Trends in Fleet and Aircraft Retirement

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Boeing Commercial Airplanes

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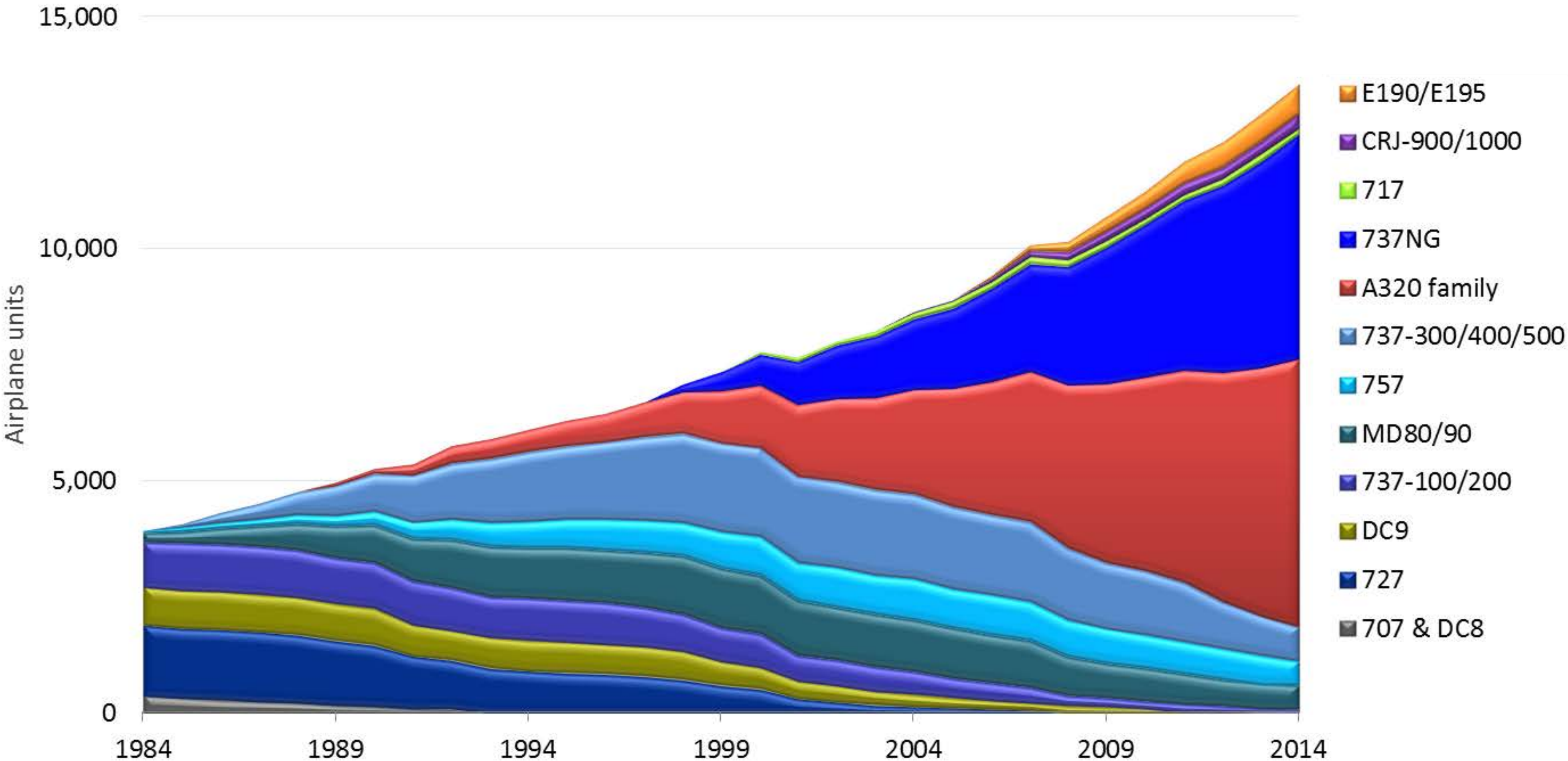
Agenda

- Passenger fleet
  - Products
  - Operators
  - Ownership
- Freighter fleet
- New and used airplanes
- Aircraft retirement
- Program update: ecoDemonstrator

