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METODOLOGIE E TECNOLOGIE PER LO SVILUPPO DI UN NUOVO VELIVOLO

Analisi di Mercato

1° Incontro - Napoli, 24 Maggio 2014

Scuola Politecnica e delle Scienze di Base
Piazzale V. Tecchio 80, 80125 Napoli

Perchè l'Analisi di Mercato

Quanto costa e quanto tempo ci vuole per sviluppare un nuovo velivolo ?

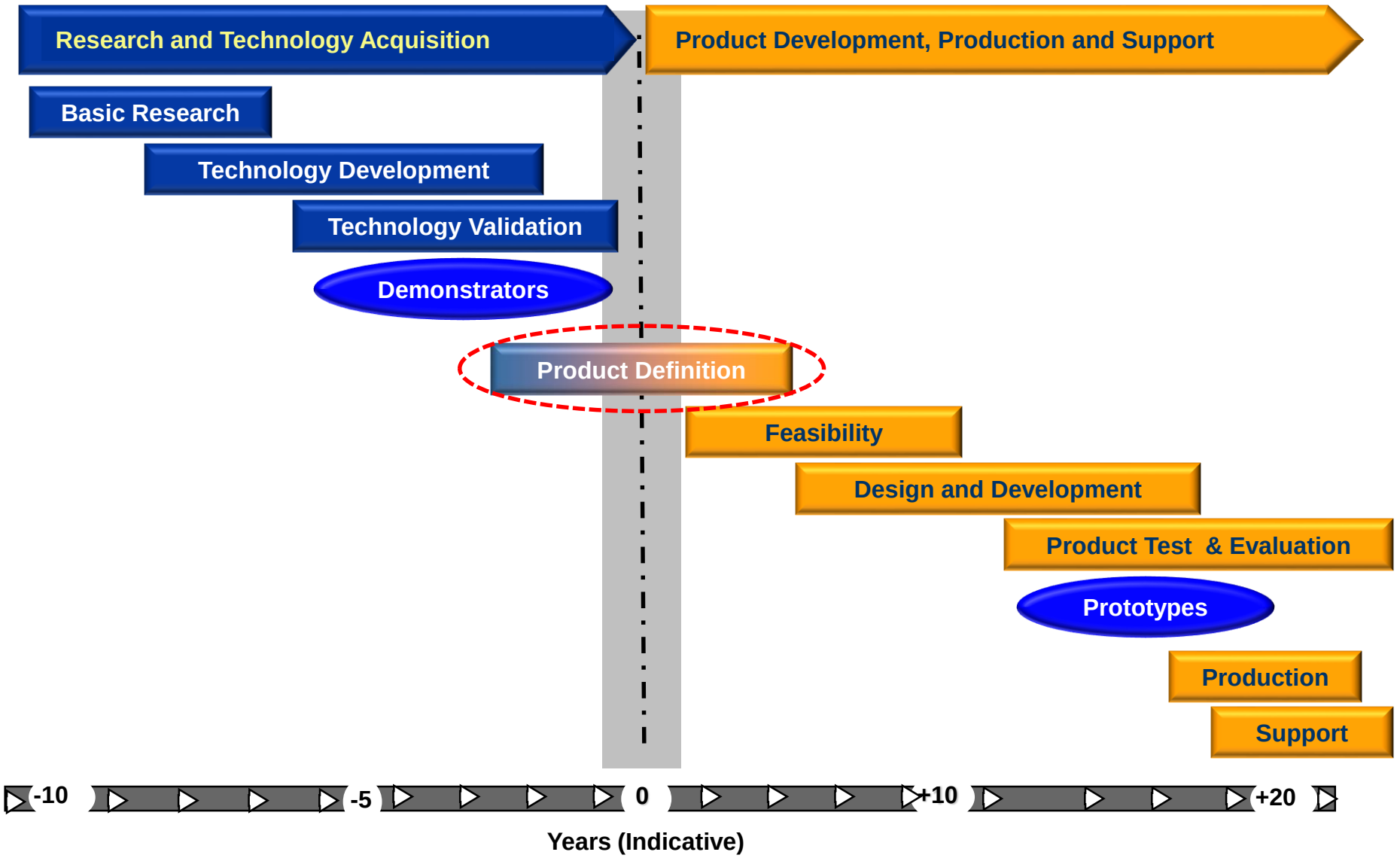
US$ 10 Billion stimati nel 2003

US$ 16 Billion stimati nel 2011
11 anni dal lancio del programma alla prima consegna

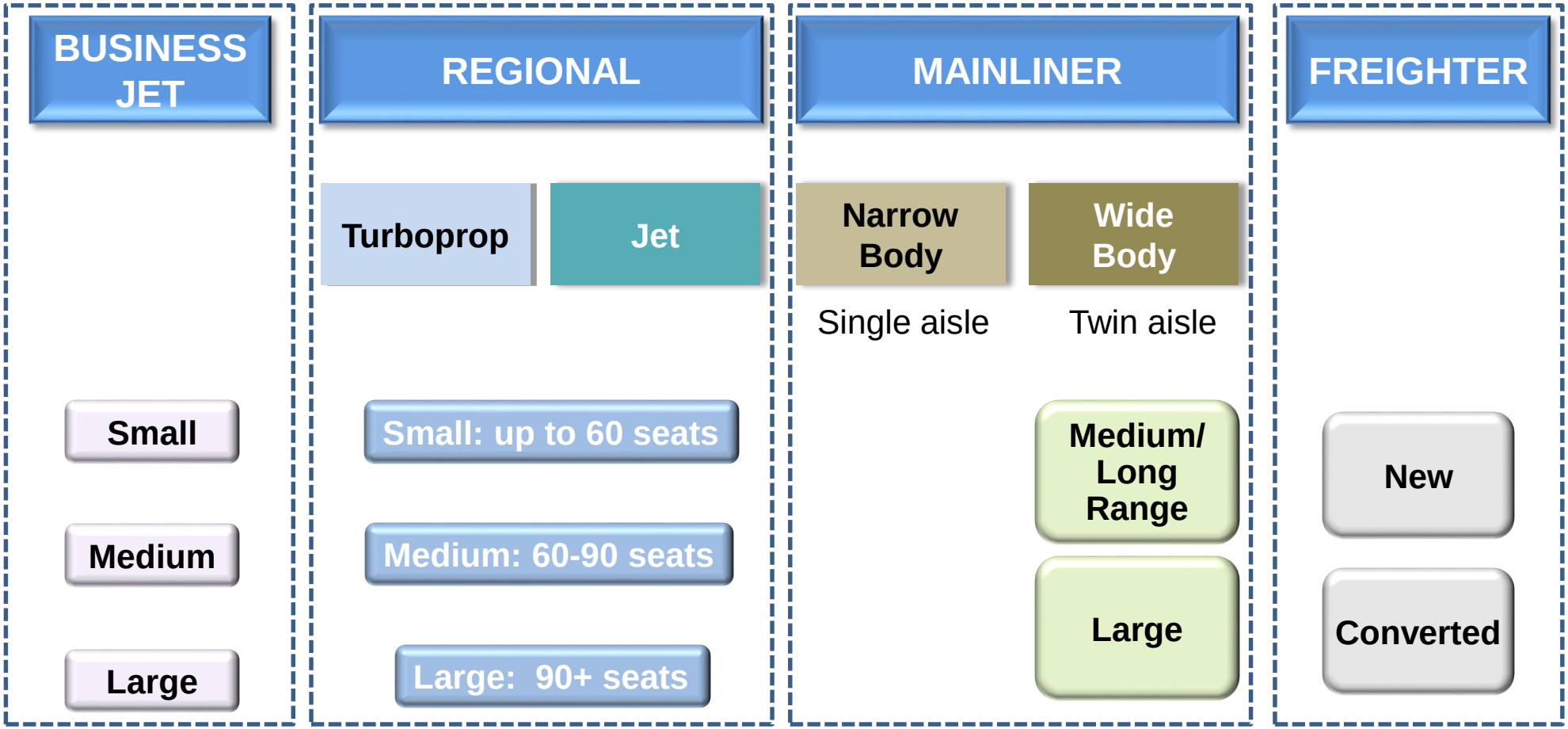
Perchè l'Analisi di Mercato

- Fornire al management aziendale due importanti elementi per la redazione di un **business plan**:
  - Stima del numero di velivoli che sarà possibile vendere
  - Prezzo di mercato del velivolo
- Definire il requisito di mercato: capacità, prestazioni, ….
- Supportare la commercializzazione del velivolo
- Collaborare alla redazione del piano strategico aziendale

Product Cycle in Aeronautic



Market Segmentation – Commercial Aircraft



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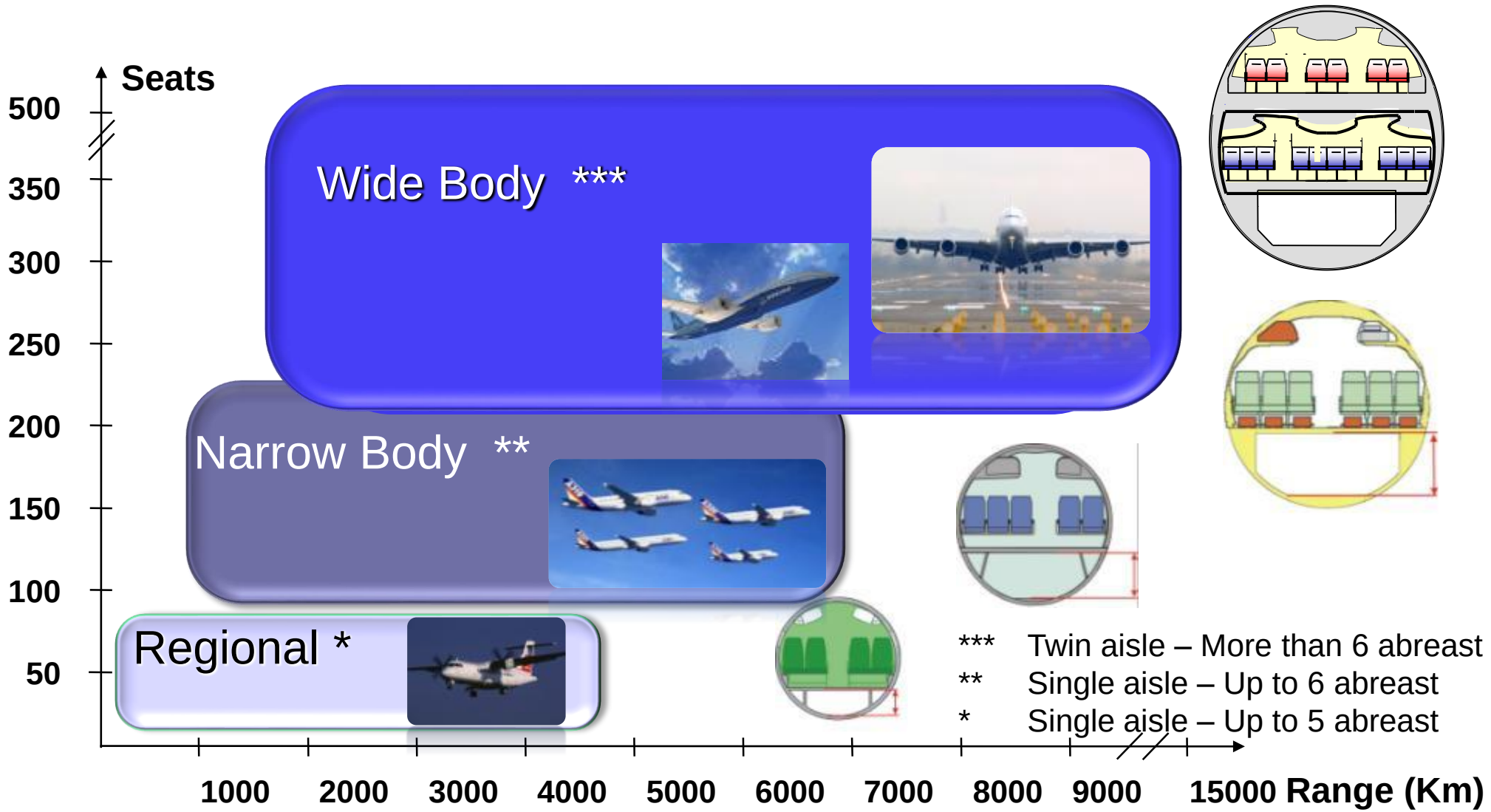


Market Drivers and Key Success Factors

MARKET DRIVERS

1. Economic Growth
2. Demographic & Social Trends
3. Environmental Constraints
4. Travel Demand
5. Airlines Profits
6. Fuel Price
7. Network Evolution
8. Fleet Obsolescence
9. Airlines Demand Trend
10. Technology Innovation

KEY SUCCESS FACTORS

Product-related KSF

1. Product technical performance
2. Flexibility / versatility / modularity
3. Reliability
4. Support capability
5. Price
6. Maturity level

Manufacturer KSF

1. Design/development capabilities
2. Manufacturing capabilities
3. Program management capabilities
4. Financial capabilities

