



World Air Cargo Forecast 2014 / 2015



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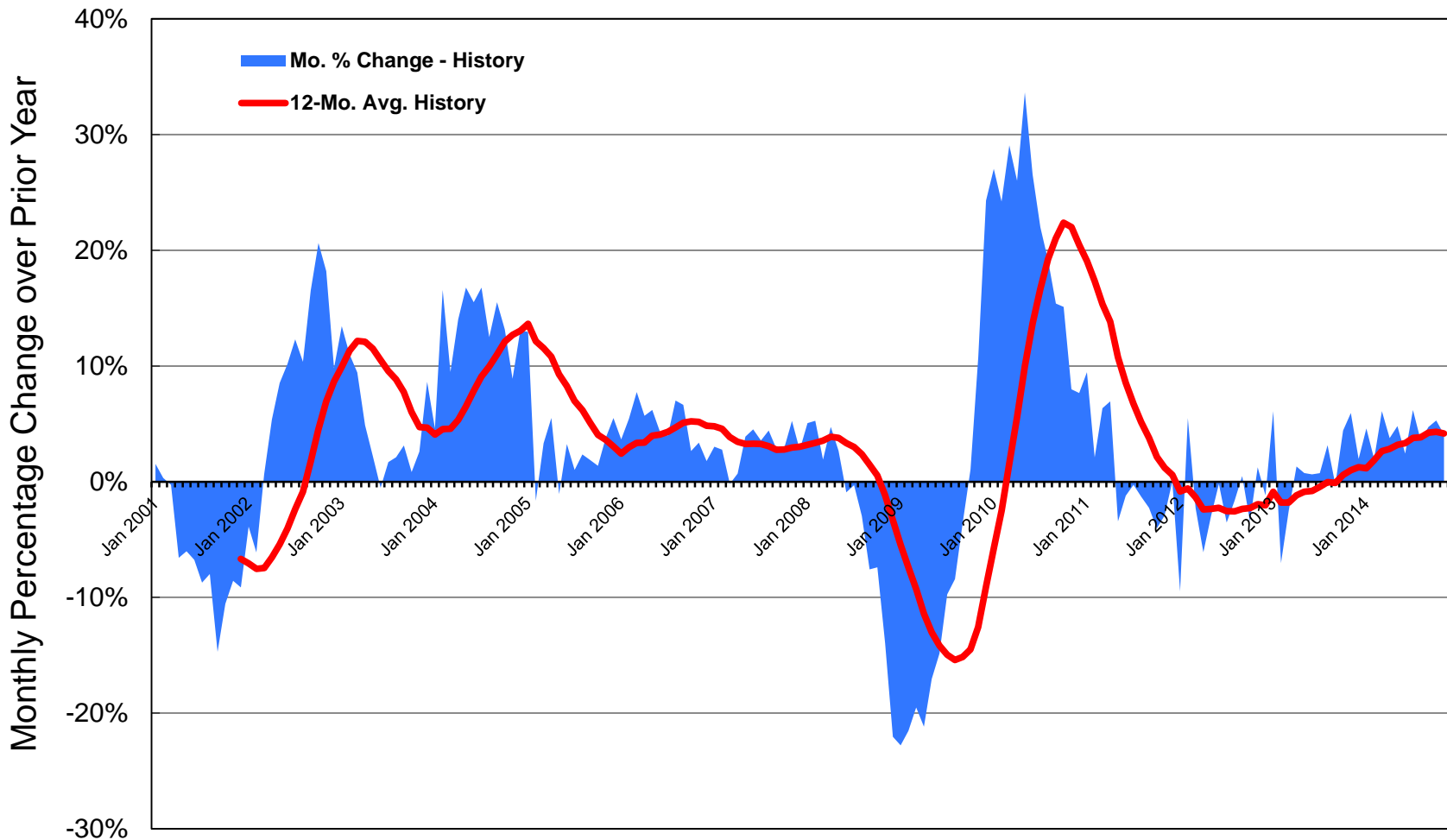
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Agenda

- **Current state of the world air cargo market**
- **Long-term cargo (2013-2033) market forecast**
- **Freighter fleet forecast (2013-2033)**

World air cargo traffic growth has been steadily recovering since 2Q 2013

Updated: 01/11/15



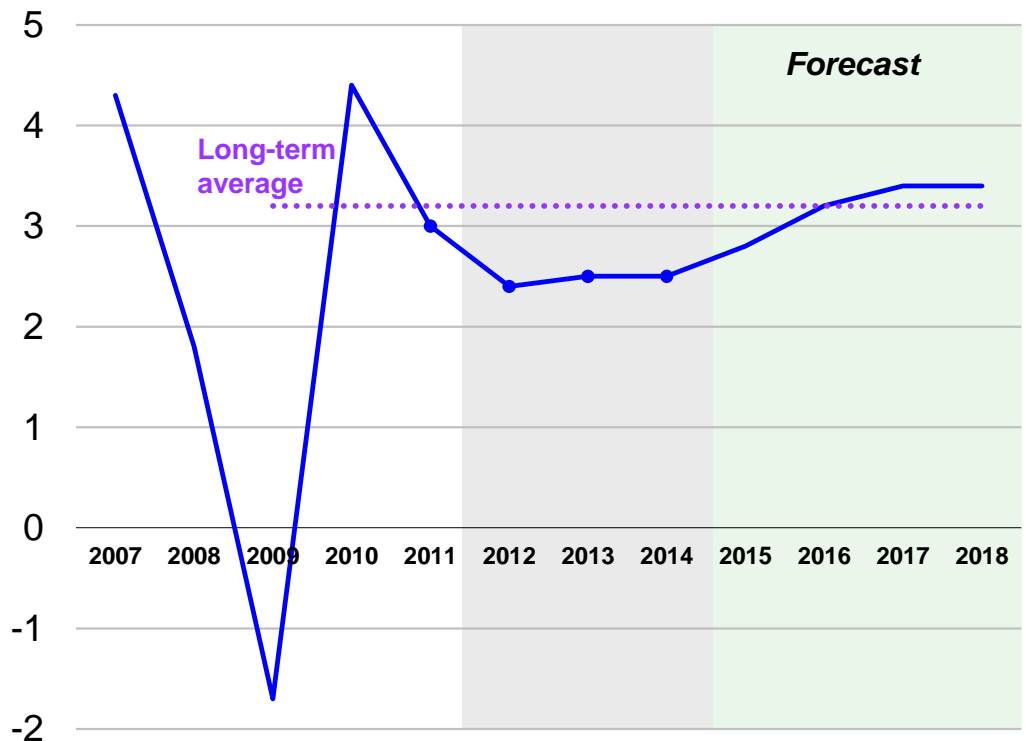
Sources: IATA Carrier Tracker (industry international scheduled freight) and A4A US domestic cargo traffic.