Unprecedented, two models (737 / A320) will dominate single-aisle fleet

- ~80% of in-service passenger fleet
- ~85% of single-aisle backlog
- Combined production rates approaching 100/month

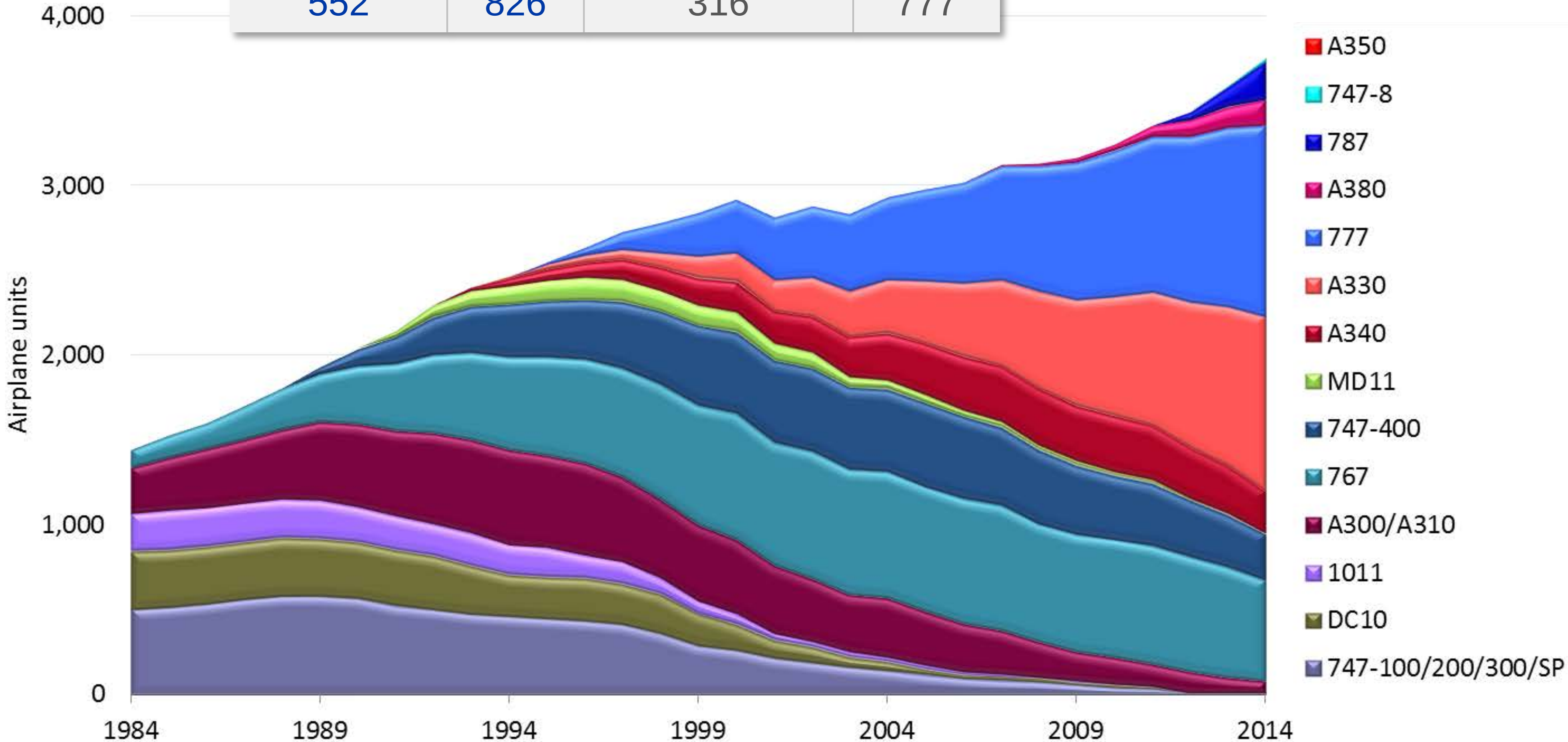


Data source: Western jets with >90 seats; Flightglobal Ascend May-18-2015; Boeing analysis

Widebody fleet will become more concentrated

- 777 & A330 account for ~60% of in-service pax widebodies

Backlog (Flightglobal Ascend as of May-25-2015)			
777 / 777X	787	A330ceo/neo	A350
552	826	316	777