Geographical KSF

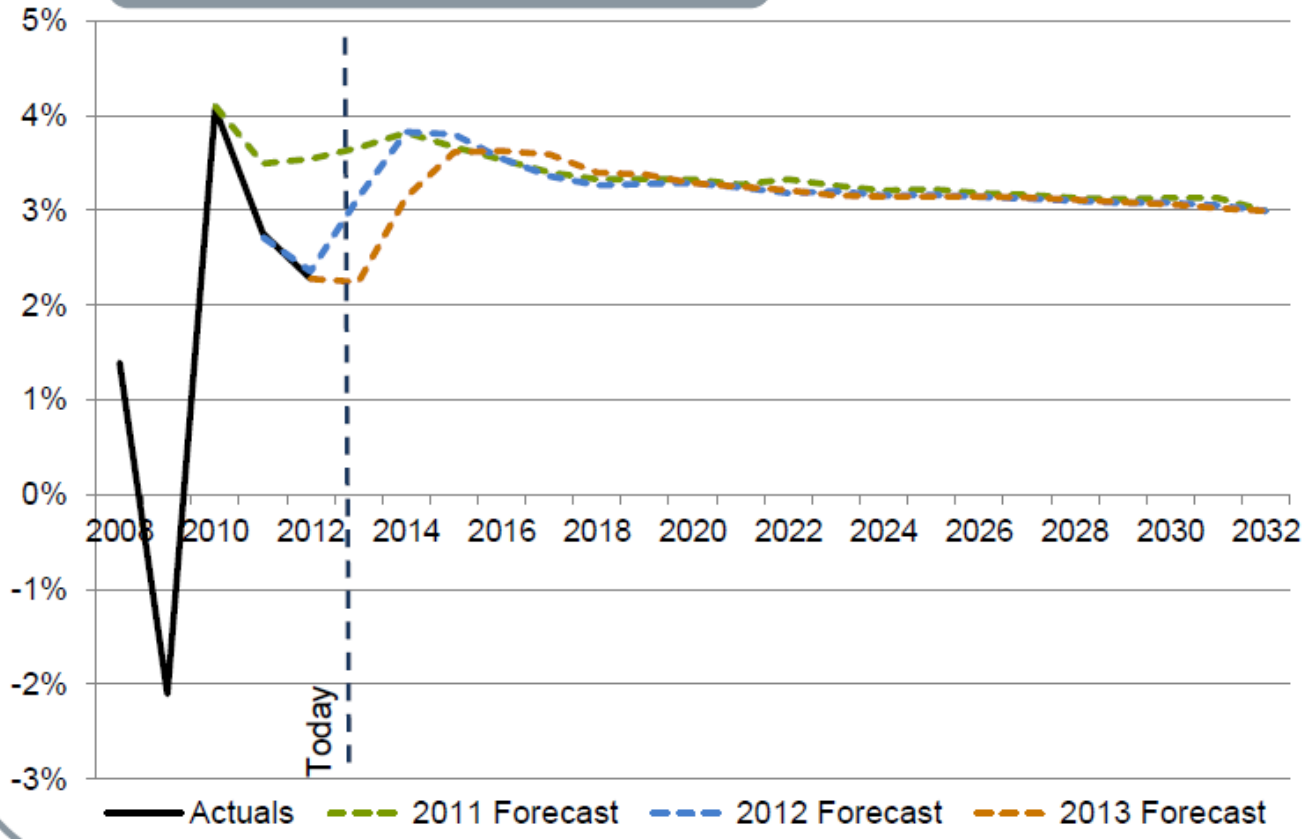
1. Commercial capabilities
2. Image / references
3. Offsets

New Commercial Aircraft Demand

Market Drivers: Economic Growth

Real GDP growth

World GDP 20-Year Forecast
[%, 2008-2032]

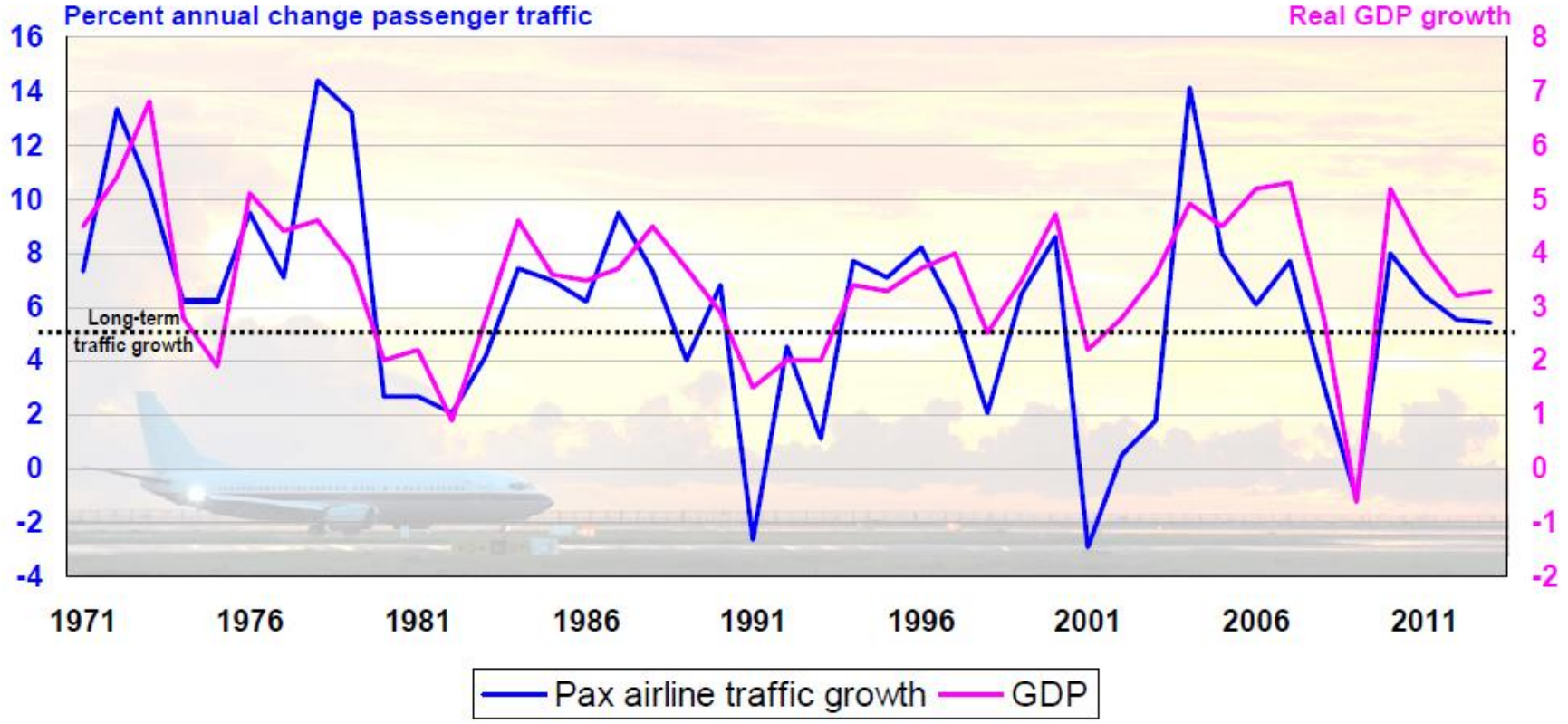


20-Year Average GDP Growth	
2011 Forecast	3.3%
2012 Forecast	3.2%
2013 Forecast	3.2%

Source: Bombardier – MF 2013

Market Drivers: Economic Growth vs. Traffic

Traffic and Economy



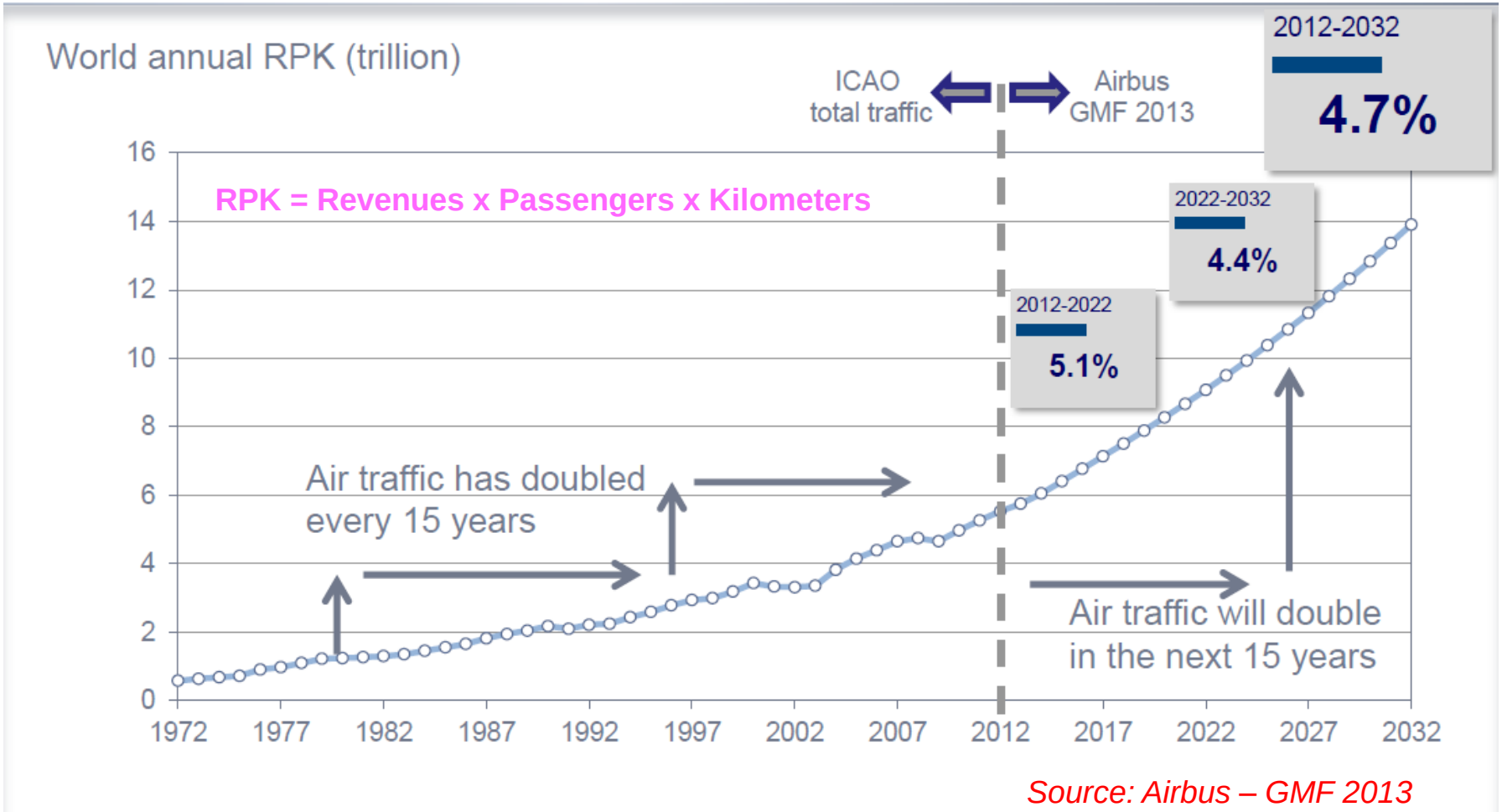
Sources: *Traffic growth – ICAO/IATA*
GDP growth – IMF (PPP)

