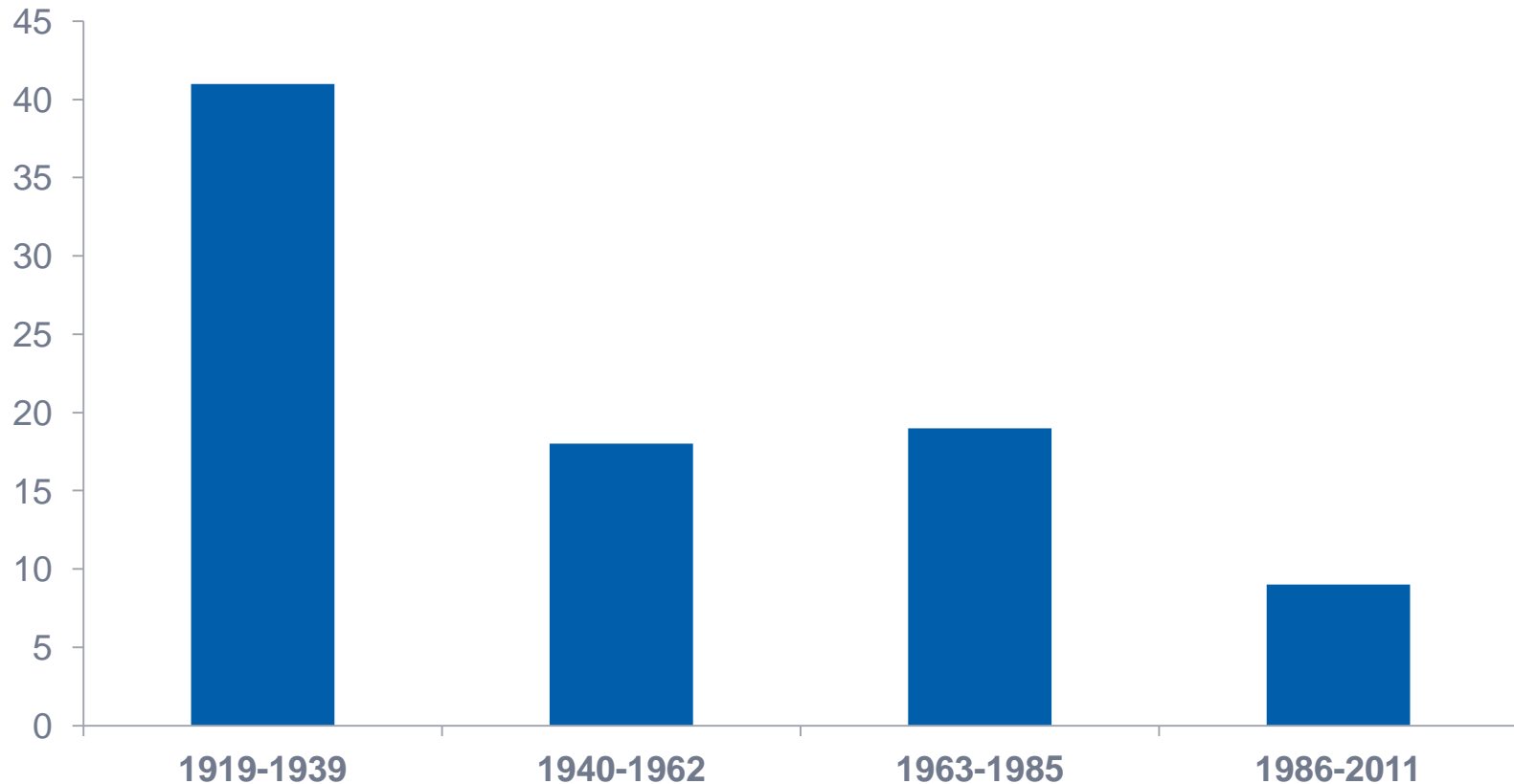


Source: ICAO, Airbus



# Economy spending less time in recession even through recent crises

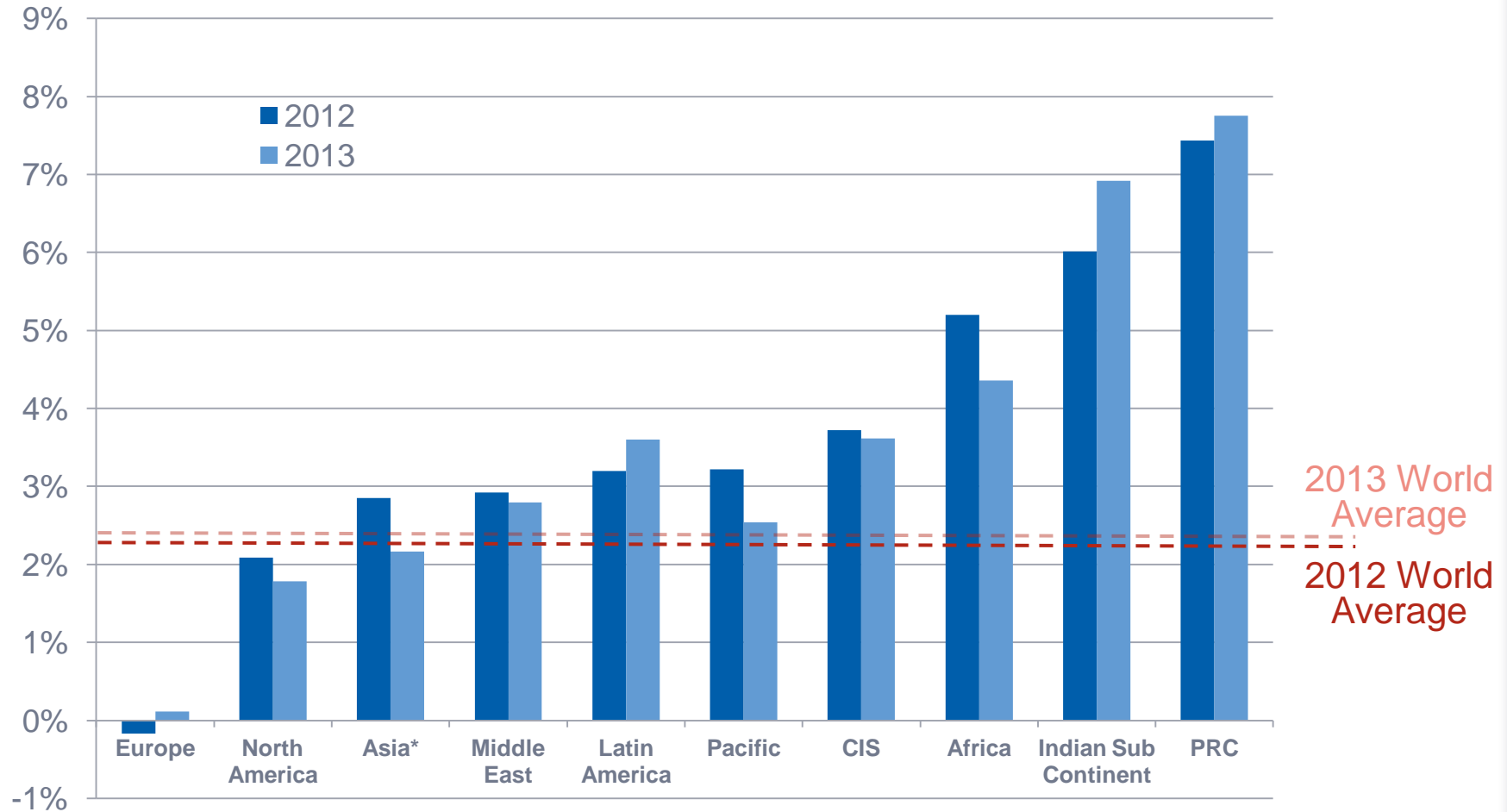
% of time spent in recession at world level