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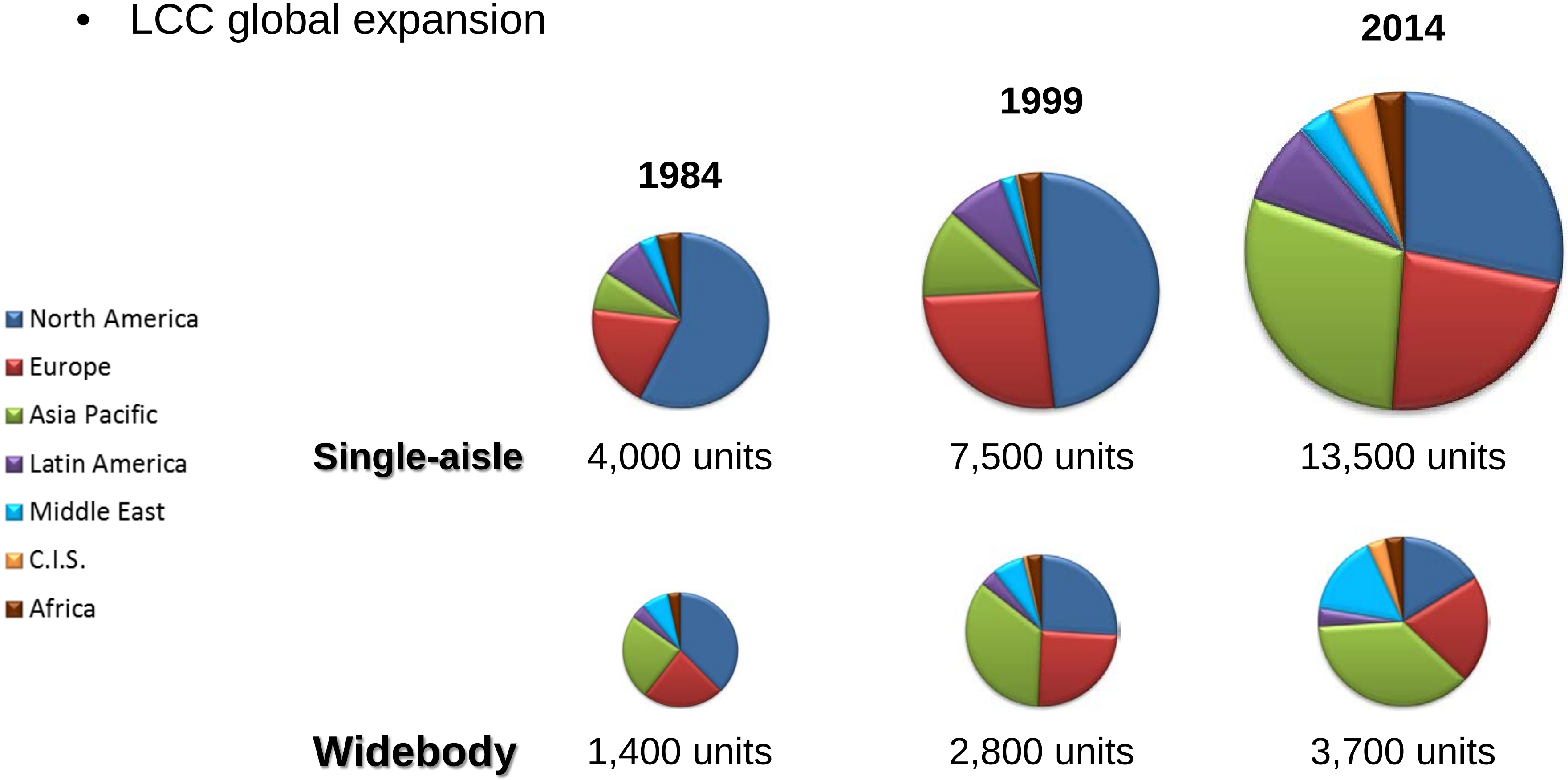
Geographical diversity calls for global parts distribution

- Growth of middle class in emerging economies
- Liberalization and sixth freedom carriers
- LCC global expansion