Source: Boeing – CMO 2013

Air Travel and Economic Growth are directly related

Market Drivers: Traffic Demand

Air Travel will double in the next 15 years

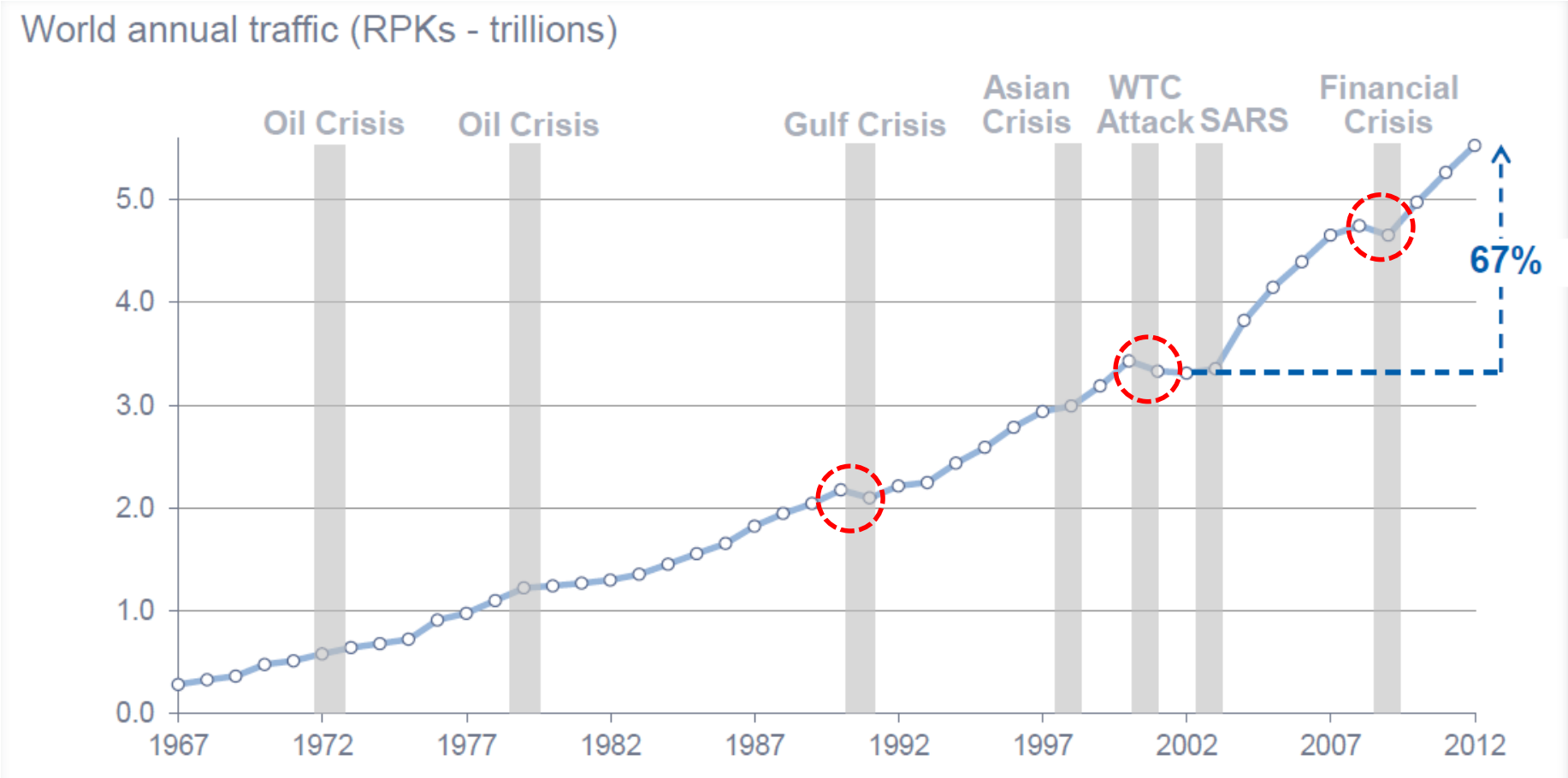


Source: Airbus – GMF 2013

World Air Travel has grown 5% per year since 1980

Market Drivers: Traffic Demand

Air travel has proved to be resilient to external shocks

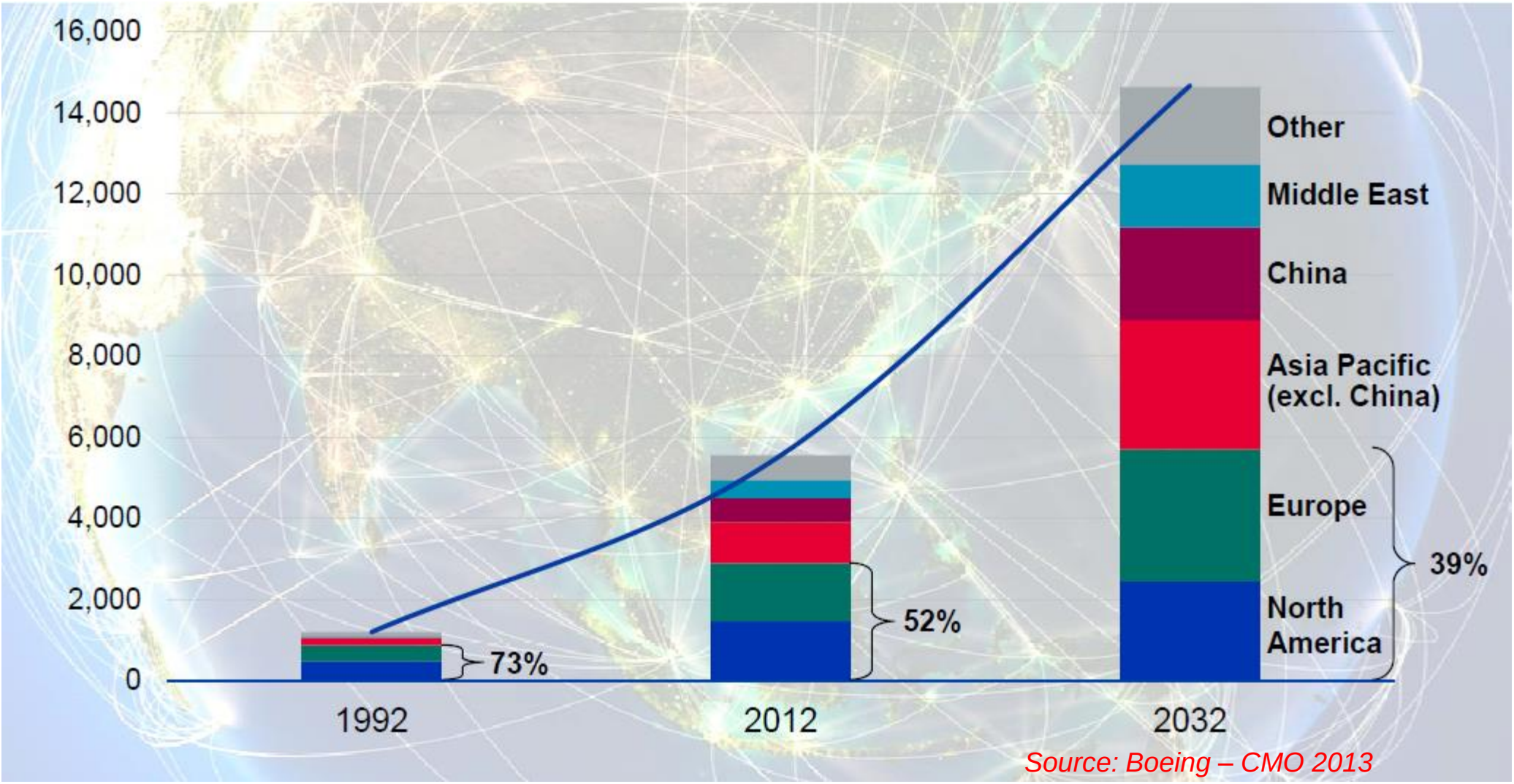


Source: Airbus – GMF 2013

67% growth over the last 10 years

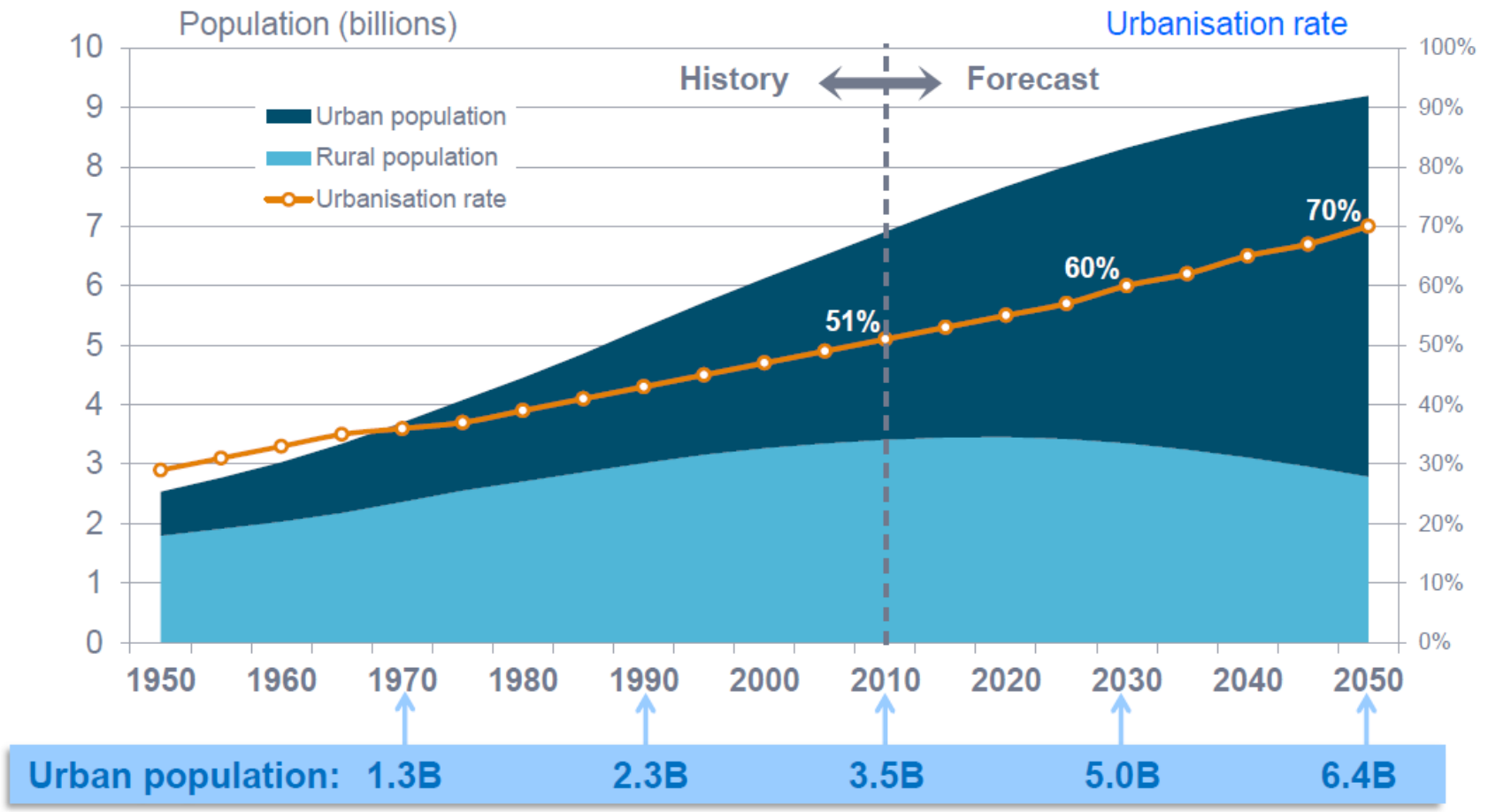
Market Drivers: Traffic Demand by Geographical Area

Air Travel growth varies by Region



Market Drivers: Demographic Trends

World urban population to reach 5 billion by 2030



Source: Airbus – GMF 2013

More people, more wealth, bigger cities ⇨ growing traffic

Market Drivers: Environmental Constraints

Fuel saving, noise and pollution

- Annual fuel savings of 15% equate to:
  1.4 m litres of fuel: the consumption of 1000 mid size cars
- 3,600 tonnes of CO2
  the CO2 absorption of 240,000 trees
- NOx emissions 50% below CAEP/6
- 500nm more range
  or 2 tonnes more payload
- Aircraft noise up to 15dB below Stage IV