Source: IHS Global Insight, Airbus

# Short term economic growth will be driven by emerging markets

2012 and 2013 real GDP forecast by region

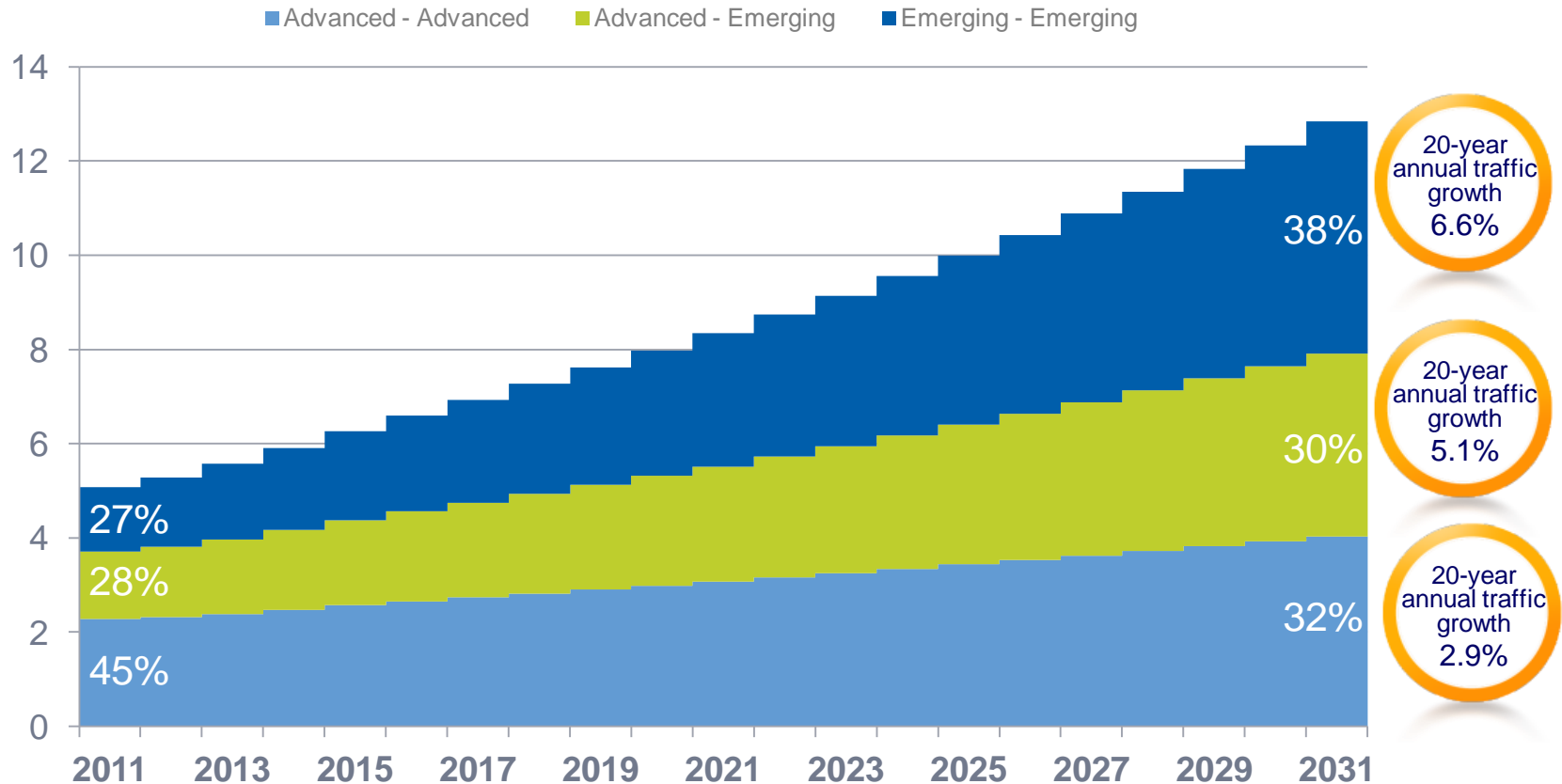


Source: IHS Global Insight (August 2012), Airbus

\*- Excluding Indian Sub-continent and PRC

# Emerging regions will represent a larger share of traffic in 2031

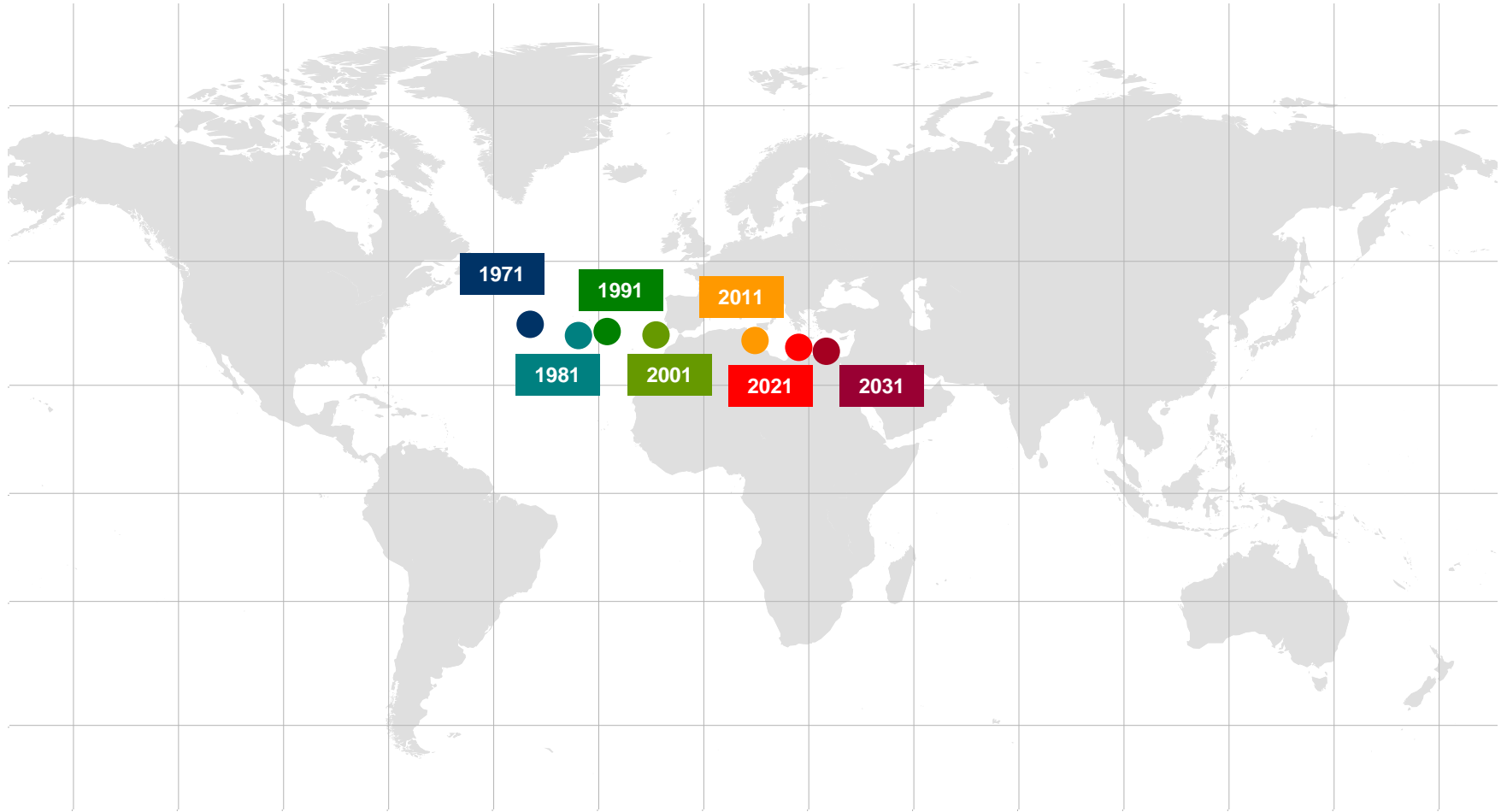
World annual RPK (share of total), by type of flow