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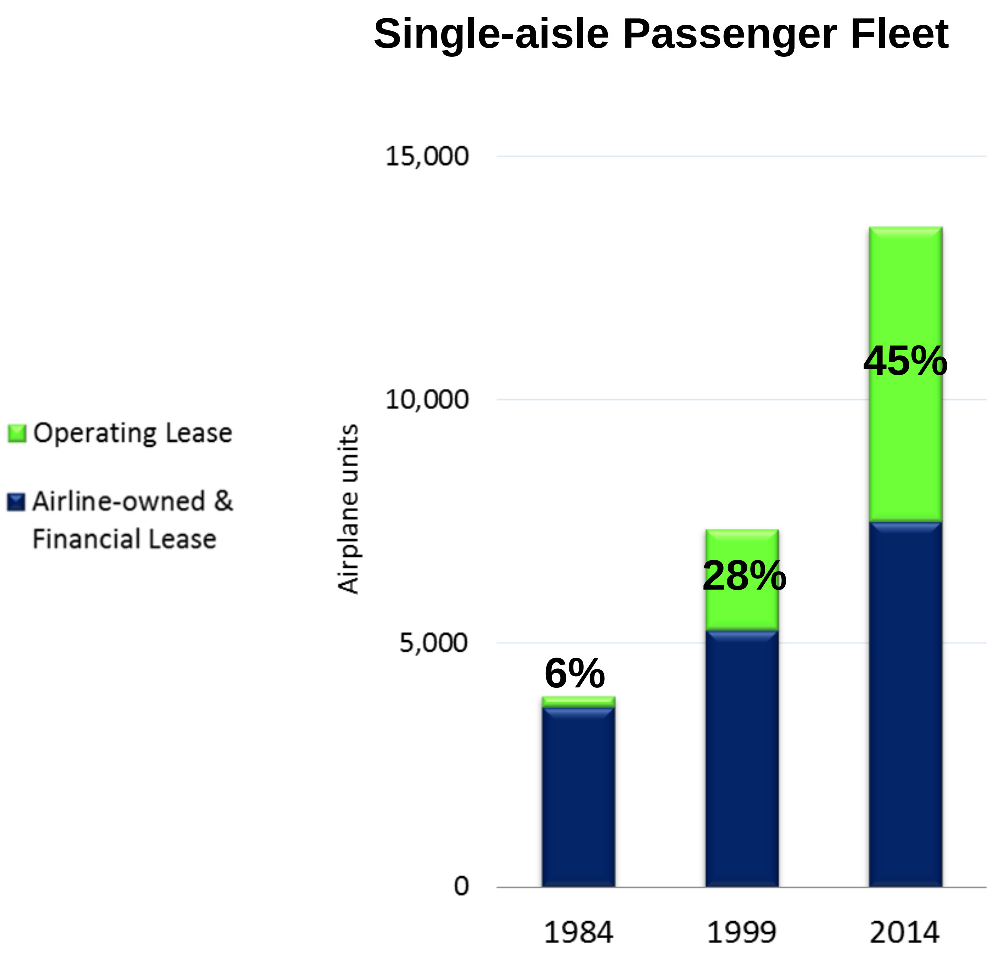
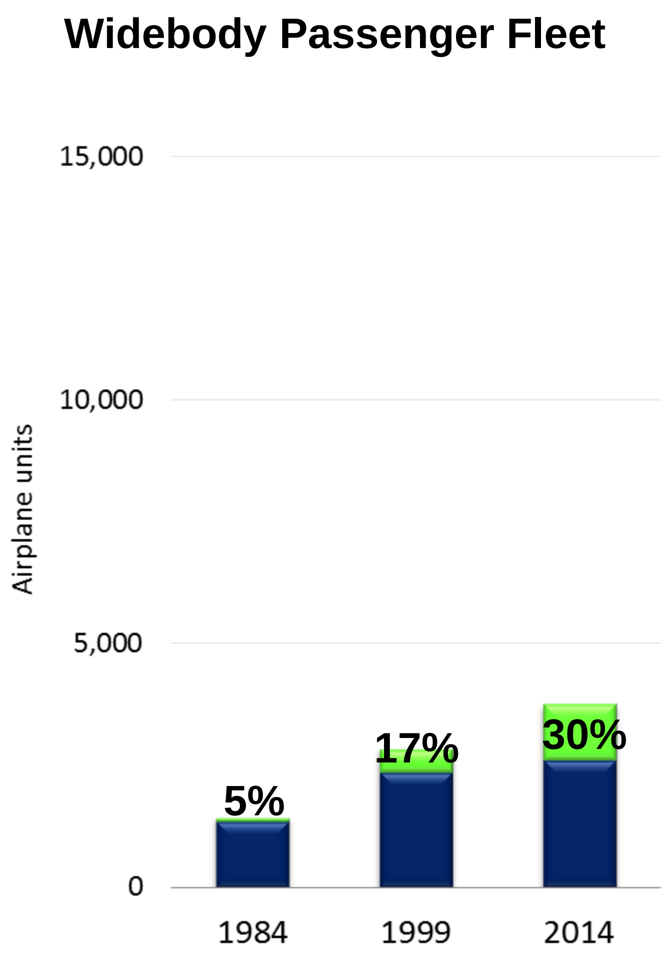
Increasing operating lease share in passenger fleet