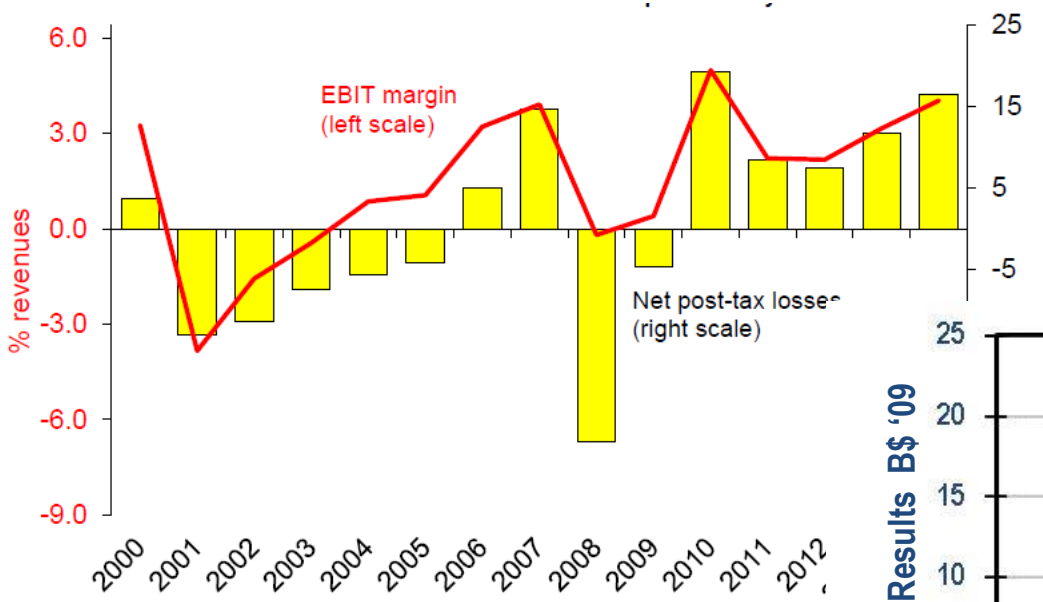
Significant environmental improvements

Source: Airbus – GMF 2013

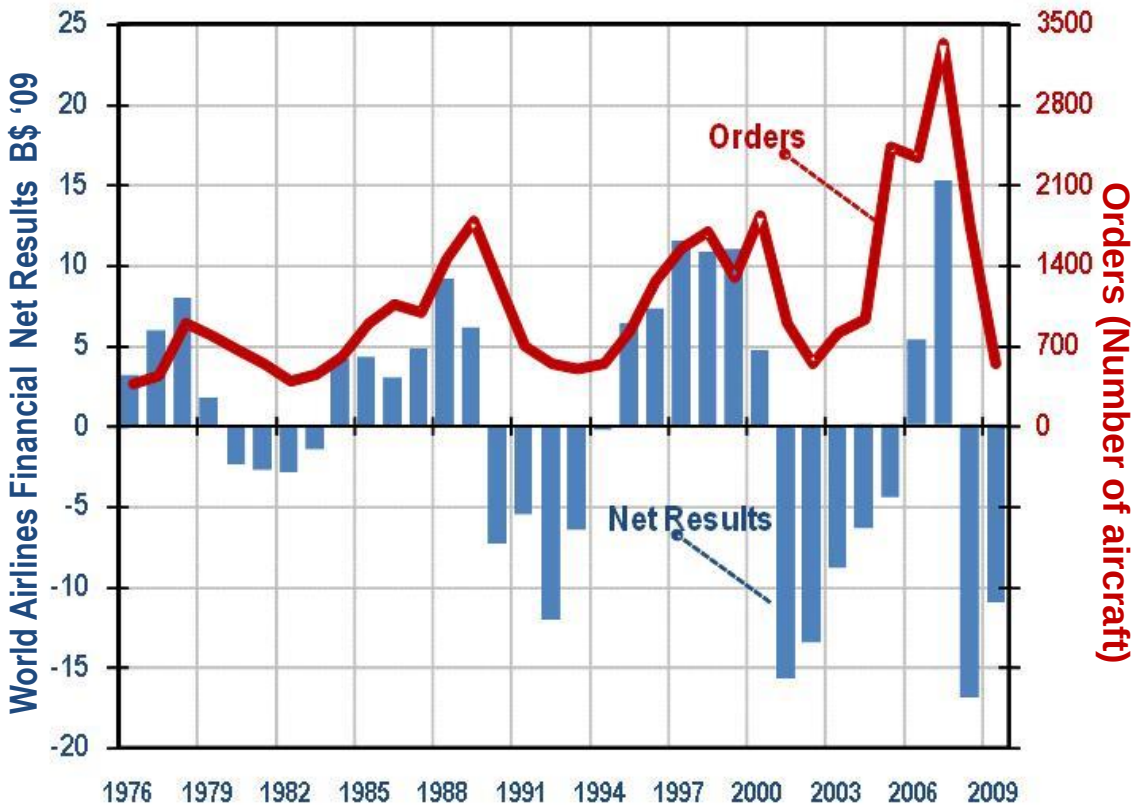
What A320neo offers in terms of environmental benefit

Market Drivers: Airlines Profits

Global Commercial Airlines Profitability



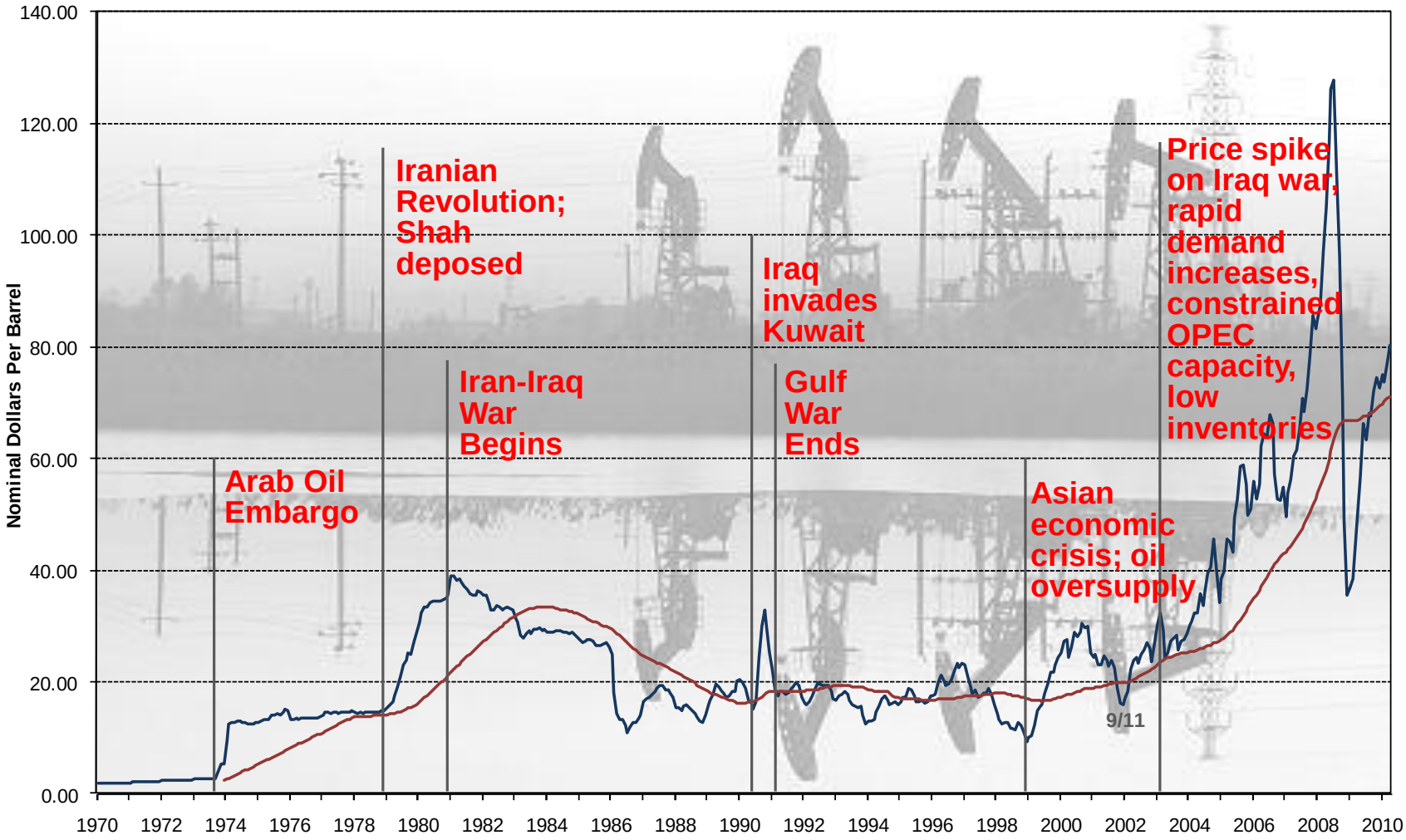
EBIT = Earning Before Interests and Taxes



Higher profits, more orders

Market Drivers: Fuel Price

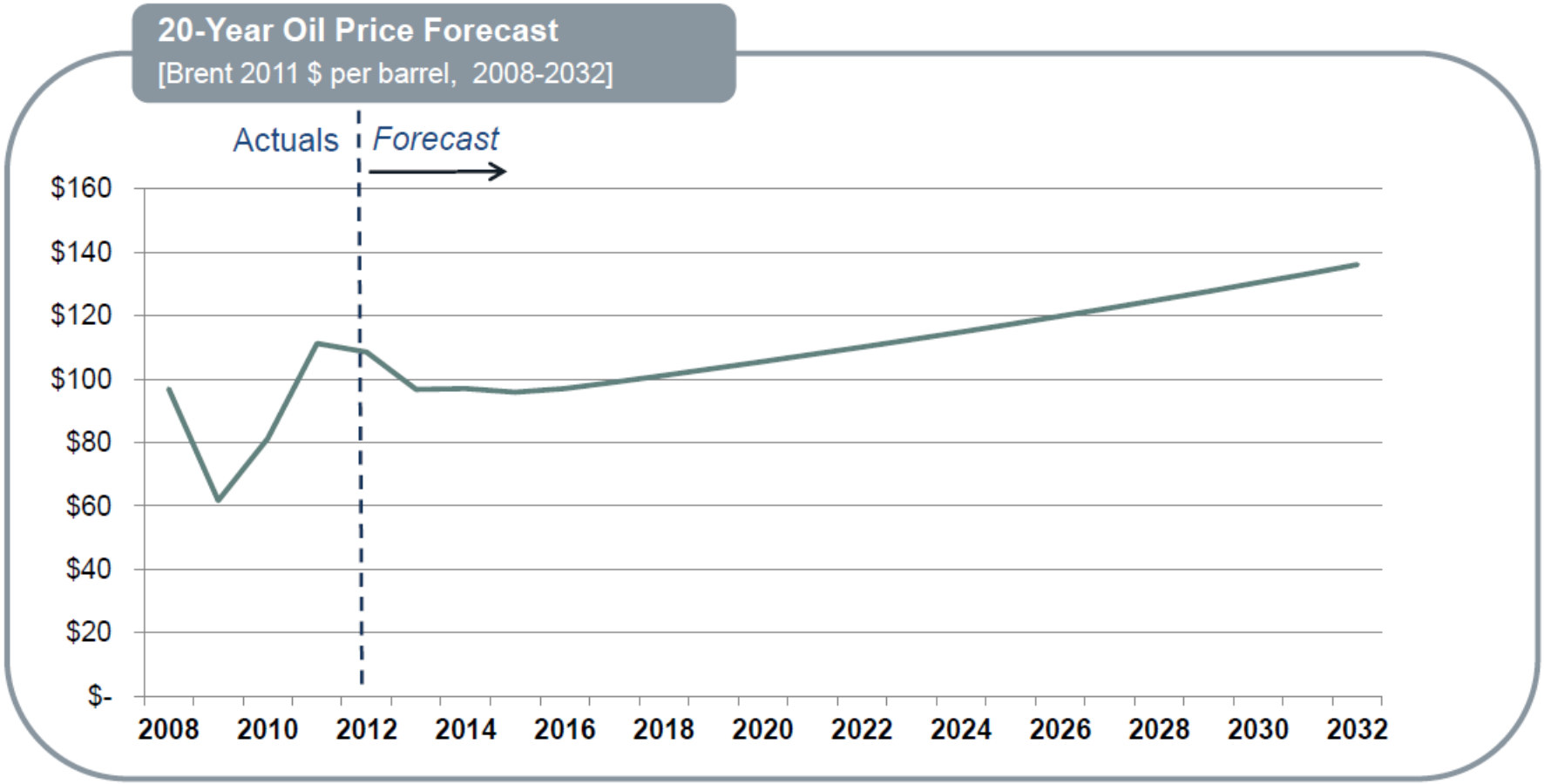
Oil Prices (Imported Refiners Acquisition Cost)



Fuel prices amount to 30-40% of total DOC

Market Drivers: Fuel Price

Oil Prices Forecast

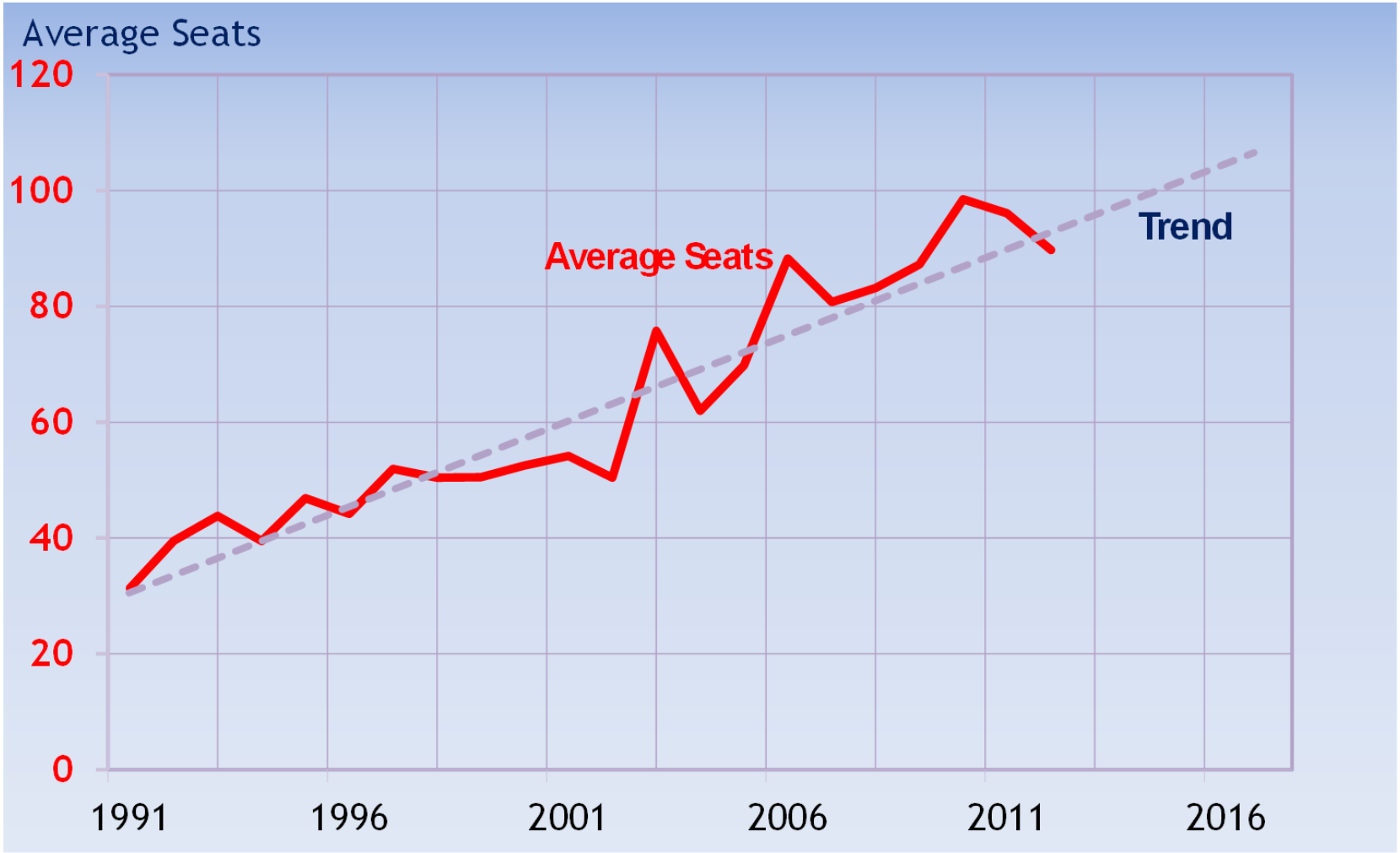


Source: Bombardier – MF 2013

Oil prices expected to remain elevated and volatile driving demand for more efficient aircraft