Traffic with emerging markets represent **55%** of traffic today, **68% in 2031**

# ... driving the center of gravity of traffic to the south and east

Geographic centre of gravity of departing/arriving/connecting passengers per city

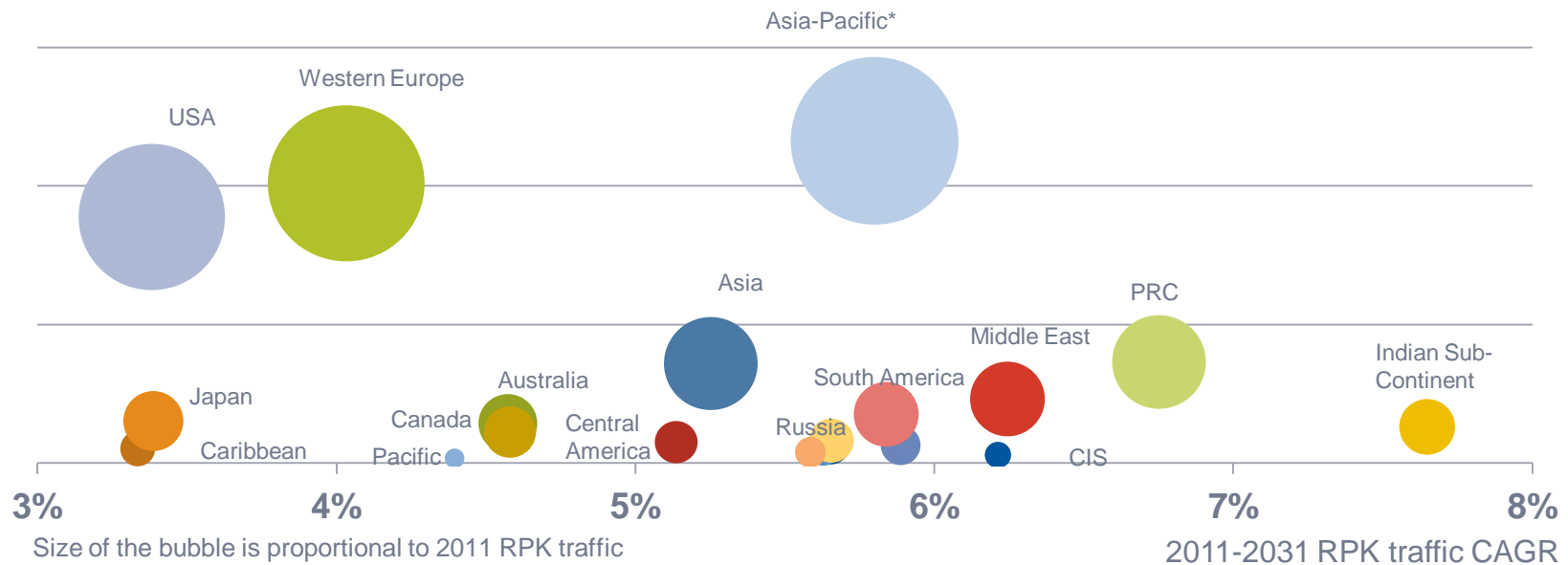


Source: OAG, Airbus

Traffic as month of September; estimates for historic passenger derived from offered seats; respective centres of gravity as median of city coordinates weighted by passenger traffic