World air cargo traffic grew 4.1% in November 2014

Global economic growth strengthening in 2015-2016

Real year-over-year GDP growth (%)

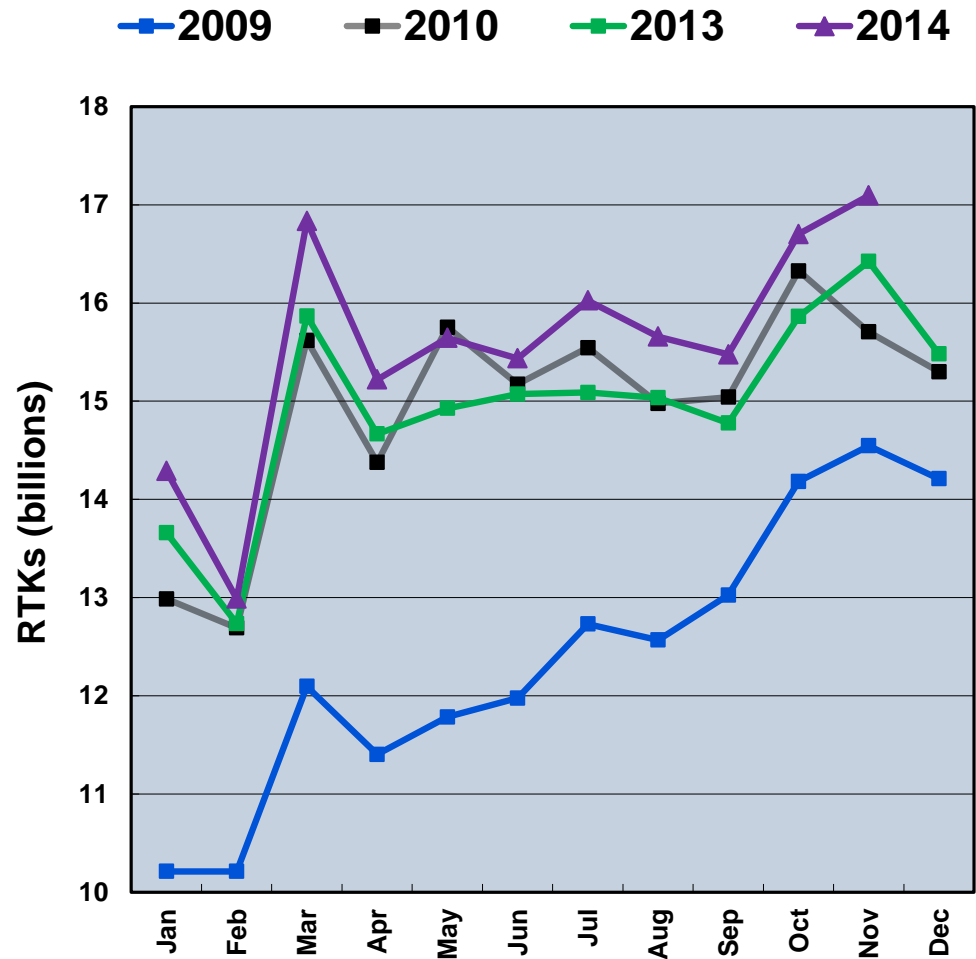
- Economic growth anemic since 2011
 - Centered in US, Europe – key consumer, export markets
 - Weak trade growth, particularly in air cargo commodities
- Economic, trade growth now improving led by US



Source: IHS Economics

Air cargo demand has been recovering

- Air cargo growth stalled in mid-2011
 - Weak economy
 - Trade growth slowed
 - Economic uncertainty
- Growth resumed mid-2013 as the world economy strengthened
- Continued improvement expected in 2015
 - 4.1% Nov 2014 vs Nov 2013
 - 4.4% Nov 2014 YTD