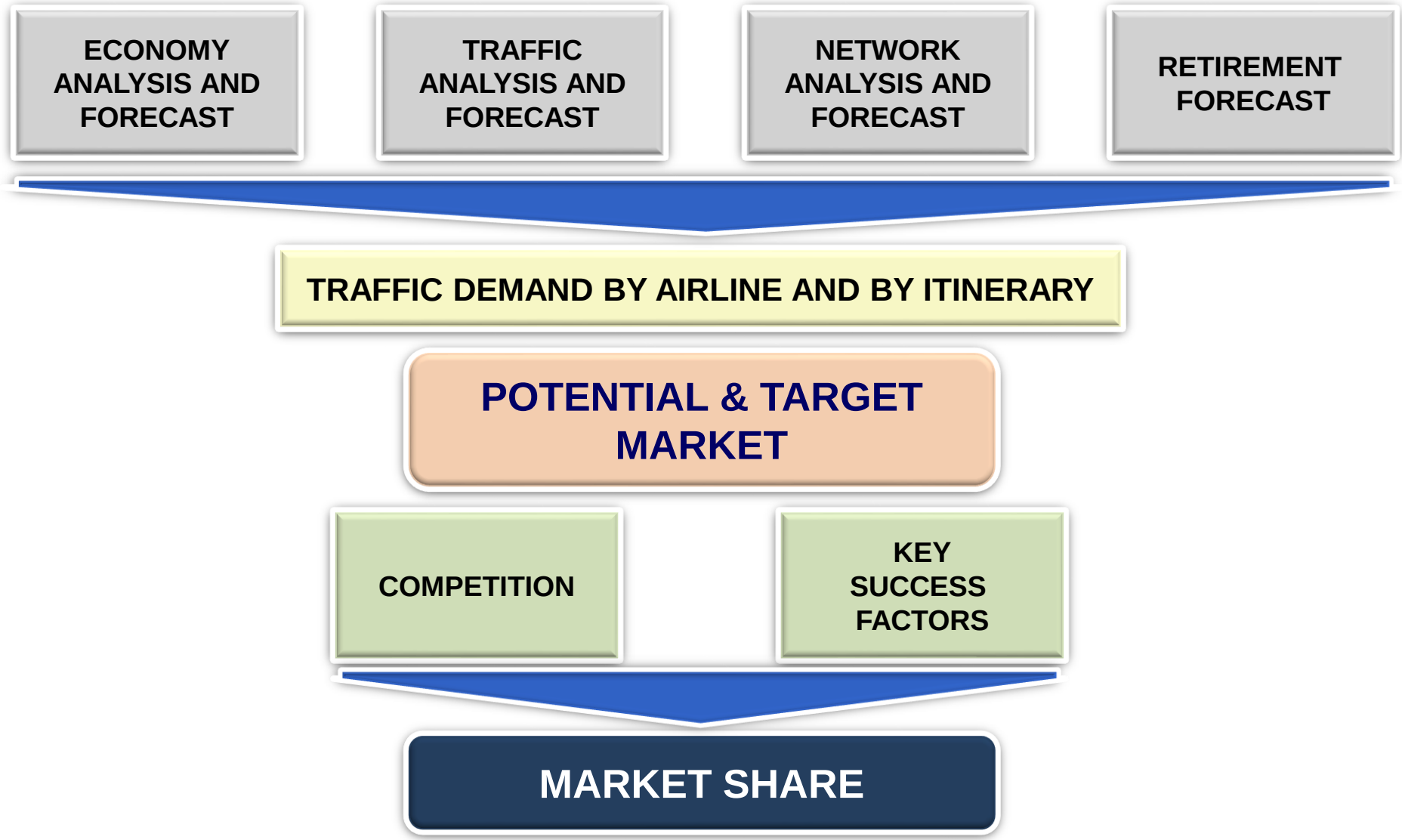
Market Drivers: Airlines Demand Trend

Average Seat Capacity of new ordered Regional a/c



Regional aircraft size is increasing

Market Analysis Methodology



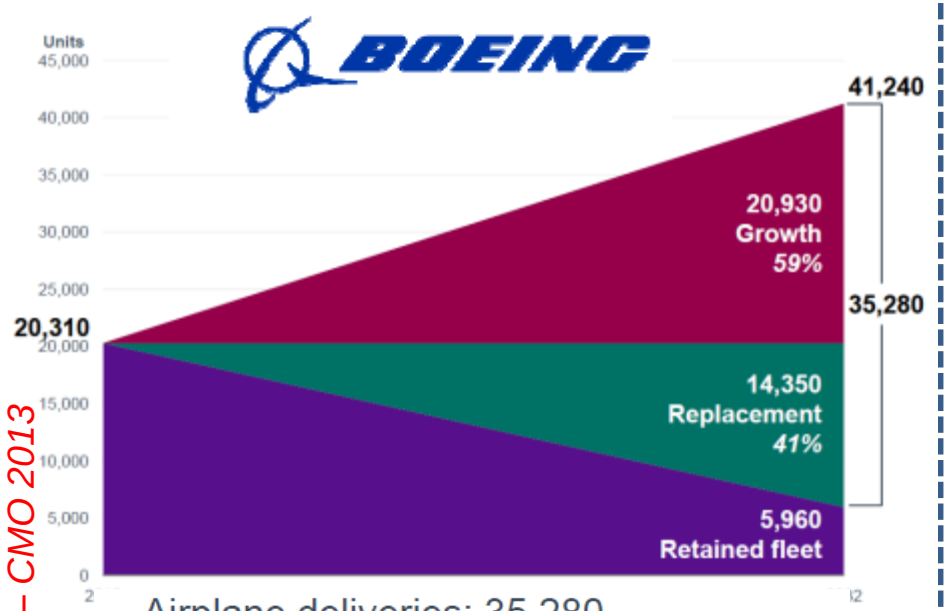
Market Analysis Methodology

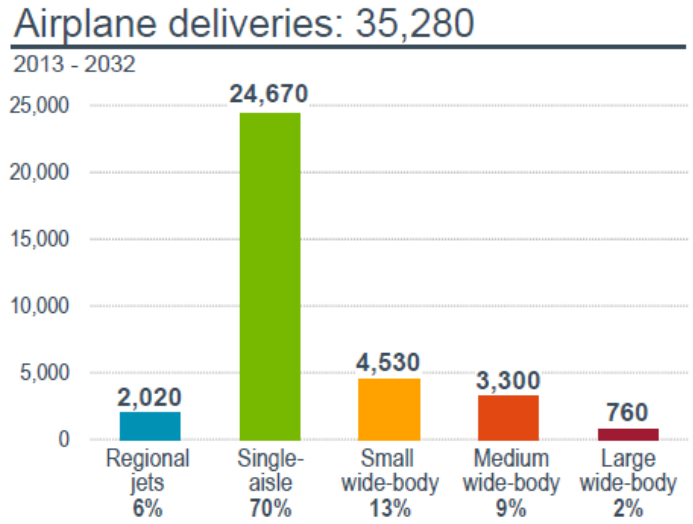
Main assumptions

- GDP growth rate by area
- Traffic growth by area
- Demographic trend
- Crude Oil price
- Aircraft size growth
- Aircraft Retirement age
- Environment (& Congestion) Issues/Fees
- .....