# Traffic to, from and within USA and Western Europe are the largest...

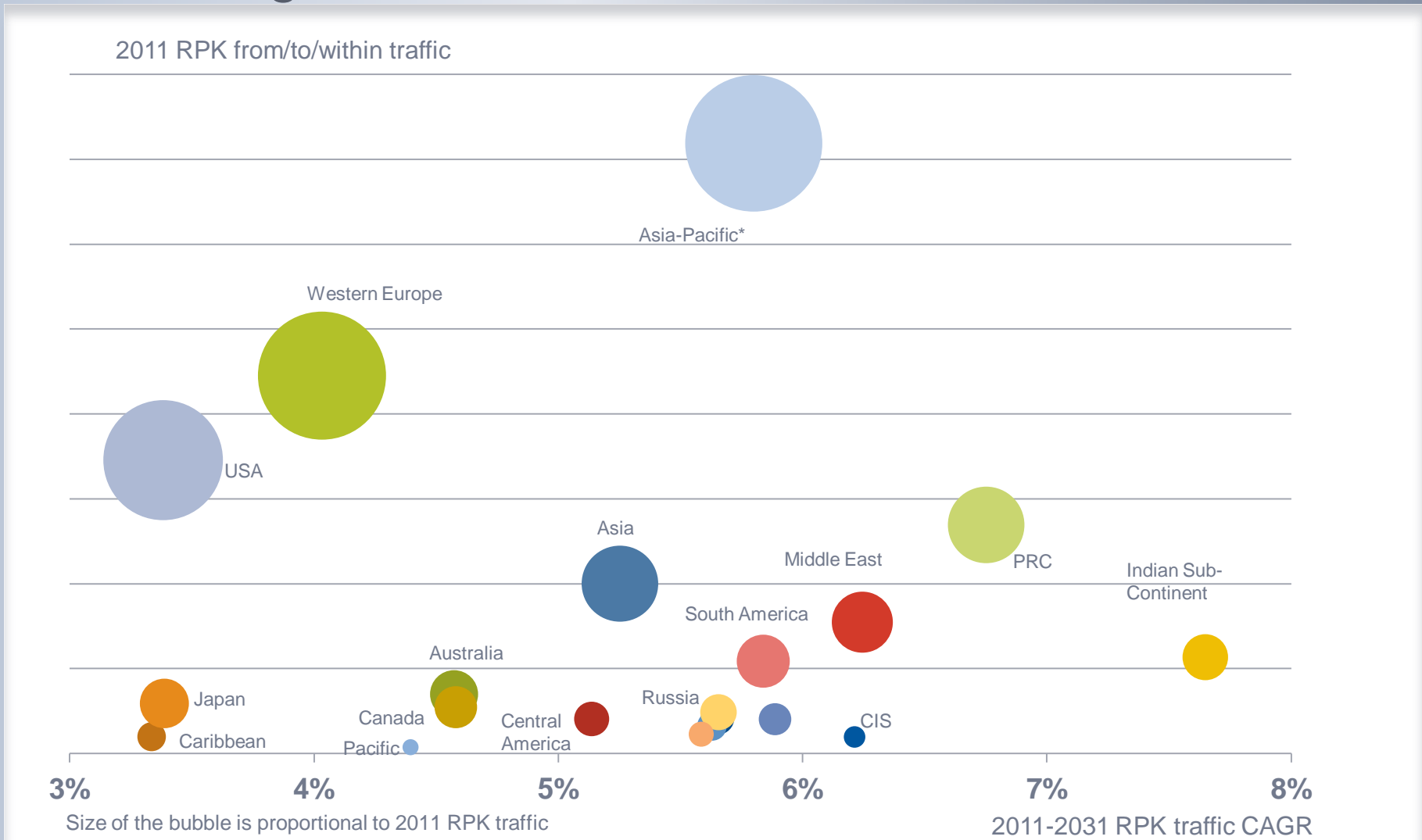
2011 RPK from/to/within traffic



Source: Airbus

\*-Asia-Pacific is comprised of PRC, Asia, Pacific, India Sub-continent and Australia/NZ

# Traffic to, from and within USA and Western Europe are the largest...

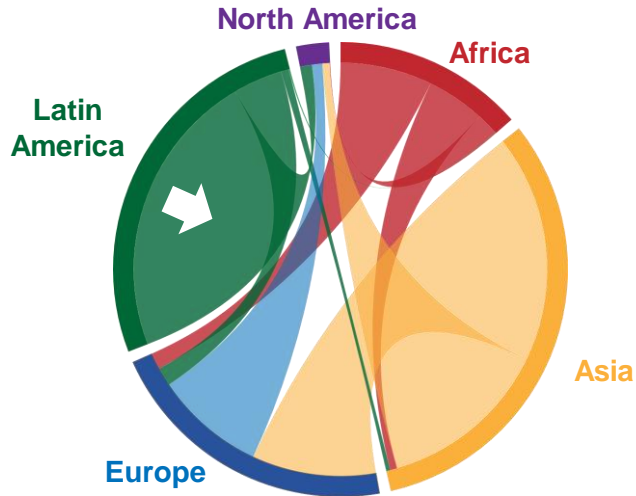


Source: Airbus

\*-Asia-Pacific is comprised of PRC, Asia, Pacific, India Sub-continent and Australia/NZ

# Visiting friends and relatives is a key driver of traffic growth

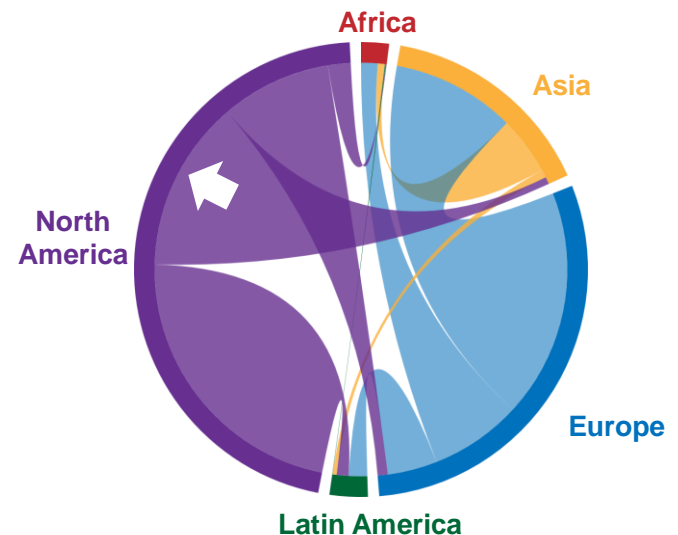
2010 world inter-regional migration corridors per sending and receiving region (million persons)



•>215M live outside their country of birth

•700K foreign students studying in the US

- **Visiting friends and relatives** remained much more stable than business travel
- **North America** and **Europe** as largest destinations of immigration
- **Asia-Pacific** growing as a destination for immigrants