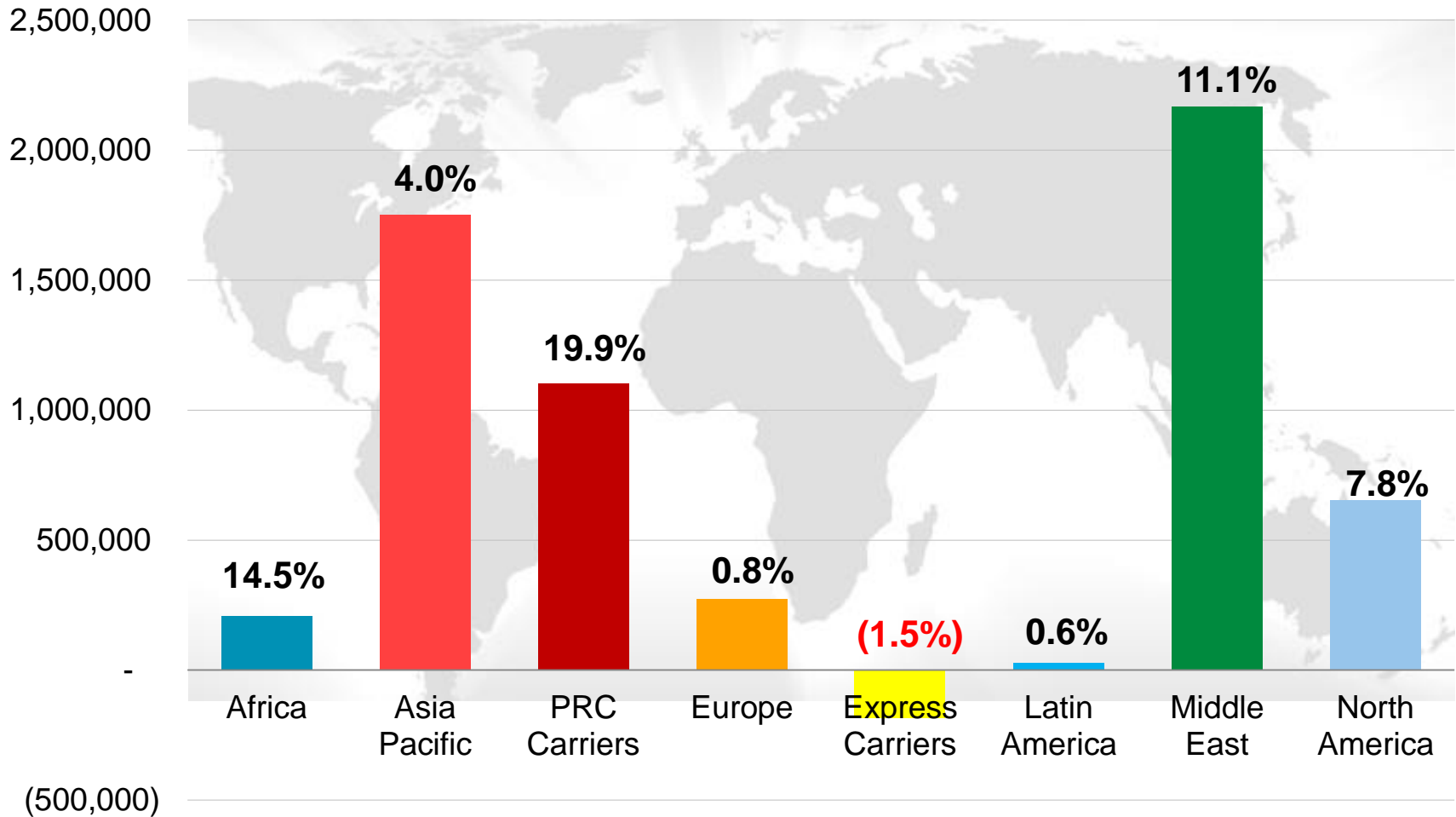


Sources: IATA Carrier Tracker (Industry International Scheduled Freight) & IATA US Domestic Cargo Traffic account for 87.7% of the world RTKs.

Air cargo growth rates are accelerating, but vary widely by region and airline business model

November 2014 year-to-date

Variance of Air Cargo RTKs flown by carrier region, 2014 versus 2013

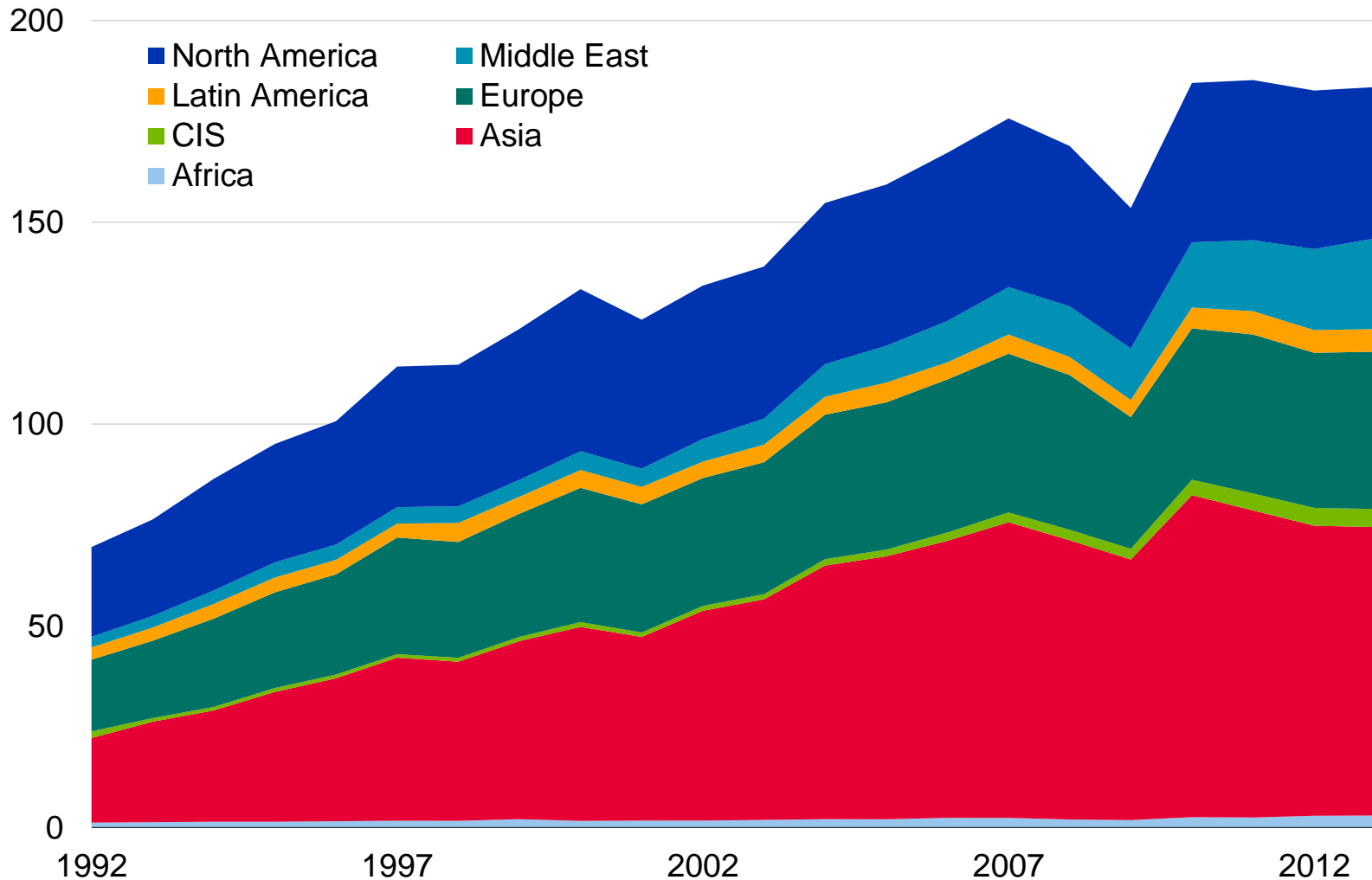


Sources: IATA Carrier Tracker (Industry international scheduled freight), A4A US domestic cargo traffic, and Boeing analysis