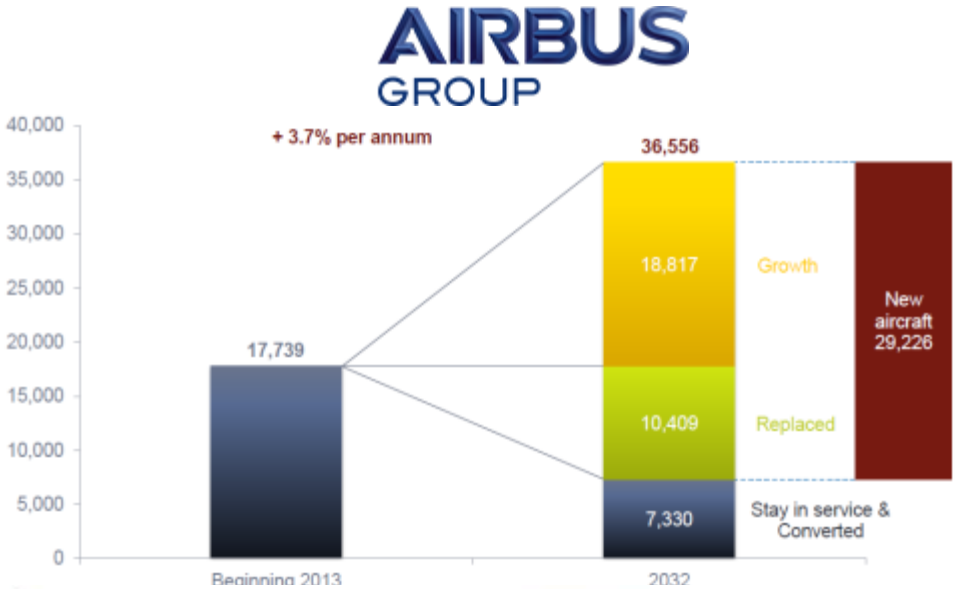
Potential Market Forecast

Fleet evolution and New aircraft demand





Source: Boeing – CMO 2013



20,242 single-aisle aircraft
+724 aircraft over GMF 2012

7,273 twin-aisle aircraft
+299 aircraft

1,711 very large aircraft
+5 aircraft

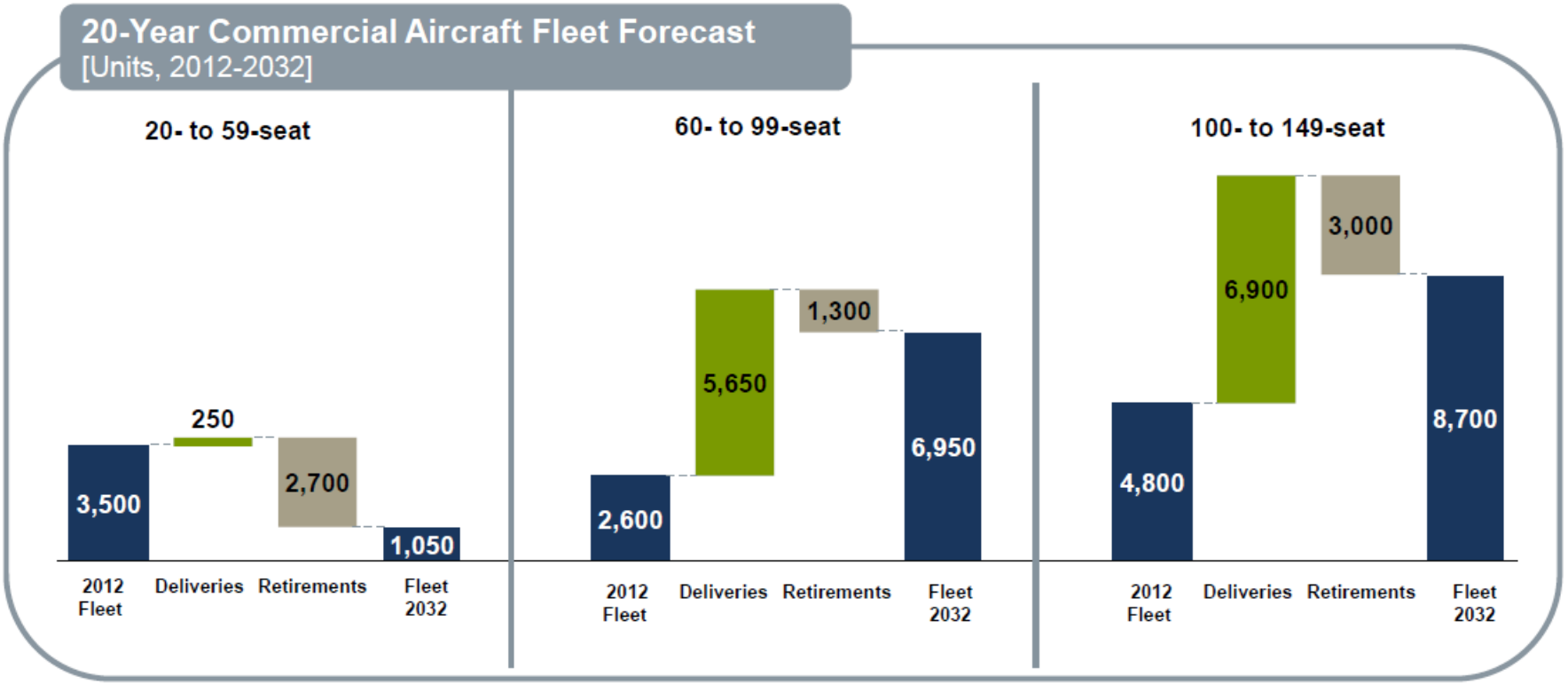
29,226 new aircraft
+1,028 aircraft

Source: Airbus – GMF 2013

Potential Market Forecast

Fleet evolution and New aircraft demand

BOMBARDIER



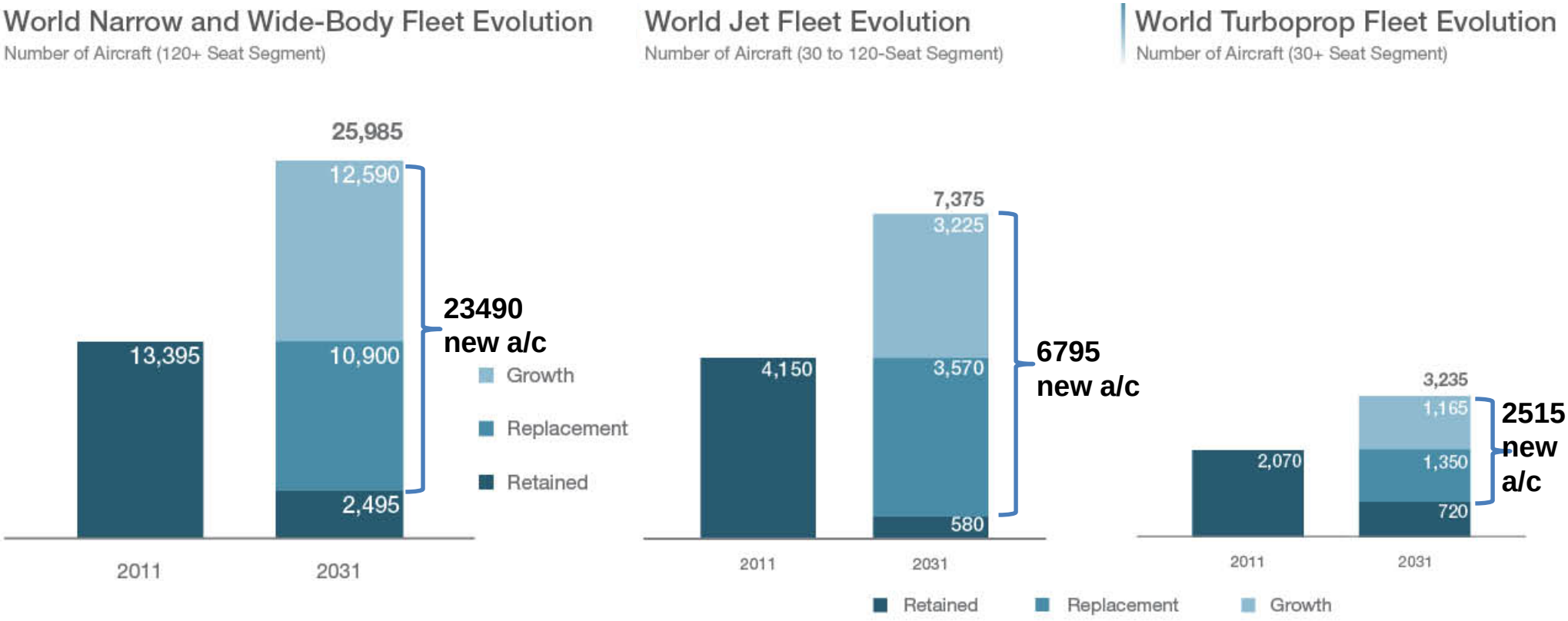
Total	Fleet 2012	Deliveries	Retirements	Fleet 2032
20- to 149-seat	10,900	12,800	7,000	16,700

Source: Bombardier – MF 2013

Potential Market Forecast

Fleet evolution and New aircraft demand

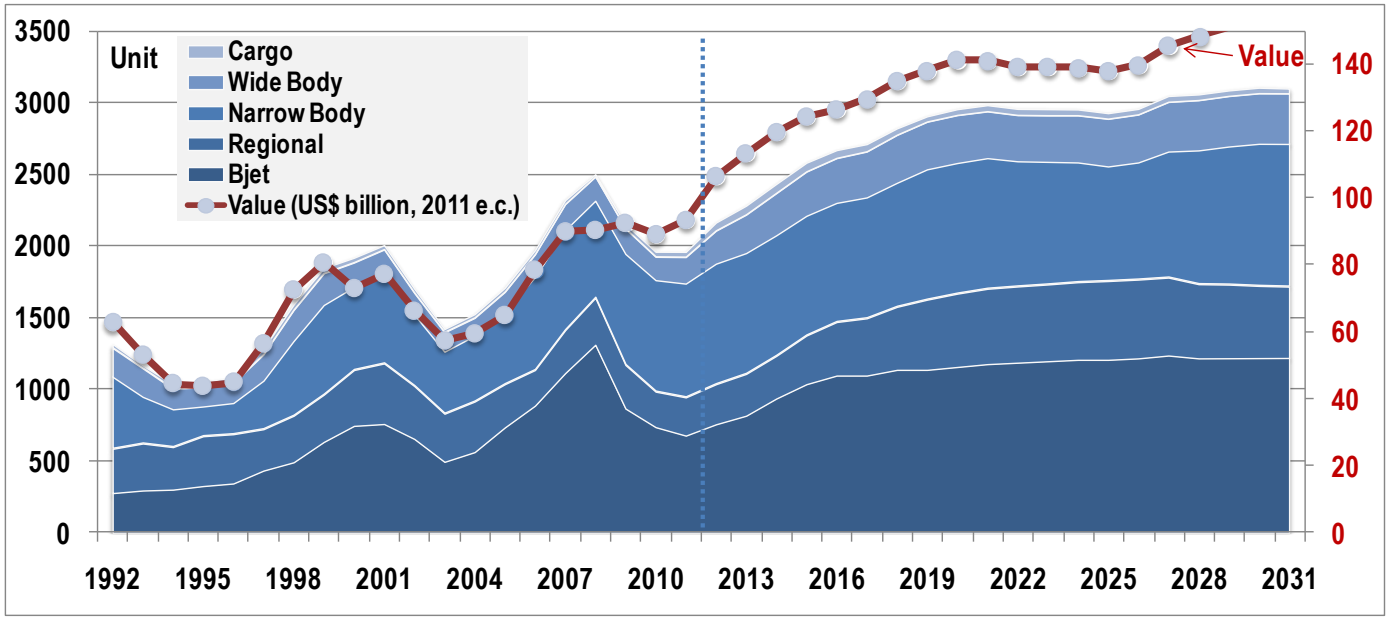
EMBRAER



Source: Embraer – MO 2012

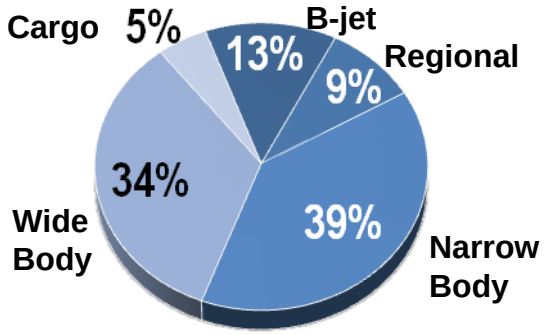
Potential Market Forecast

Deliveries by year



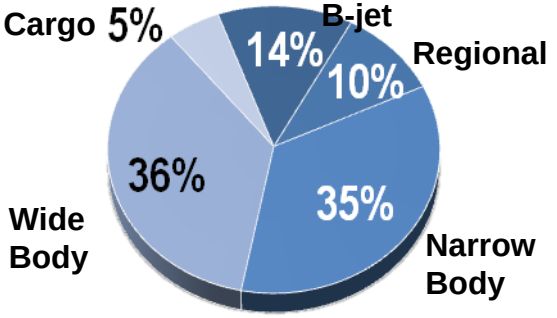
- Despite the ups and downs, the demand is increasing in all segments
- In the next twenty years new aircraft deliveries are expected to be higher both in value and in unit compared to past 20 years.

Last 20 years delivery value



$ 1395 B'11 [33500 a/c]

Next 20 years delivery value



$ 2720 B'11 [56670 a/c]

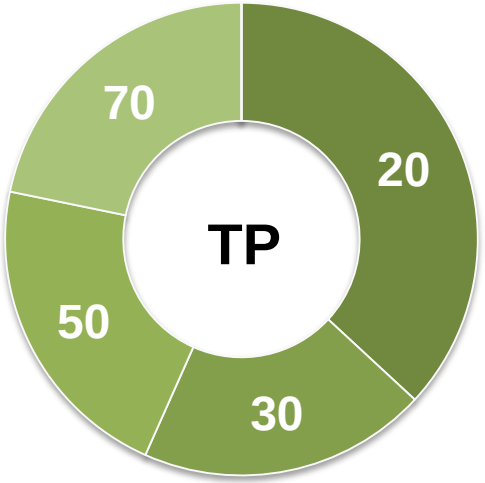
Regional Aviation Market

Highlights

- Over the last 20 years approx 6800 regional aircraft delivered (2850 turboprop & 3900 jet)
- Average age of regional fleet is 16 years (21 years for Turboprop and 13 for jet)
- Current regional fleet operated by scheduled airlines amounts to around 8300 units
- Factors of the turboprop airliners revival include growing air traffic, continuing high fuel prices, and the need for regional carriers to reduce operating costs
- The total number of city-pairs served by regional aircraft has increased by 13% over the last decade
- Potential market of approx 9000-10000 regional aircraft over the next 20 year