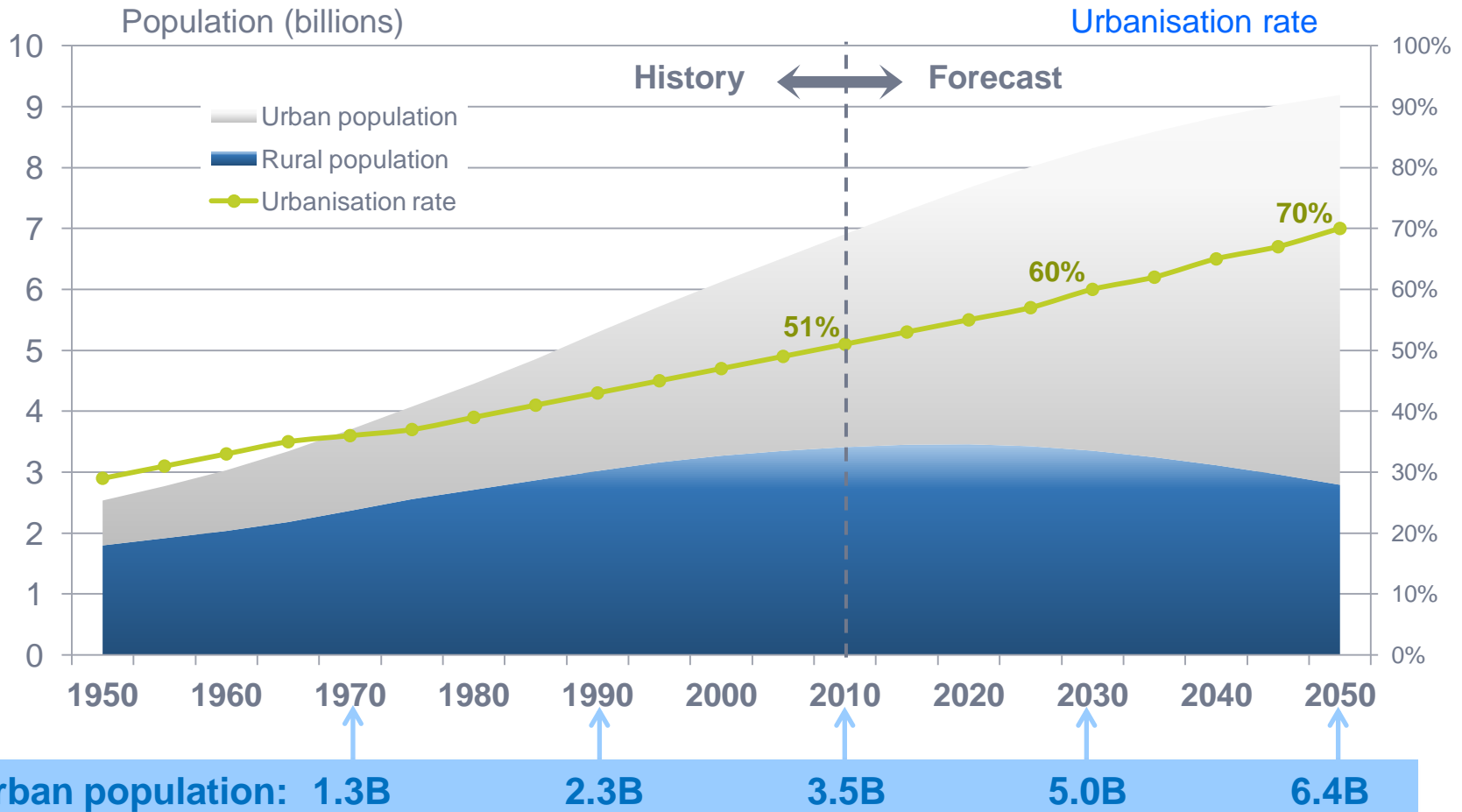
Source: UN Population Division, Airbus

Region definition according to United Nations; Asia including Oceania, countries of the Middle East and countries of CIS, Europe including Russia

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# World urban population expected to rise from 3.5 billion people today up to 5 billion by 2030



Source: UN Population Division, Airbus

# Urbanisation and subsequent wealth generation leads to more flying

## Propensity to travel per country

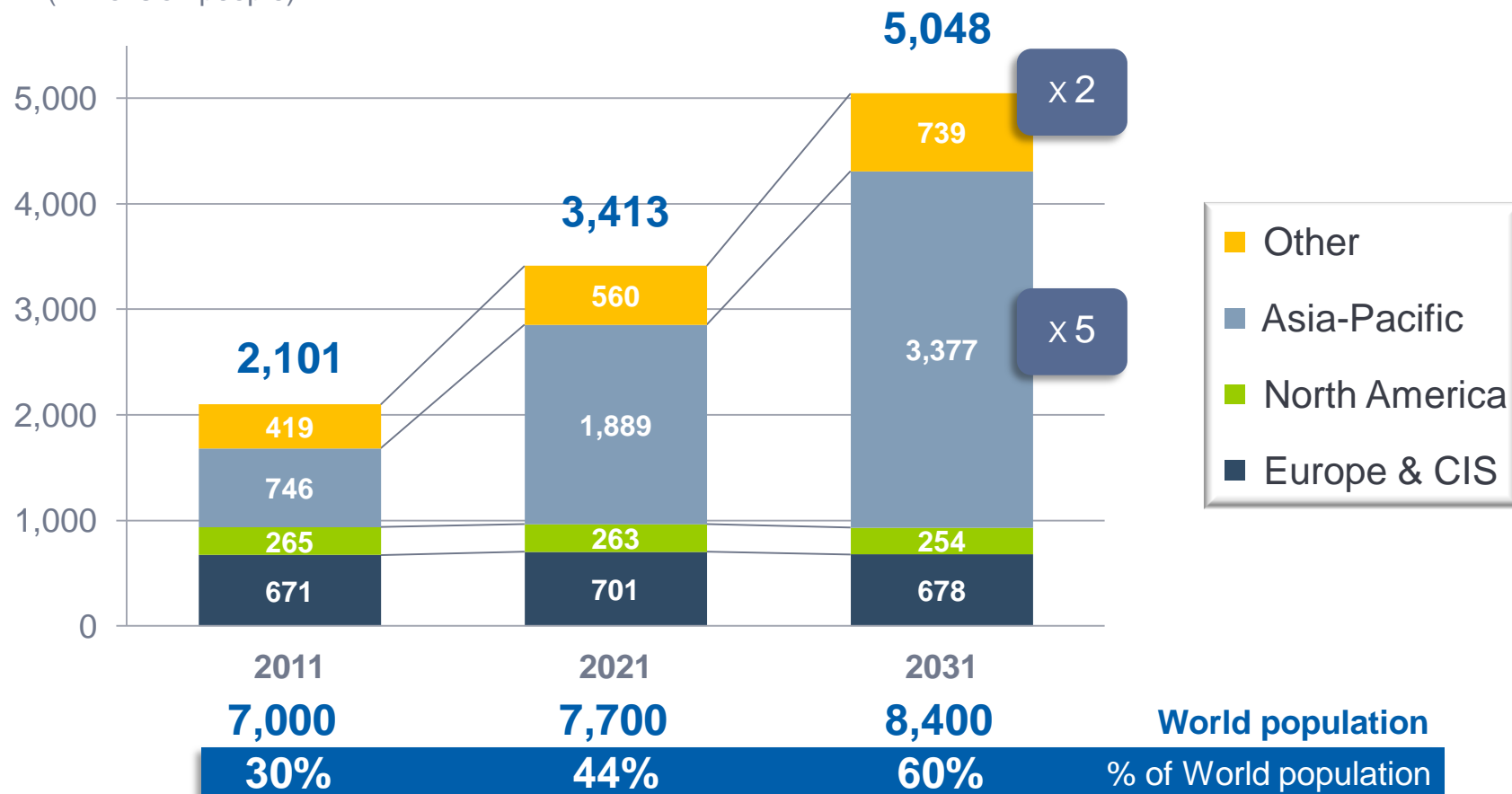


Source: Sabre, UN Department of Economic and Social Affairs, Airbus

# Leading to a larger “Global Middle Class”

## Global Middle Class\*

(Millions of people)