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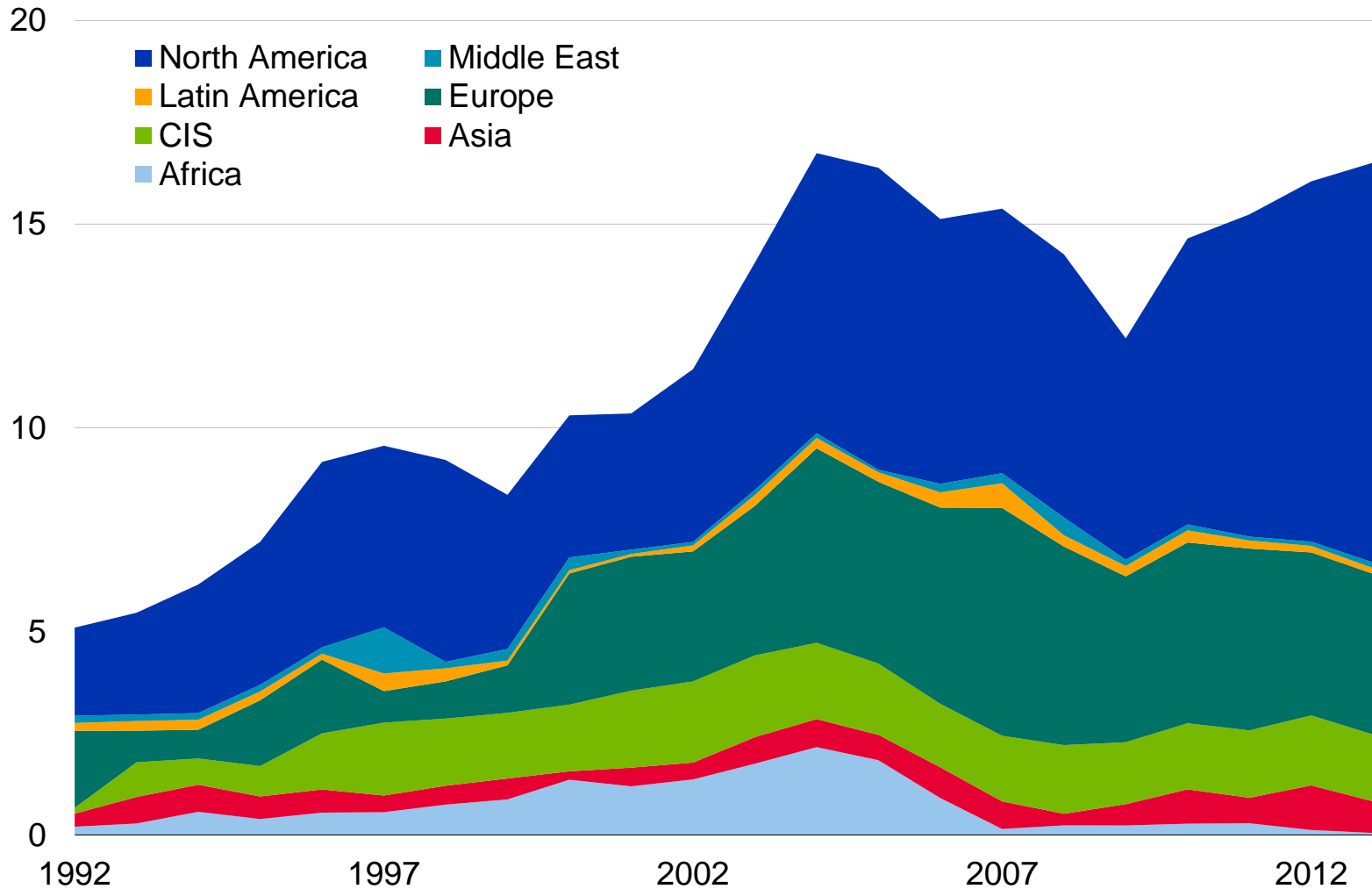
World scheduled air freight grew 0.5% in 2013

RTKs, billions



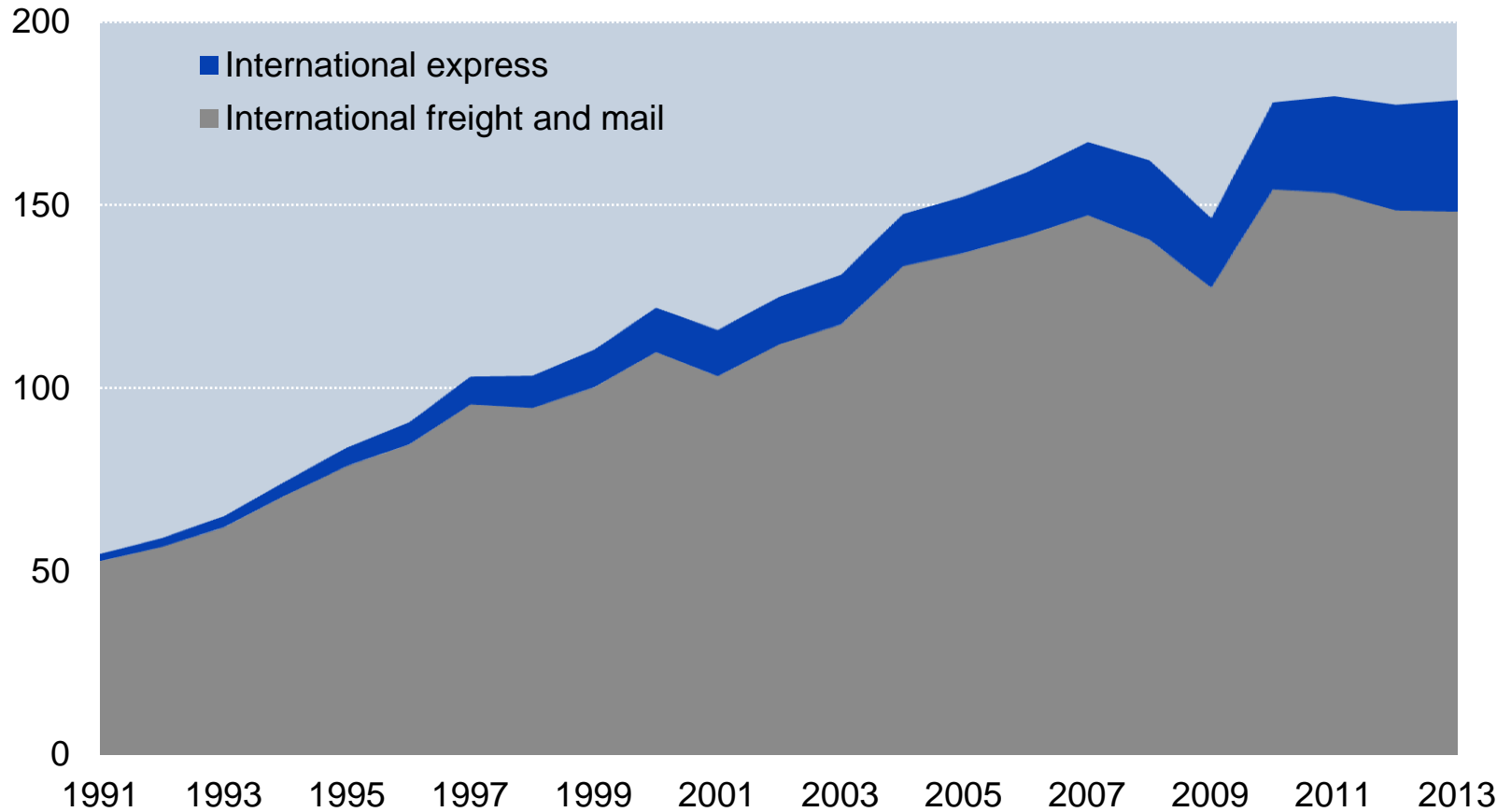
World charter air freight grew 2.9% in 2013