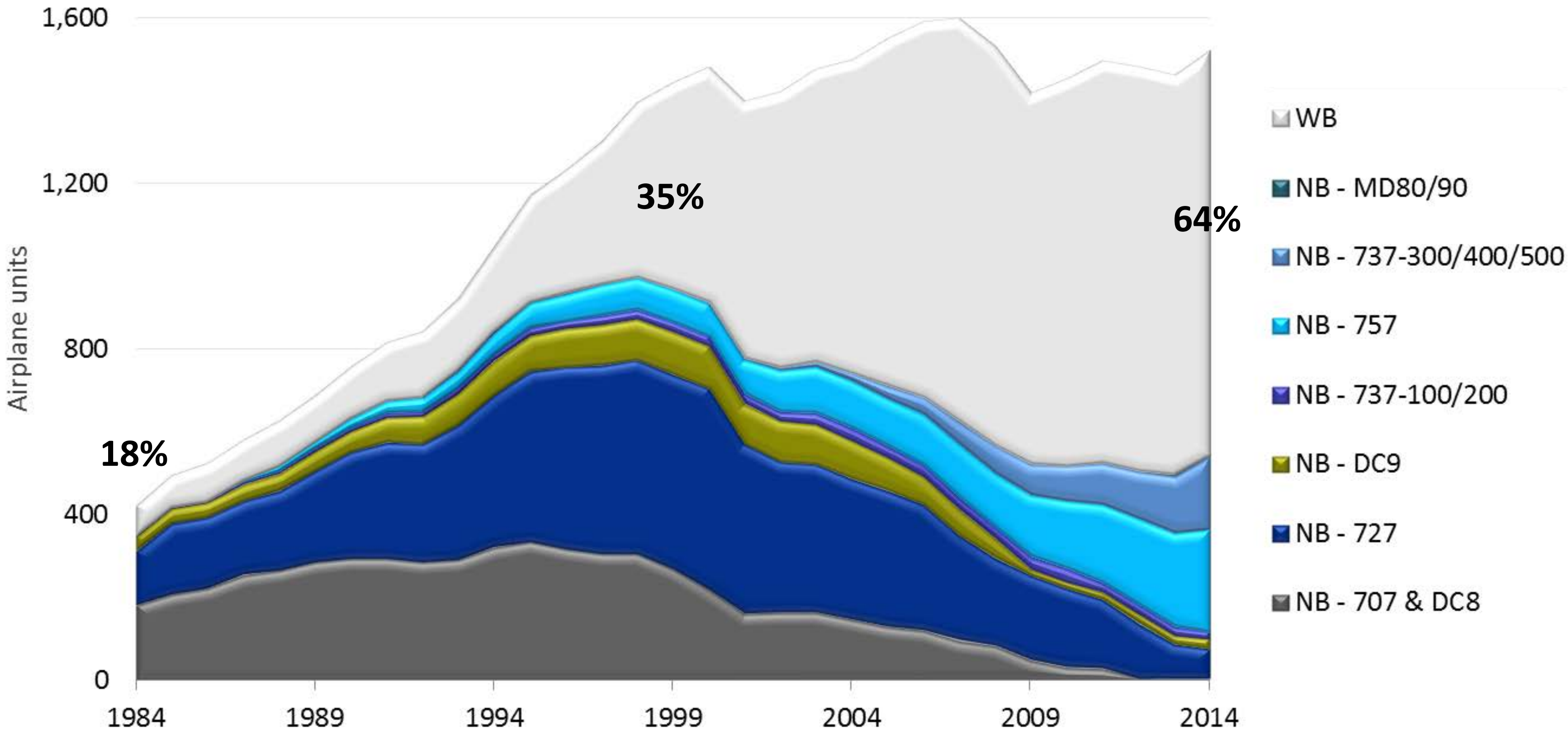




Data source: Western jets with >90 seats; Flightglobal Ascend May-18-2015; Boeing analysis

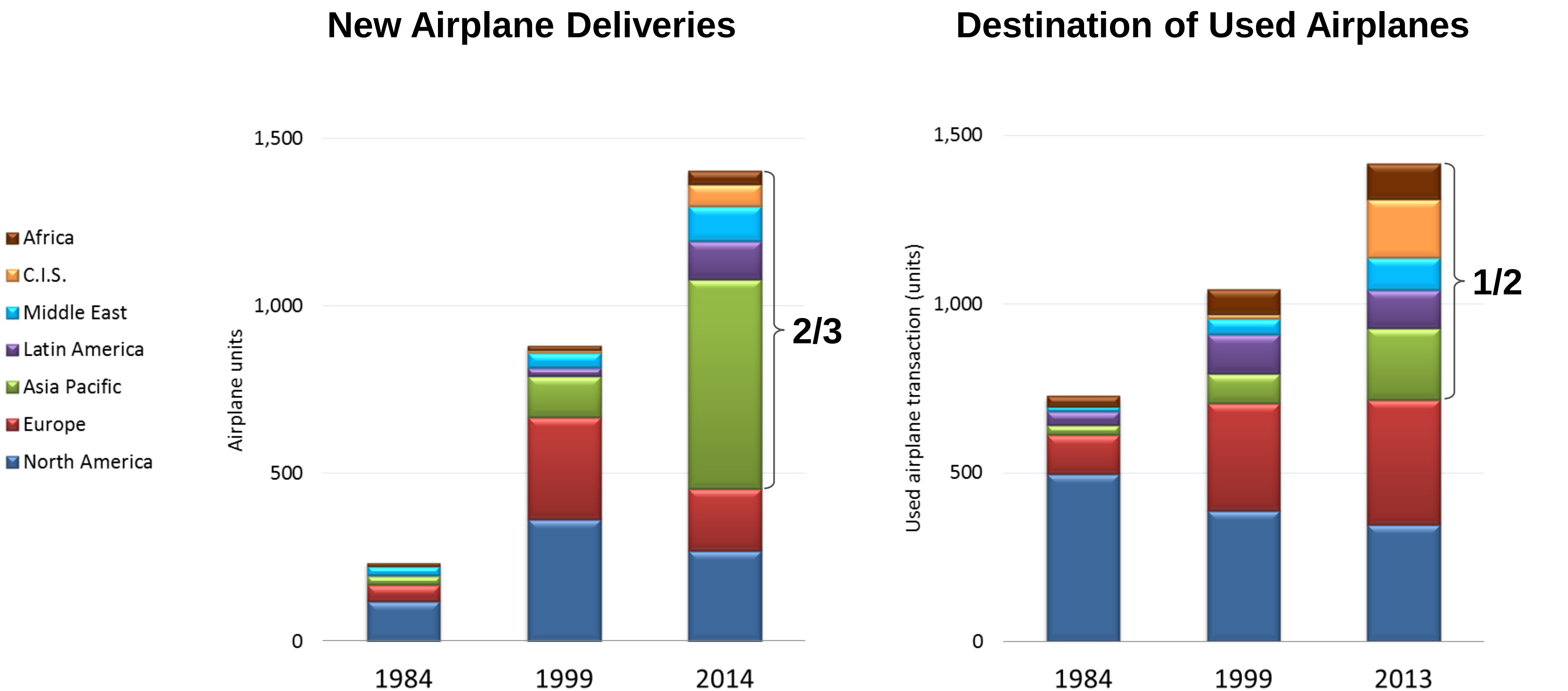
Changes in freighter fleet

- Widebody share of freighter fleet has nearly doubled since 1999
- 757s and 737-300/400s led recent uptick in narrow-body conversion
- Average age for 737-300/400 conversion has risen to 23 years