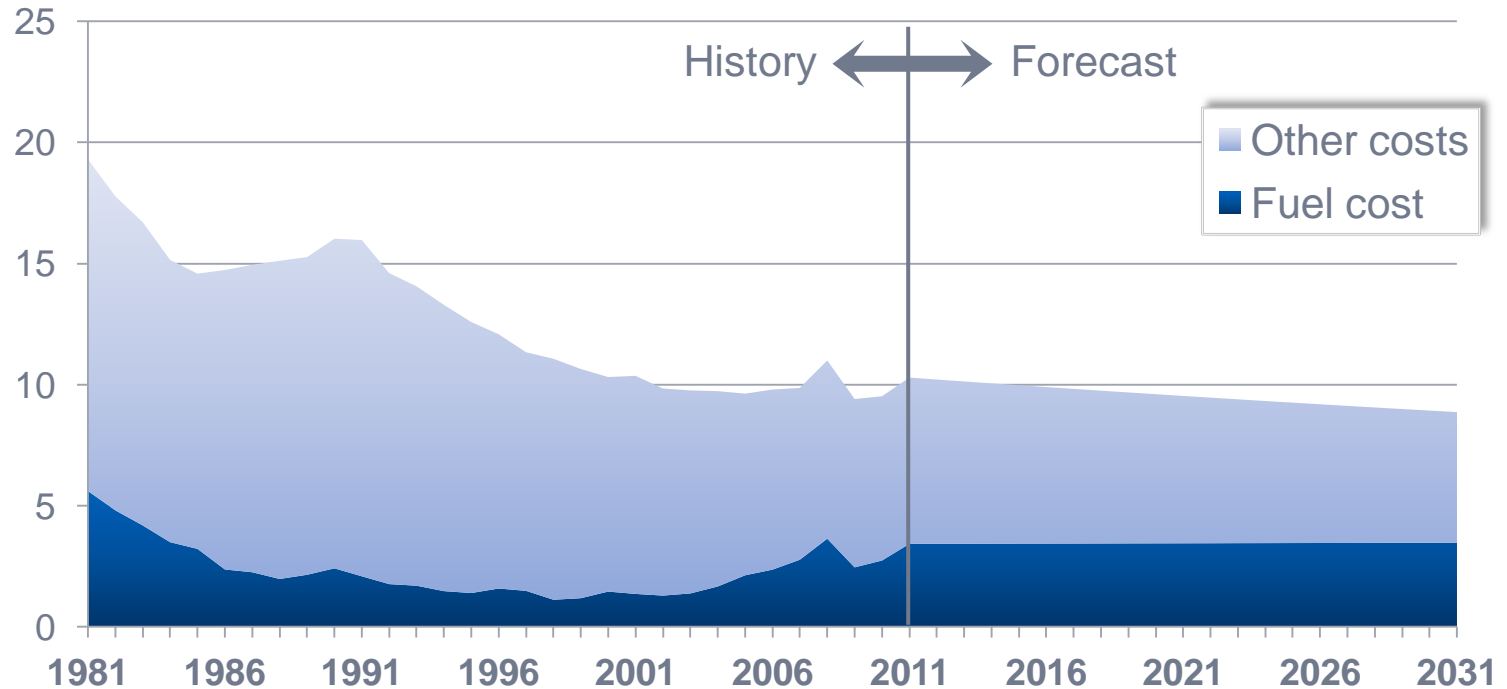


\* Households with daily expenditures between \$10 and \$100 per person (at PPP)

Source: Kharas and Gertz, Airbus

# Airlines are becoming more efficient

Unit cost (cents/RPK in 2011 US\$)