Regional Aviation Market

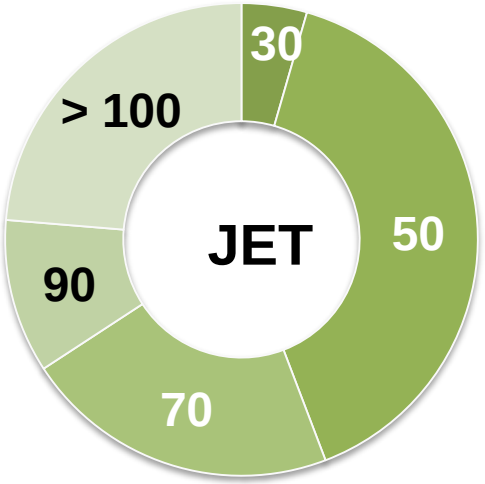
Current Fleet



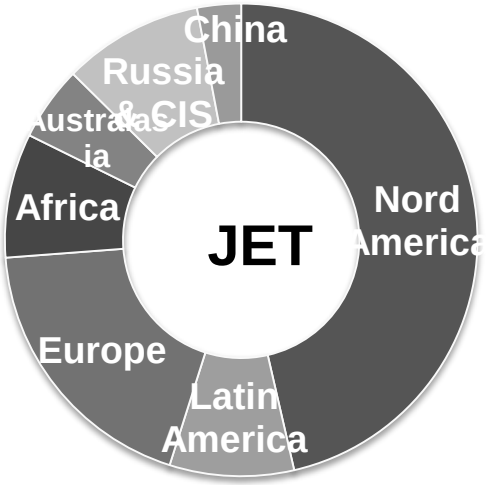
By seats

Regional Turboprop
3800 a/c

By area



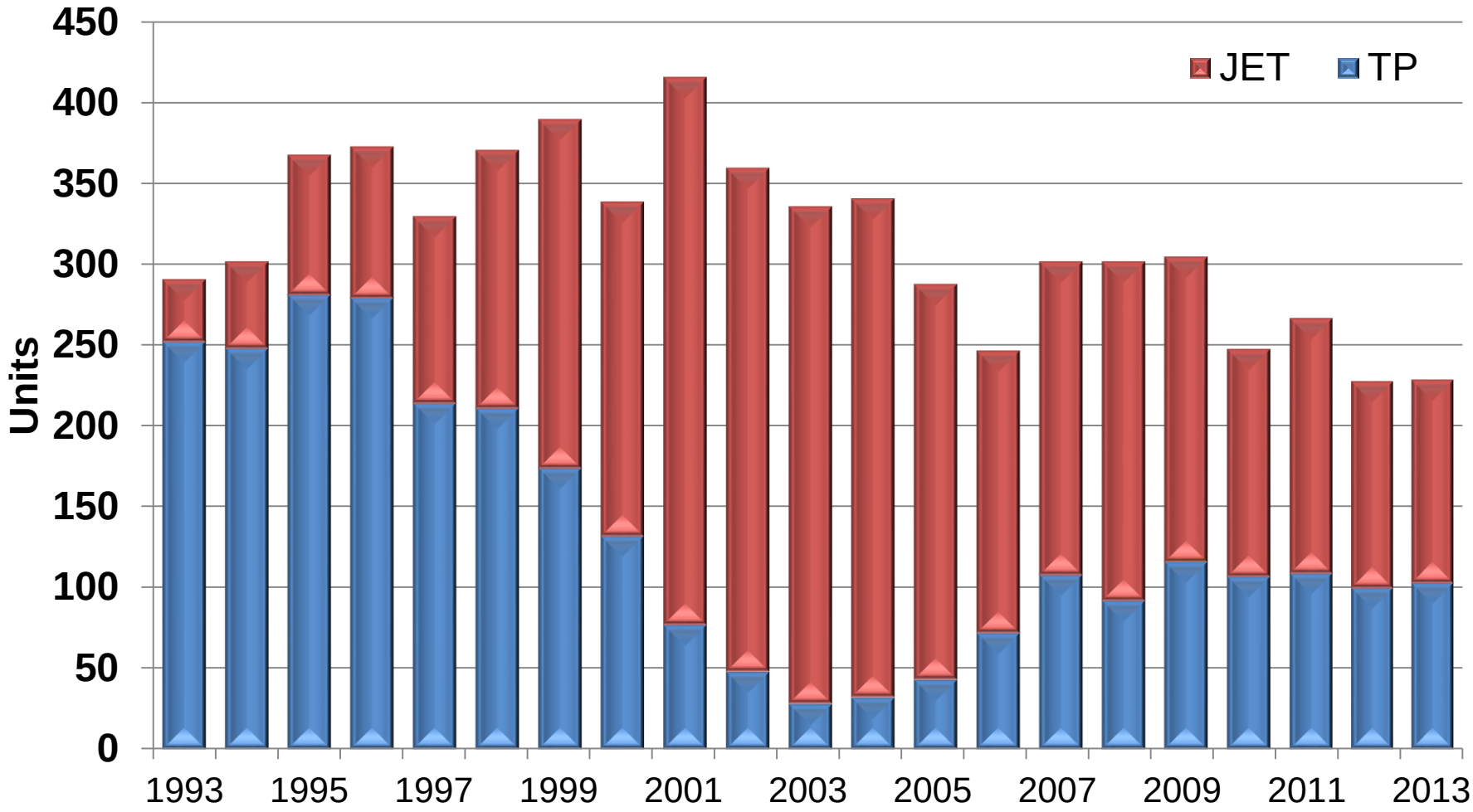
Regional Jet
4500 a/c



Total a/c: 8300 a/c

Regional Aviation Market

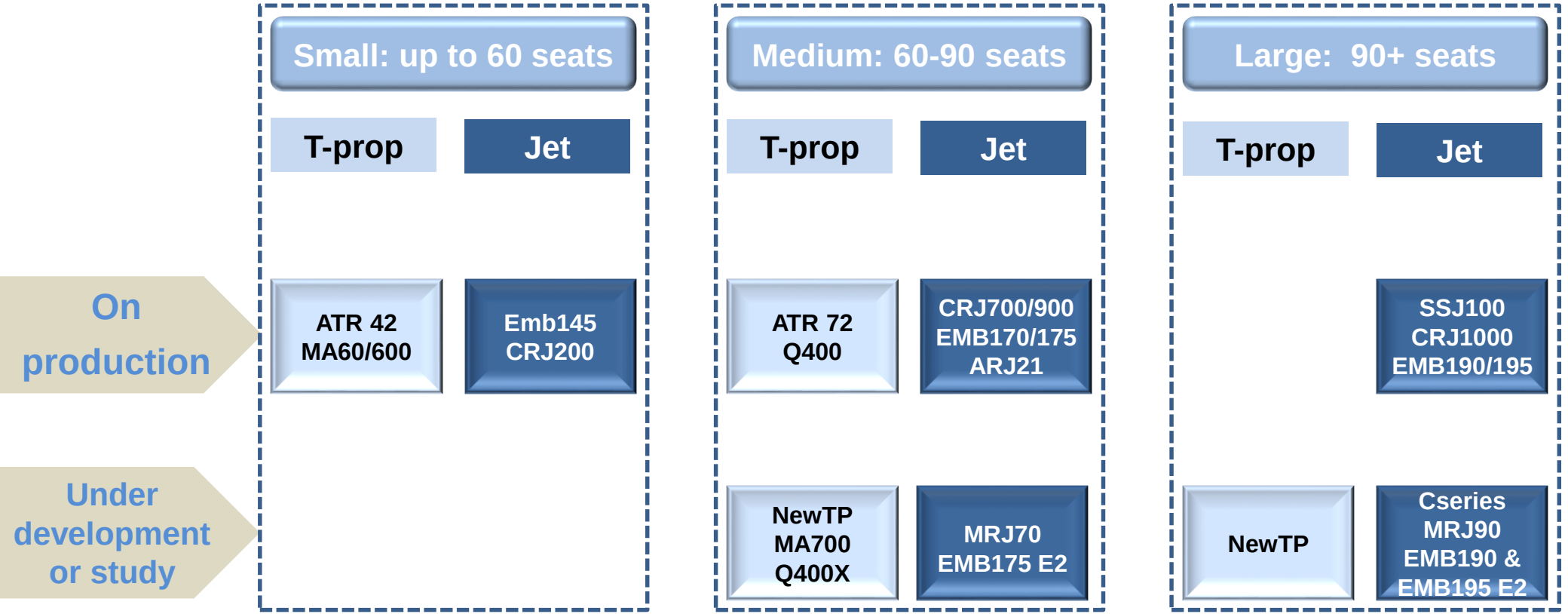
Historical Deliveries



1993-2013 deliveries: 6750 units (2850 turboprop & 3900 jet)