RTKs, billions

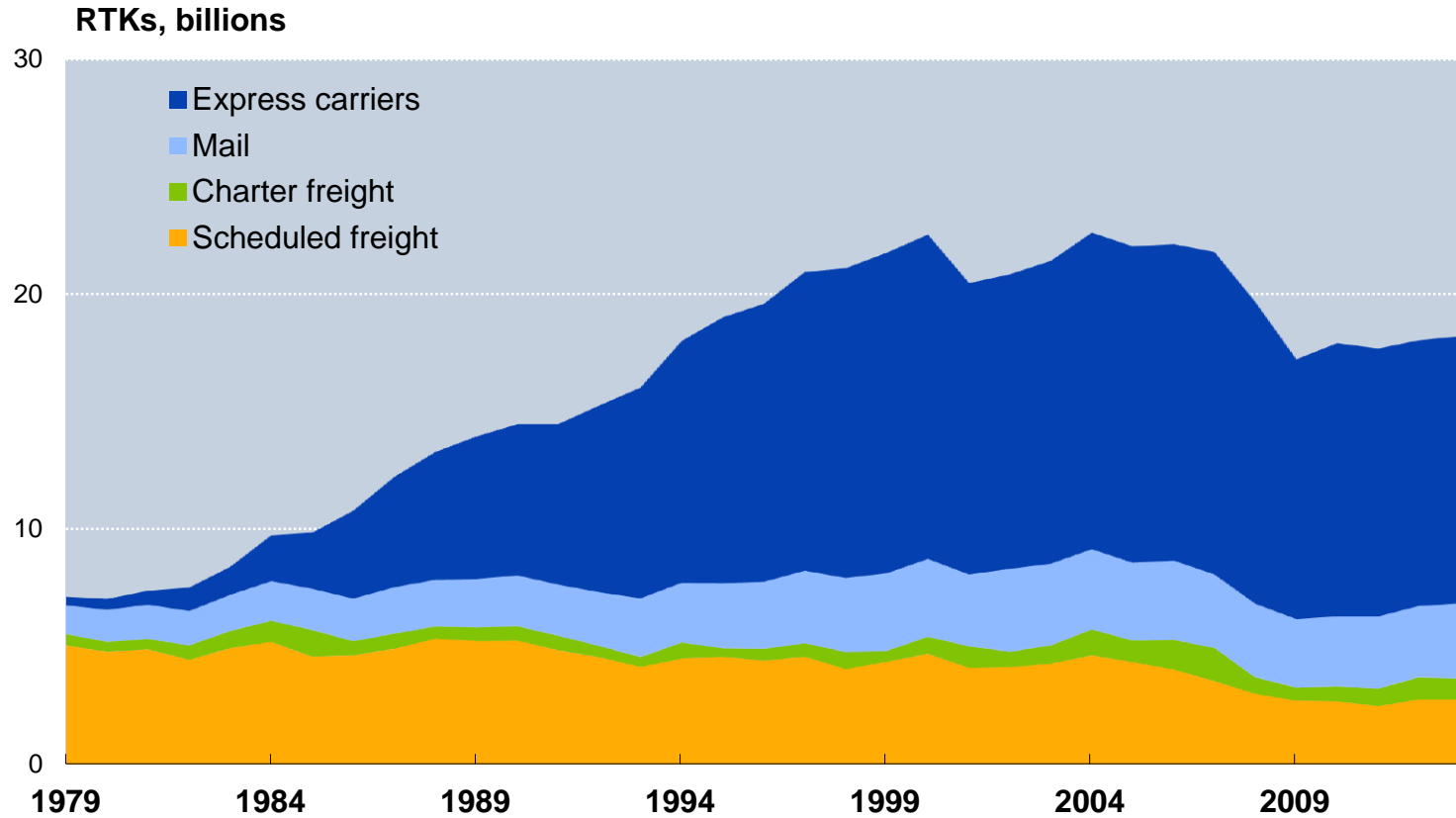


The international express market is growing faster than international freight and mail