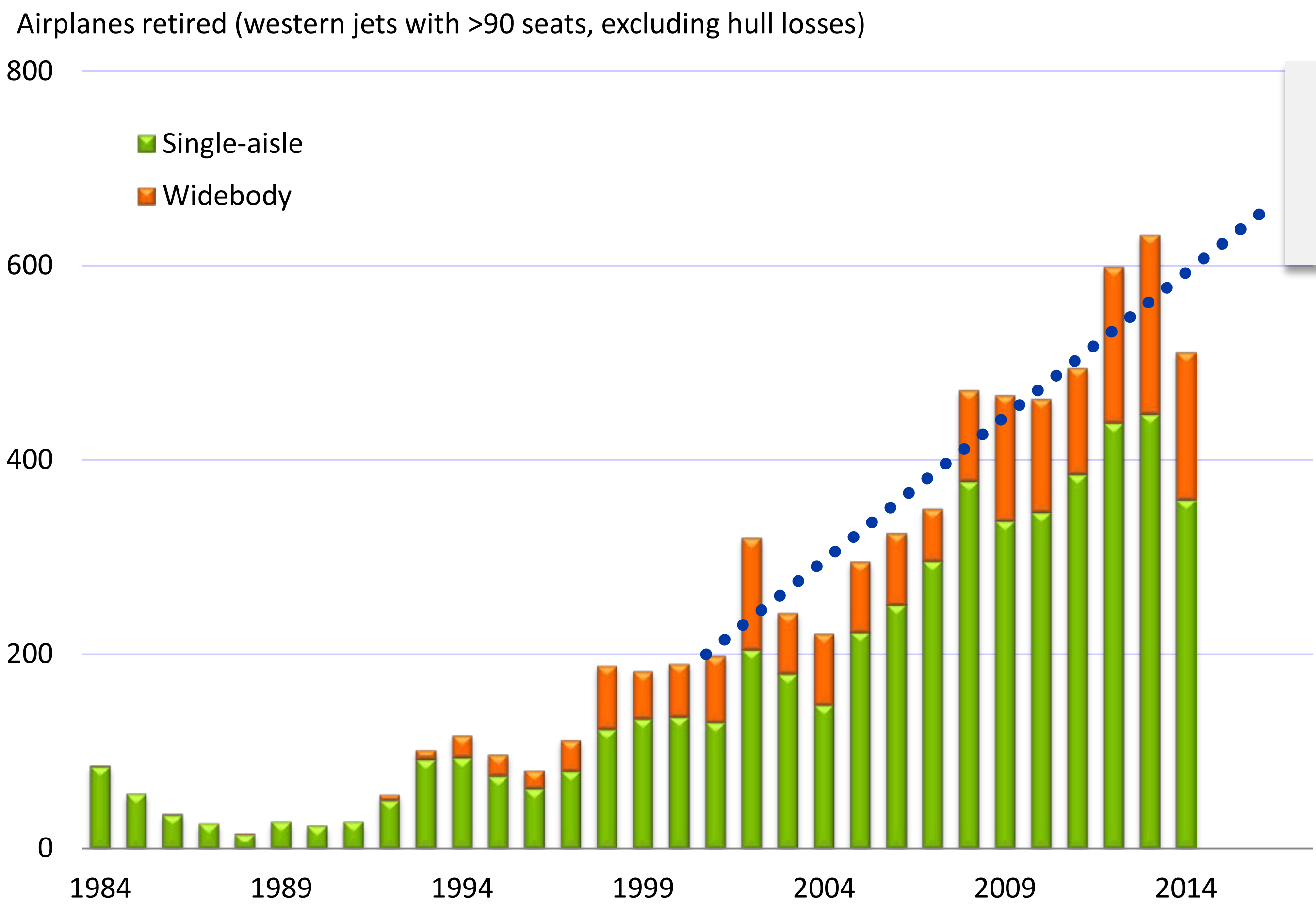
Data source: Western jets with >90 seats; Flightglobal Ascend May-18-2015; Boeing analysis