% cost  
from fuel

29%

13%

13%

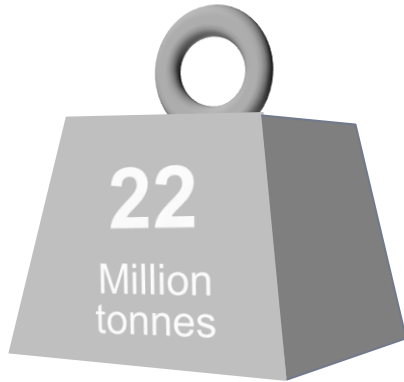
33%

36%

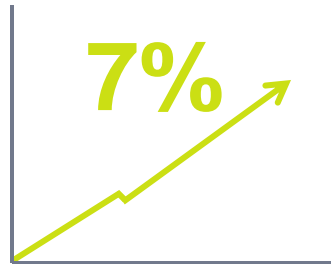
40%

Source: ICAO, EIA, HIS Global Insight, Airbus

# The air cargo industry today ensures economic growth through timely delivery



worth of cargo shipped by  
air in 2011



Percentage growth of 2011  
traffic above 2008 peak

\$\$\$\$\$

\$5.3 trillion

worth of cargo shipped by air in  
2010



**>1,600 Aircraft**  
≥ 10t, performing cargo only  
operations



North America represents 50%  
of the dedicated cargo fleet in  
service



**>200 Airlines**  
Performing freight or freight  
and passenger operations

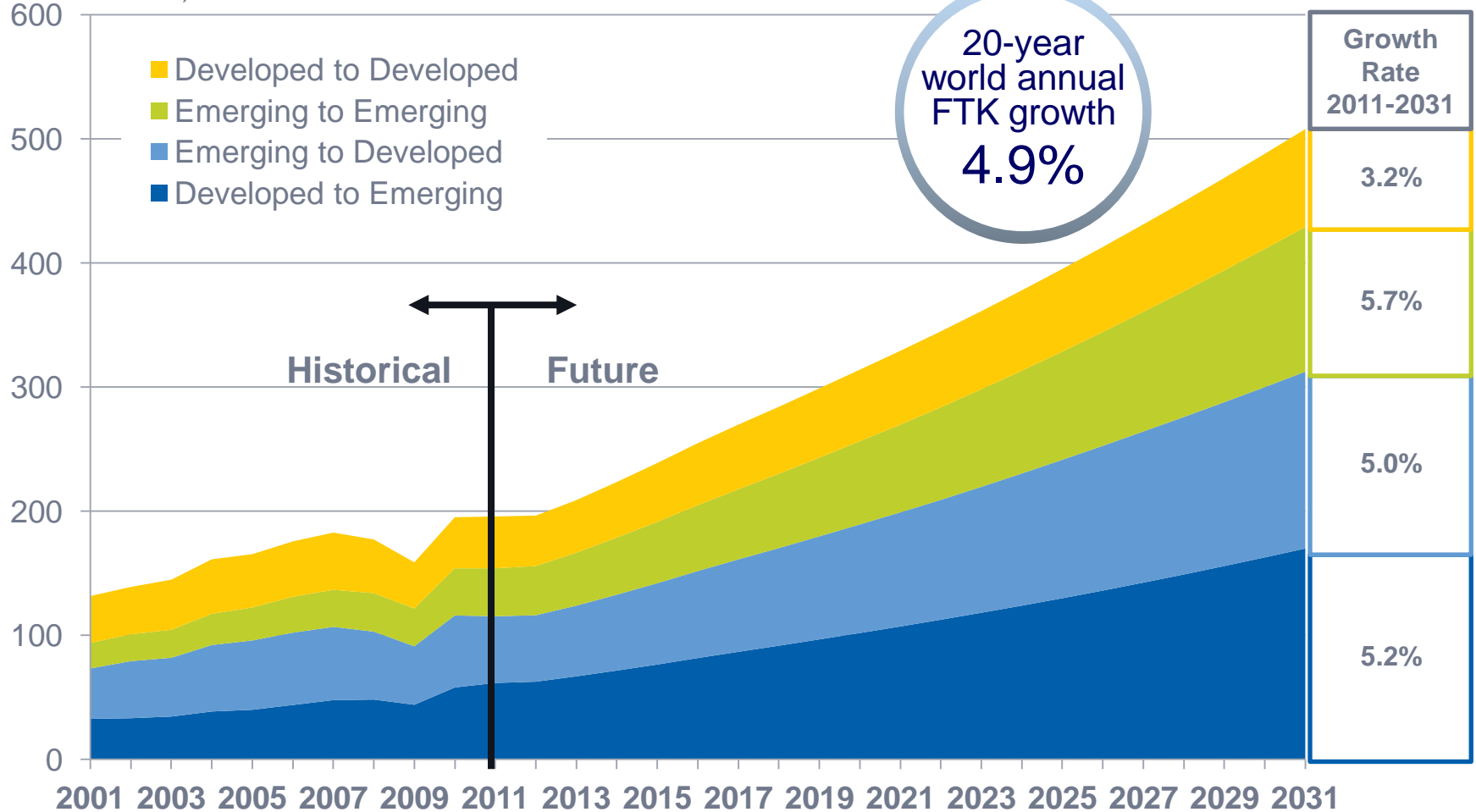
Source: ATAG, Seabury, ASCEND, Innovata, OAG, US DOT RITA, Airbus



# Like the passenger market, fastest growth from traffic between and within emerging regions

## Freight traffic growth

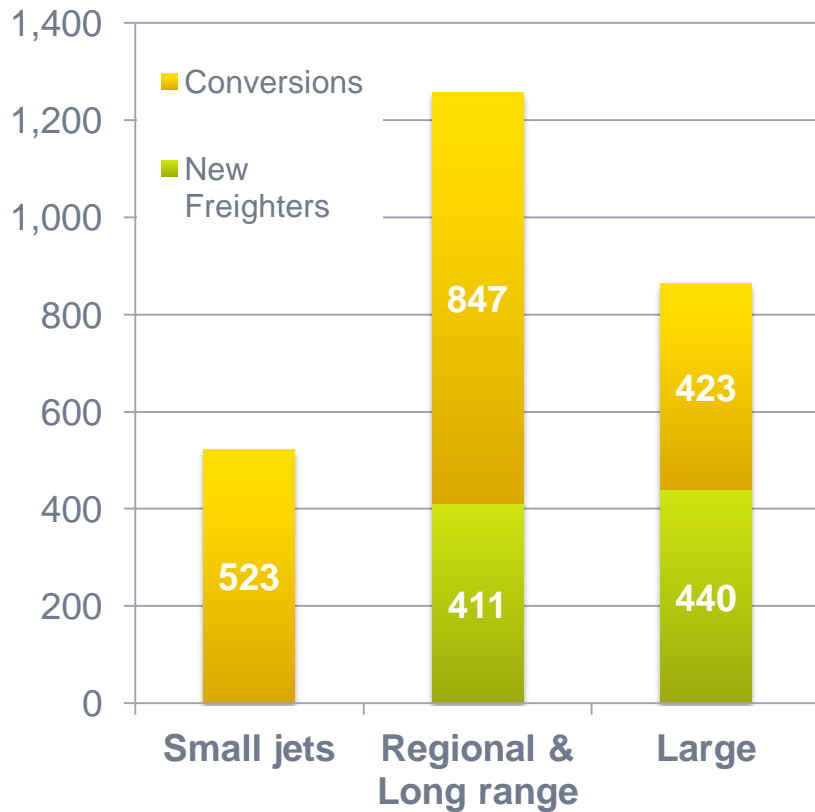
(billions of FTKs)