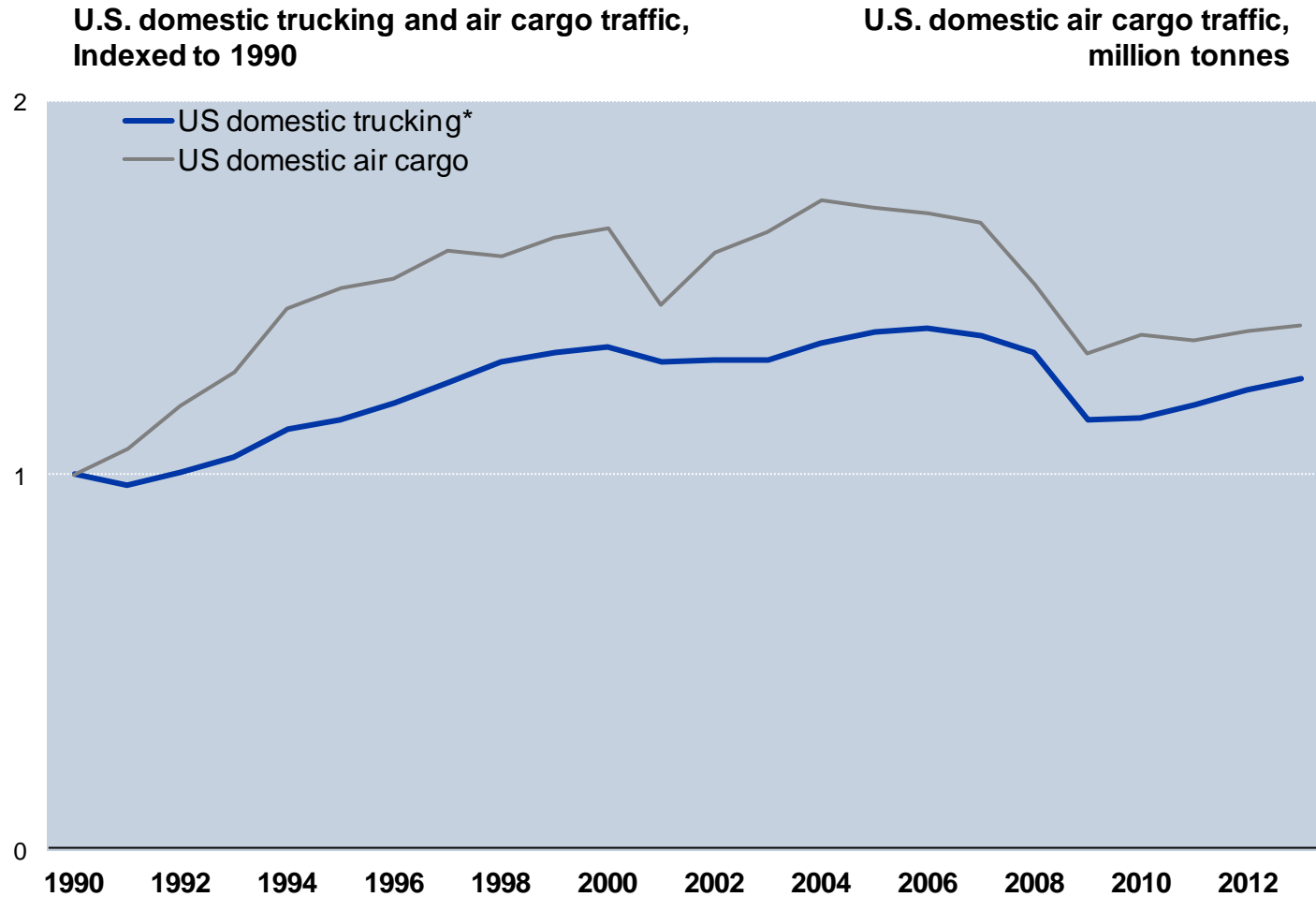
RTKs, billions



Express service dominates the US domestic air cargo market



Trucking and Air Cargo Traffic Are Recovering at a Slow Rate

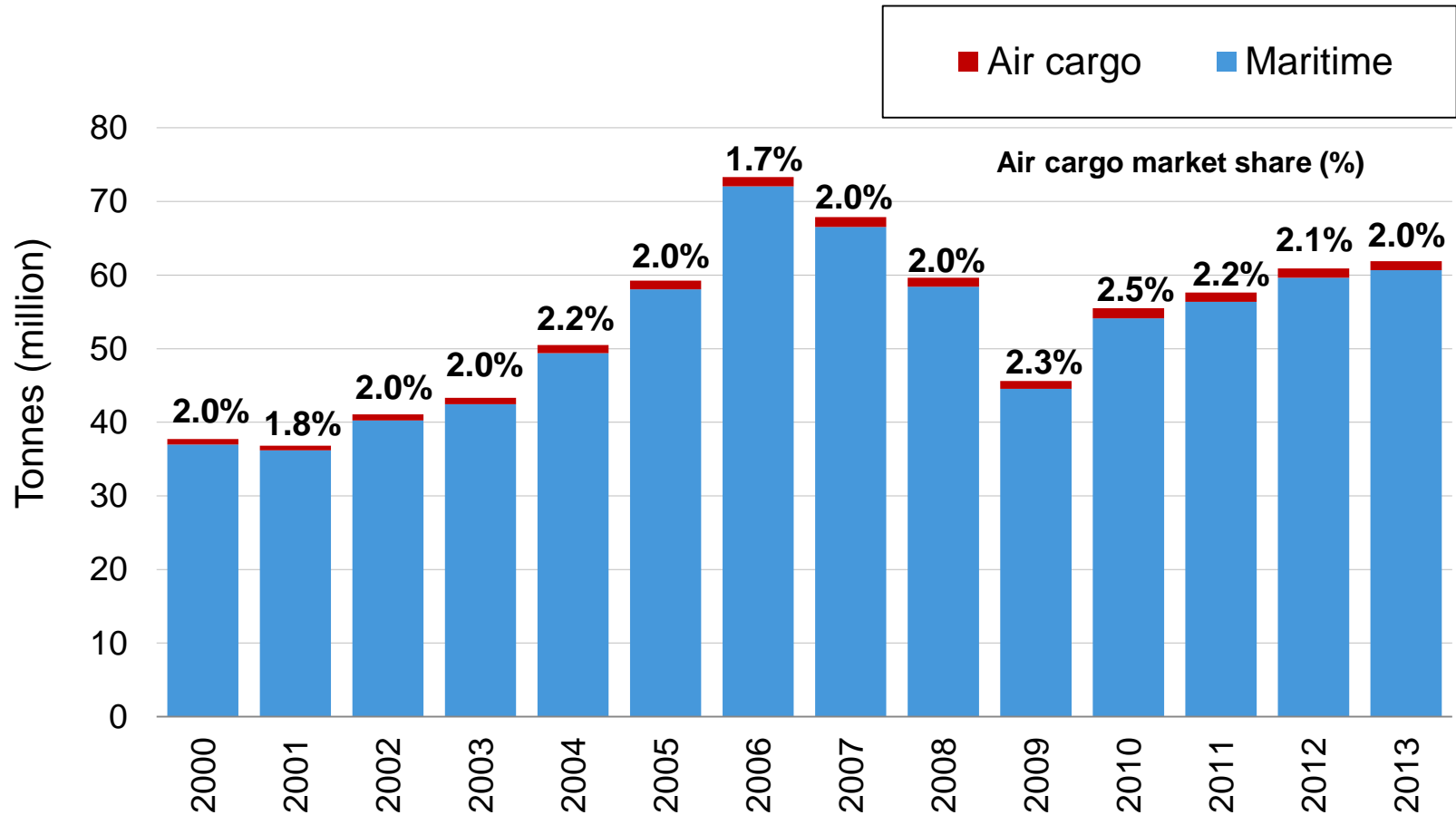


Sources: IATA, ACMG and American Trucking Associations

*Figures include for-hire and private carriage