Emerging markets are taking a greater share of both new and used airplanes



Data source: Western jets with >90 seats; Flightglobal Ascend May-18-2015; Boeing analysis

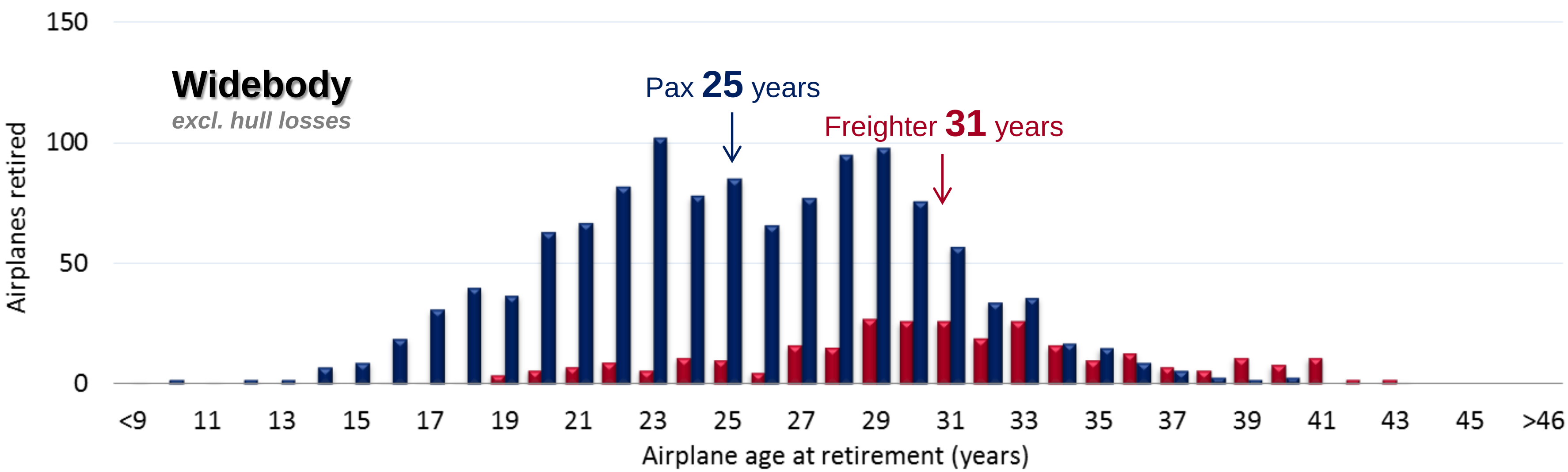
Growing retirements drive strong demand for recycling capacity



15,000 aircraft to be retired in the next 20 years

Data source: Western jets with >90 seats; Flightglobal Ascend May-18-2015; Boeing analysis

Retirement age averaged 25-28 for pax and 31-38 for freighters over the past 15 years



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ecoDemonstrator Program
Accelerate, Collaborate, Inspire

- **Accelerate technology**
  - Learn by doing, reduce risk
  - Speed implementation
  - 18 to 24 month rhythm
- **Collaborate** with government, suppliers and industry
- **Inspire** action and innovation

ecoDemonstrator 757

Airframe Recycling at End-Of-Service

- Maximize residual value of aircraft materials for aerospace and other industries
- Disassemble, dismantle and recycle the 757 ecoDemonstrator airframe
- Demonstrate environmental solutions for aircraft at End-Of-Service (EOS) to gain key knowledge on airframe reuse and recycle processes

STIFEL

World of TUI

AFRA
Aircraft Fleet Recycling Association
RECYCLE
RE-SALE
RETIRE

eco Demonstrator PROGRAM

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Takeaways

- 737NG/MAX and A320ceo/neo will dominate the single-aisle fleet
- Widebody fleet will become more concentrated
- 757s and 737-300/400s led recent uptick in narrow-body freighter conversion

- Worldwide fleet and increasing operating lease demand global parts distribution
- Emerging markets are taking a greater share of both new and used airplanes

- Growing aircraft retirements drive strong demand for recycling capacity
- Boeing is dedicated to bettering aircraft end-of-service solutions

Additional info: *Key Findings on Airplane Economic Life*
http://www.boeing.com/assets/pdf/commercial/aircraft_economic_life_whitepaper.pdf