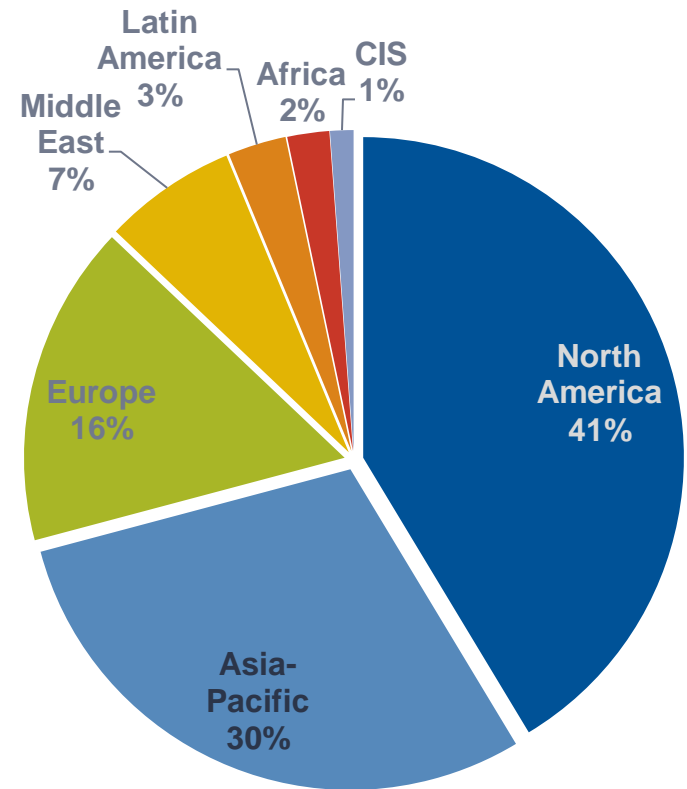
Source: Seabury, Airbus

# Demand for 851 new freighter aircraft, largely destined for North America, Asia-Pacific and Europe

Total Aircraft demand by New and Converted



New Aircraft demand by Region



Source: Airbus

...taking all of these factors into account and many more

## 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

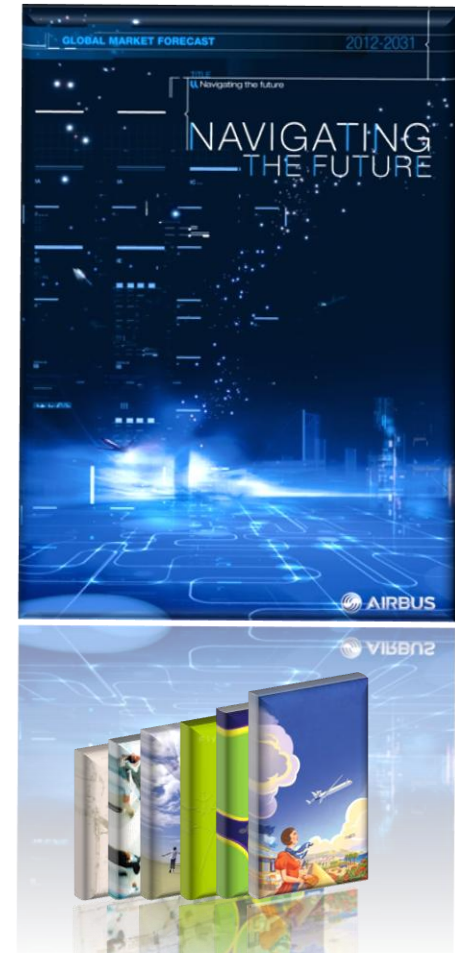
- Economics and Econometrics
- Fuel costs
- Yields
- Load Factors
- Trade and Value of Goods

#### Network Development

- Route planning
- Origin and destination demand
- Population centers

#### Fleet trends

- Aircraft economics
- Utilization
- Fleet age and retirements



Available on the  
**App Store**

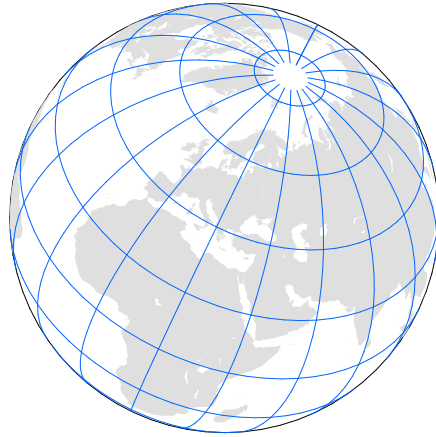




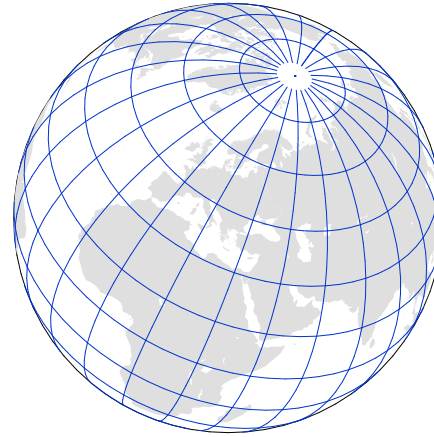
# Details behind the forecast



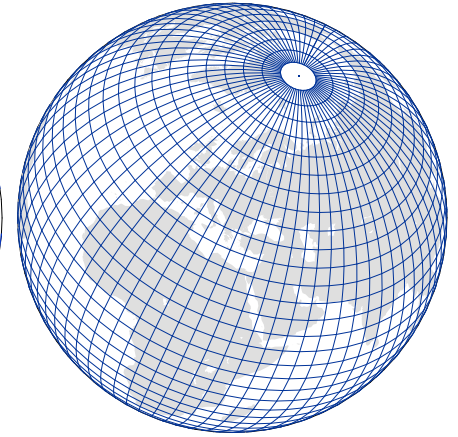
**157 global traffic flows**



**>10.000 country pairs**



**>200.000 O&D city pairs**



**>1.000.000  
O&D city pair routings**

**Macro traffic forecast**

**Micro network forecast**

# Summary

## World

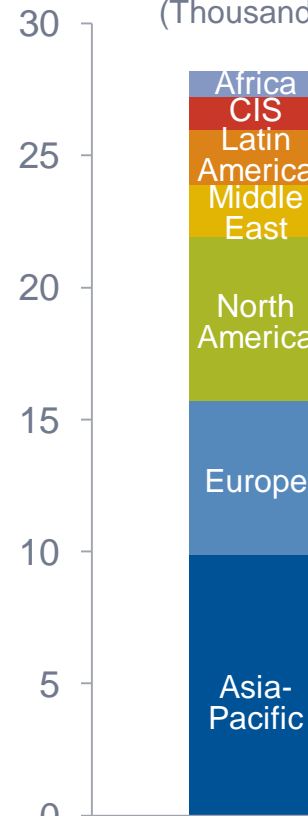


**Traffic by domicile:**

**>12 trillion RPKs in 2031**

## 20 Year Aircraft Demand

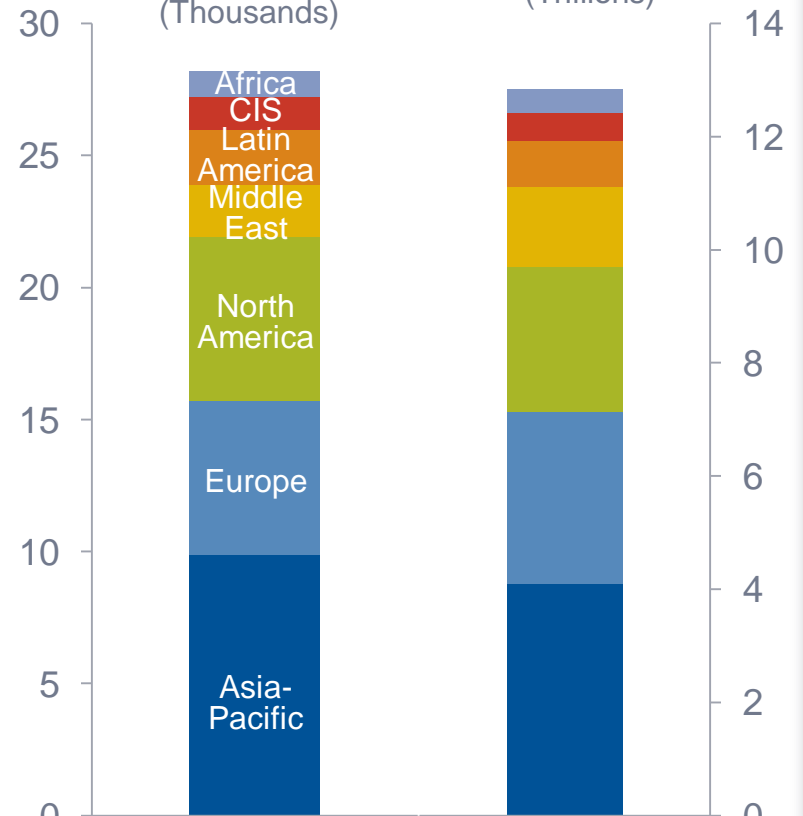
(Thousands)



Aircraft Demand

## 2031 RPKs

(Trillions)



RPKs

Source: Airbus

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Available on the  
**App Store**