Air cargo has maintained its market share in the key trans-Pacific cargo market

Top 20 air cargo commodities for the Asia–North America market

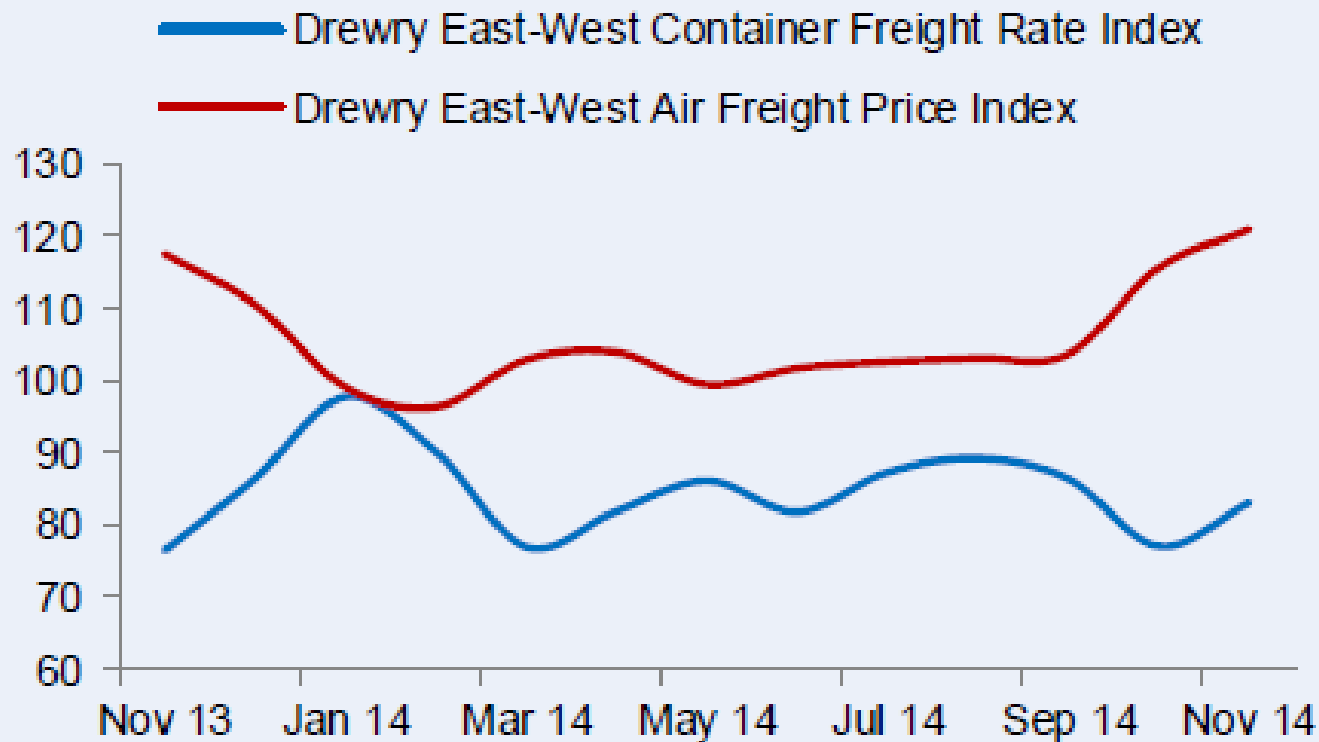


SOURCE: US DOC Foreign trade data

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Yields have been improving

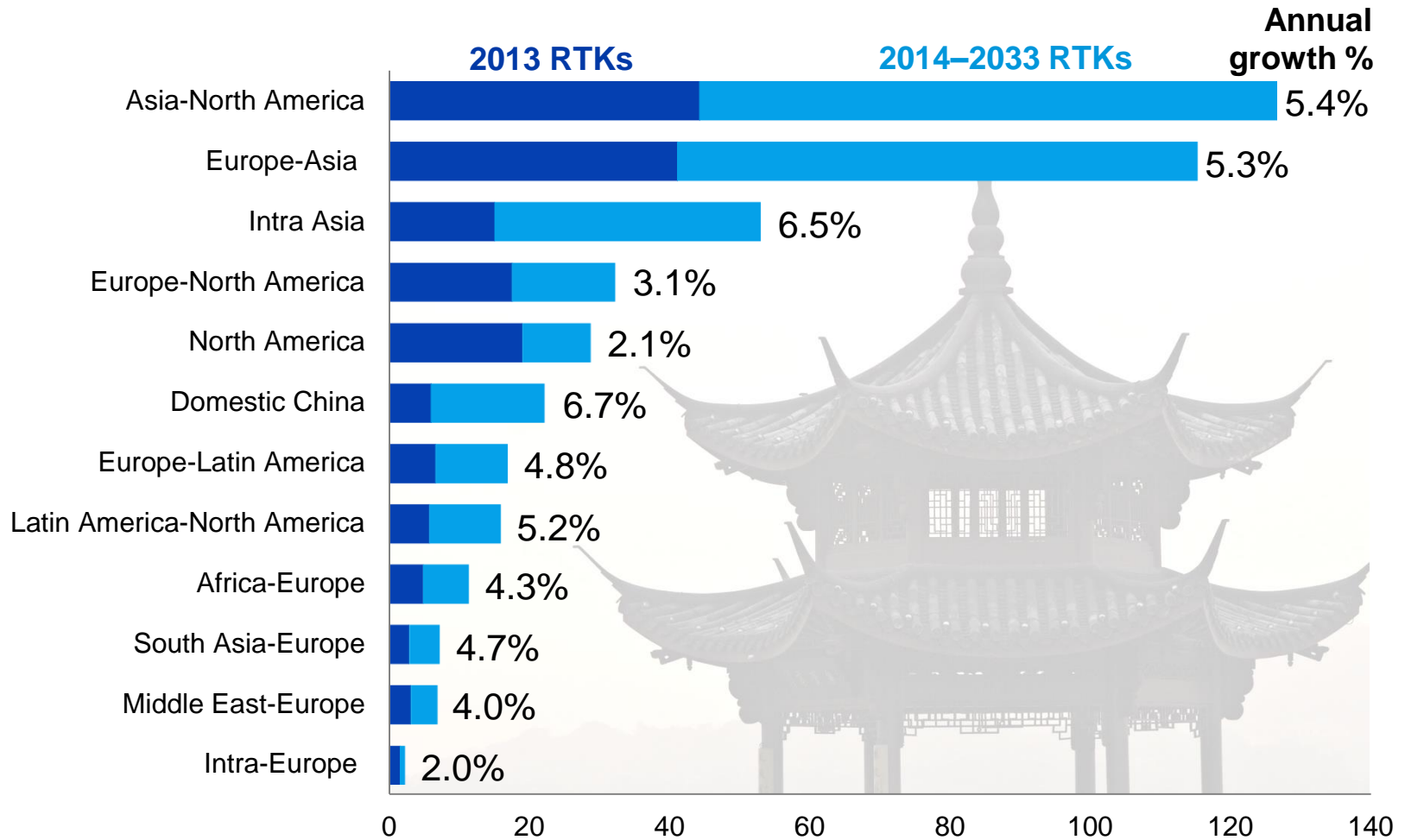
Comparative Freight Rate Indicator (May 2012=100)