Regional Aviation Market

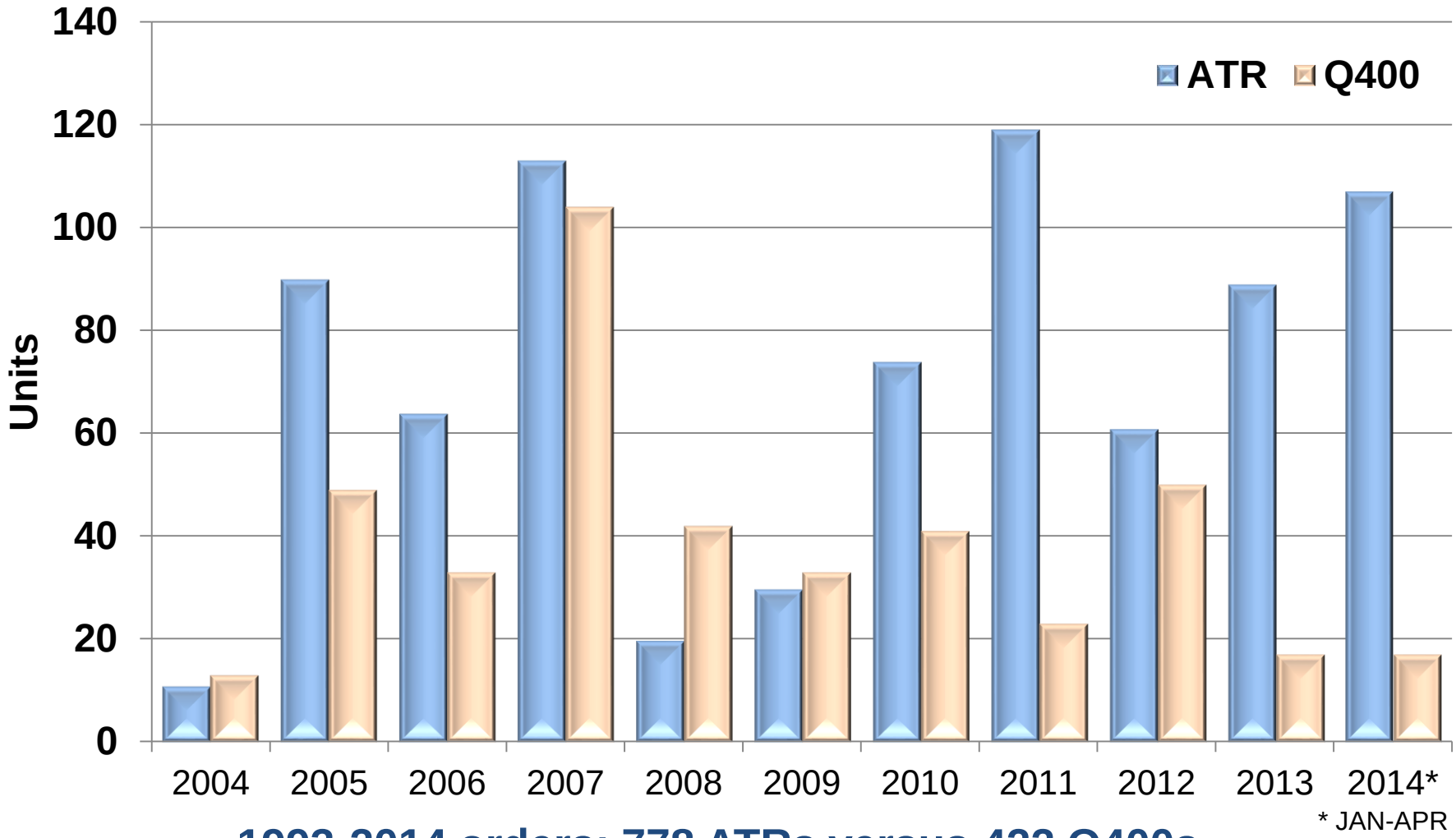
The competition



Higher competition in the jet a/c, negligible in the turboprop a/c

Regional Aviation Market

Main Turboprop orders

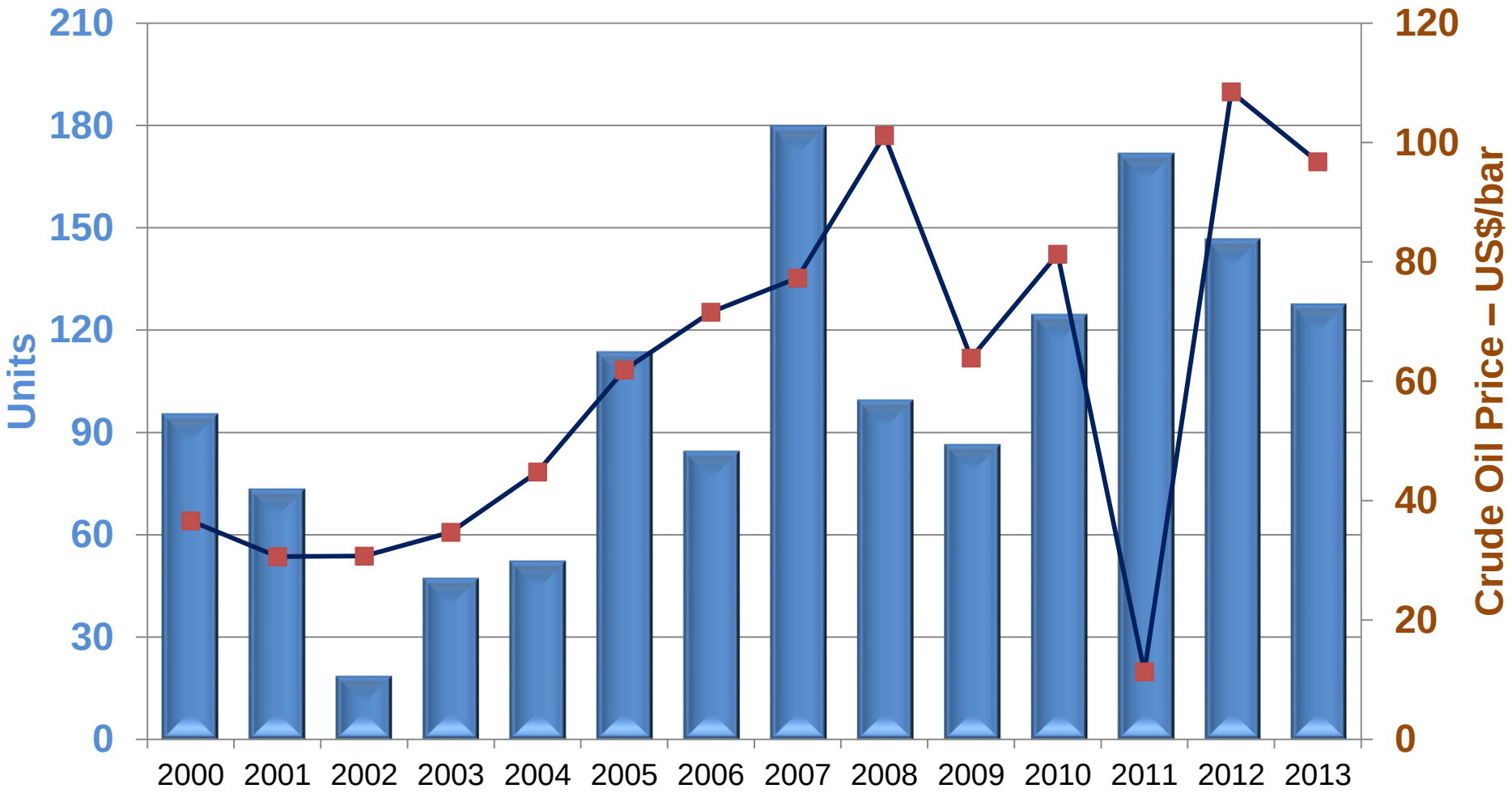


1993-2014 orders: 778 ATRs versus 422 Q400s

Total a/c life orders: 1345 ATRs versus 497 Q400

Regional Aviation Market

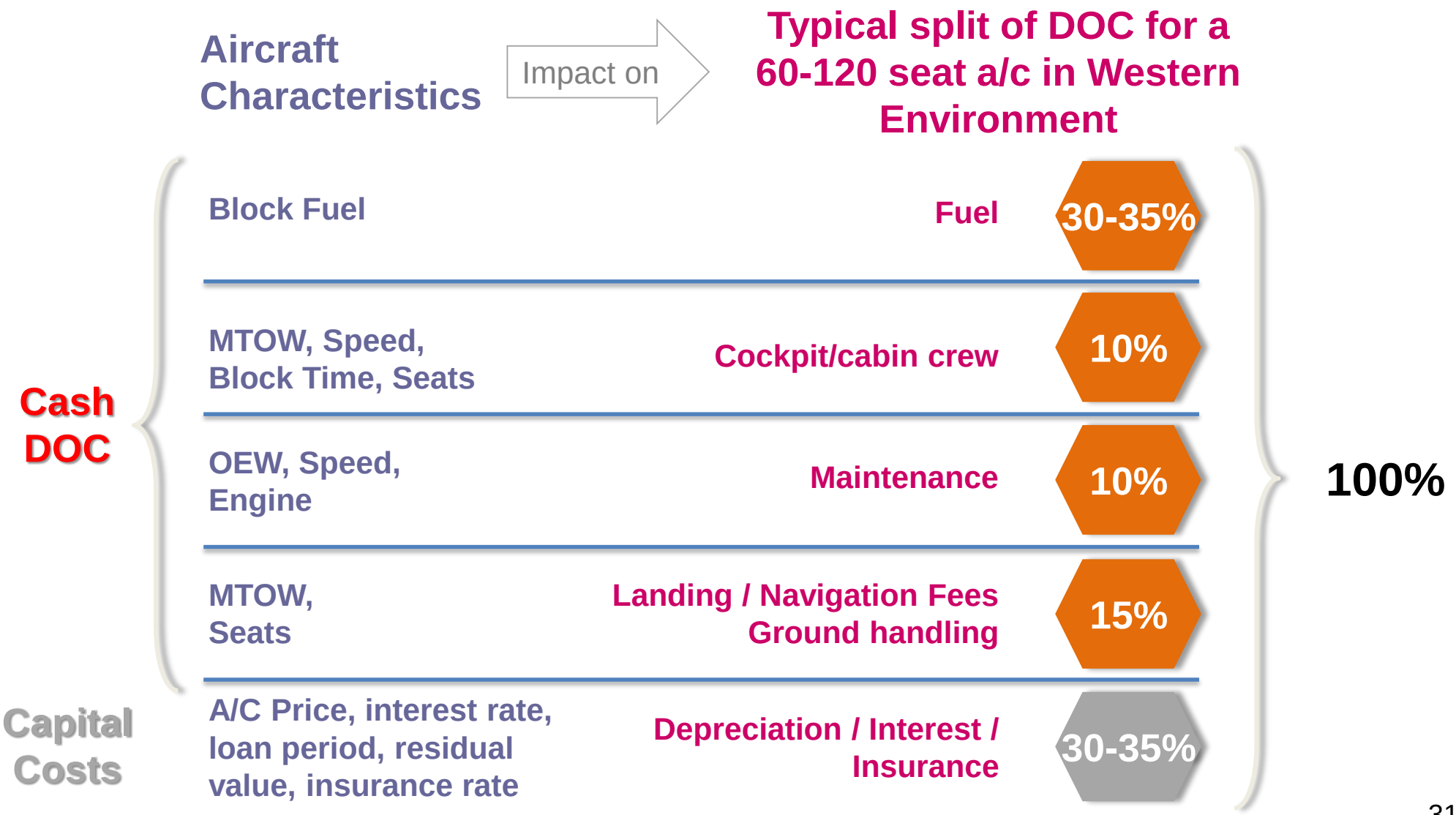
TP aircraft orders trend and Crude Oil Price



Fuel prices condition the demand

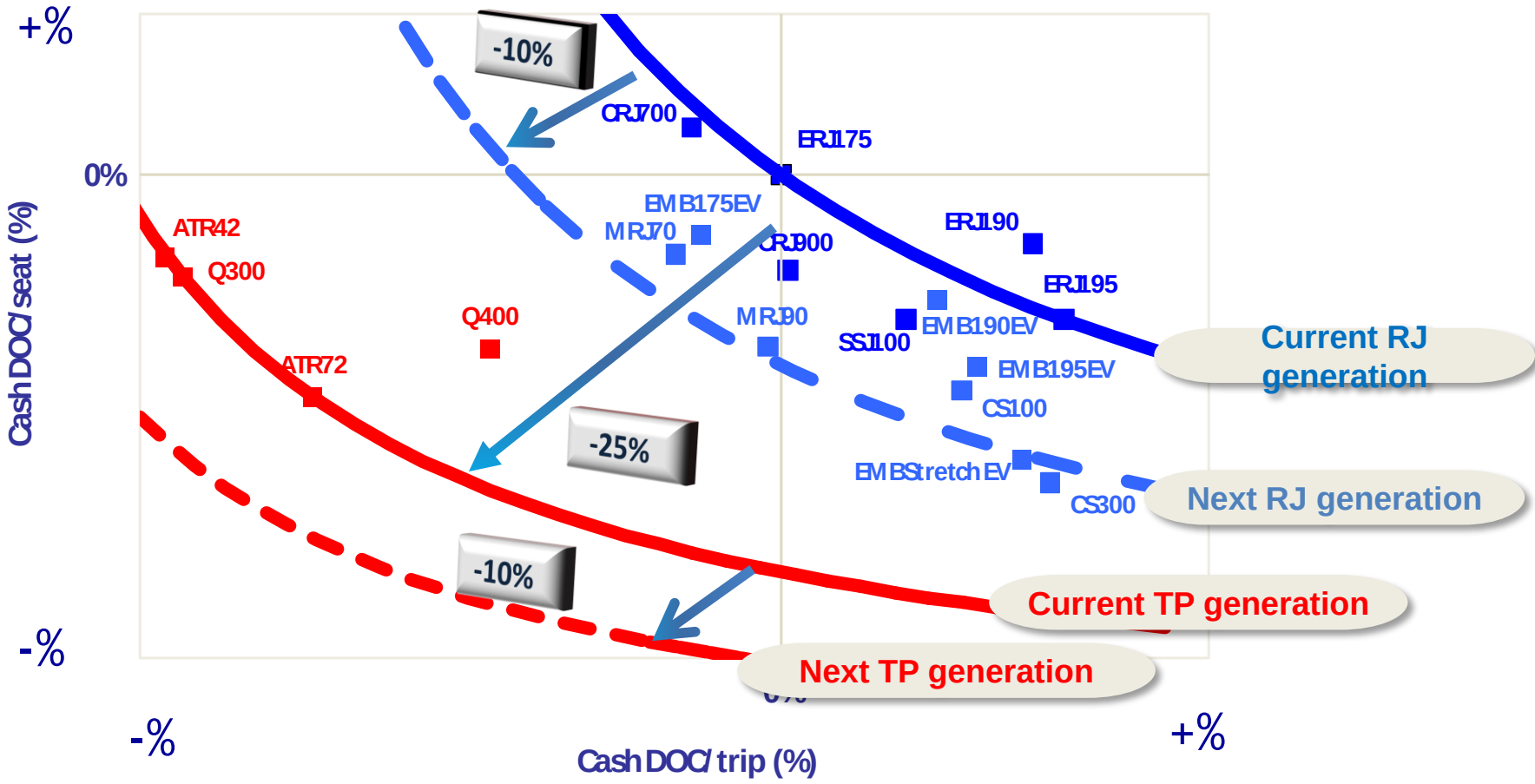
Regional Aviation Market

DOC - Direct Operating Costs



Regional Aviation Market

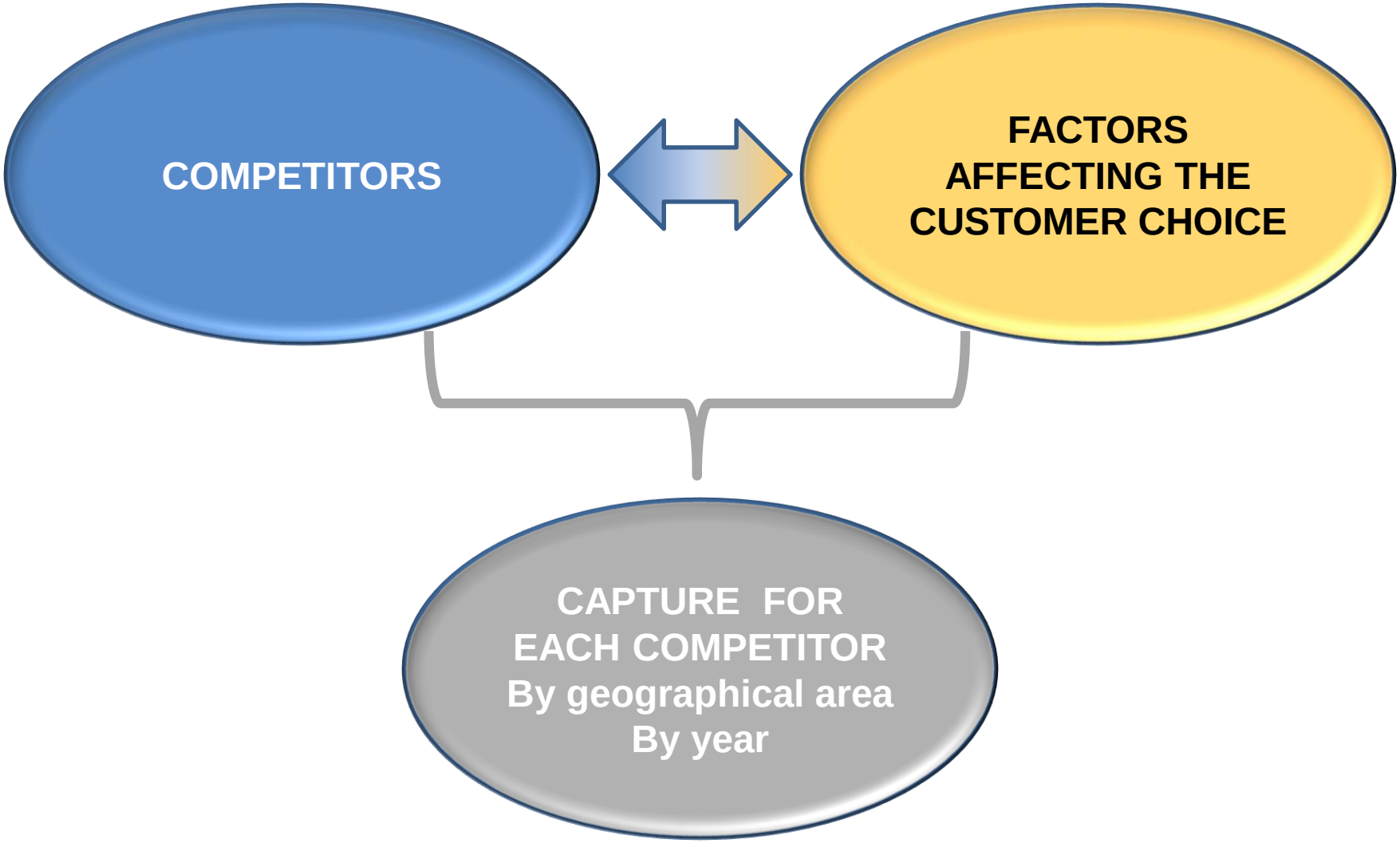
Operating Costs Requirement



OEMs need to develop a new generation of TP aircraft in order to maintain current economics saving towards regional jet

Regional Aviation Market

Market Share



DOMANDE ?

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