Source: Drewry Maritime Research

Asia markets will continue to lead industry growth

RTKs, billions



Freighter size categories

Standard body

< 45 tonnes

707

727 series

737 series

757

A320 series

BAe-146

DC-8 series

DC-9 series

MD-80 SF

Tu-204

Medium widebody

40–80 tonnes

767 series

787

A300 series

A310 series

A330 series

DC-10 series

Il-76TD

Large

> 80 tonnes

747 series

777 series

A350

AN-124

Il96-T

MD-11

Freighter fleet forecast methodology

World Air Cargo Forecast

Projected traffic

minus

Current Market Outlook

Passenger and combi airplane forecast

equals

Freighter airplane requirement

Total cargo
Demand

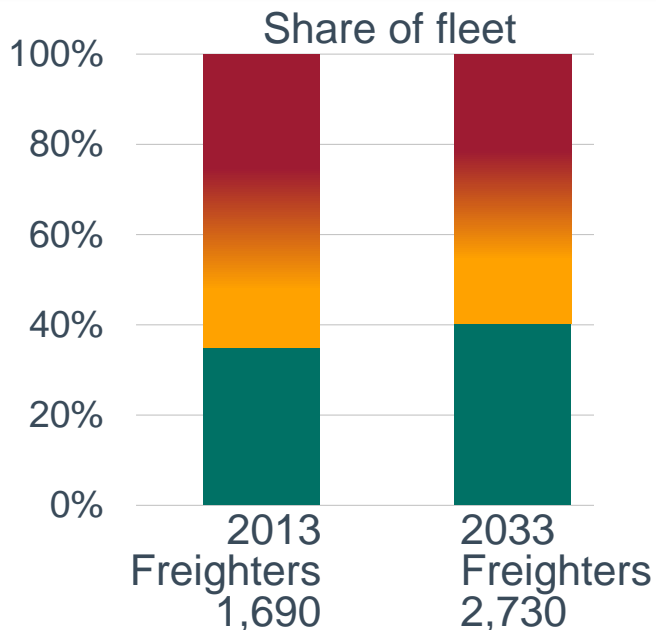
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Lower-hold lift
Supply

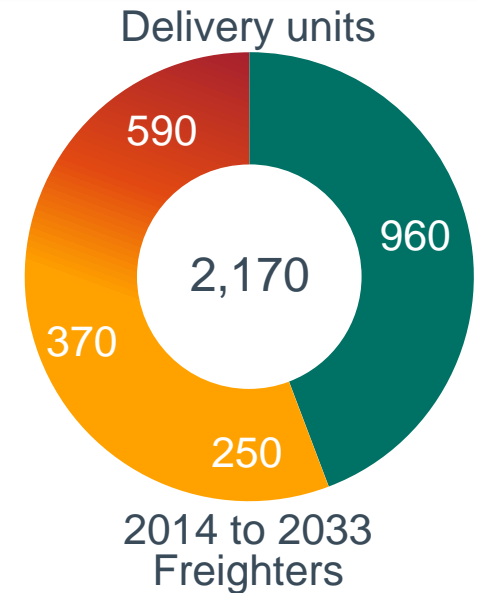
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Needed freighter lift
Supply

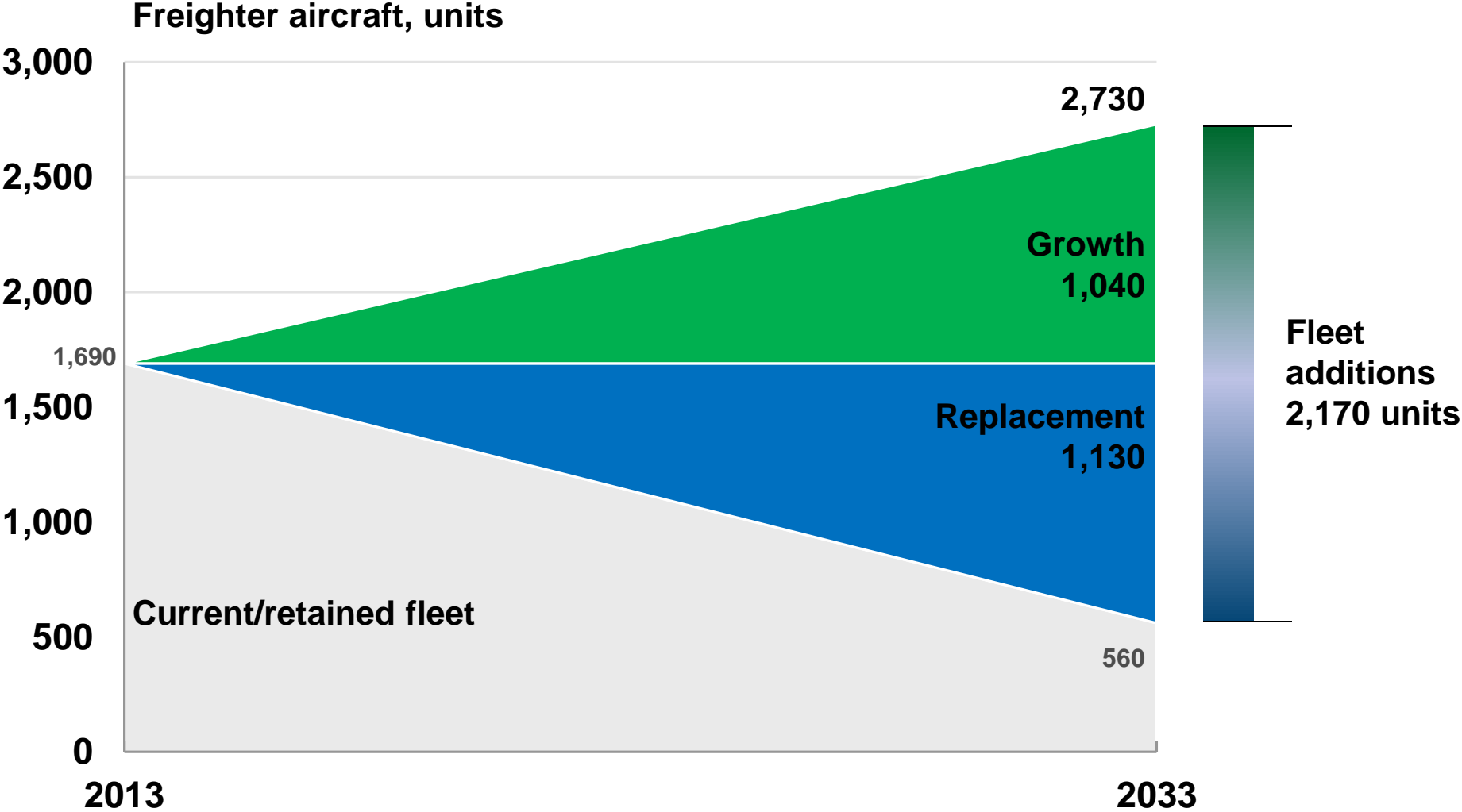
New freighter demand -- 840 new, 1,330 converted



- Large production >80 tonnes
- Wide-body conversions 40-120 tonnes
- Medium wide-body production 40-80 tonnes
- Standard-body conversions <45 tonnes

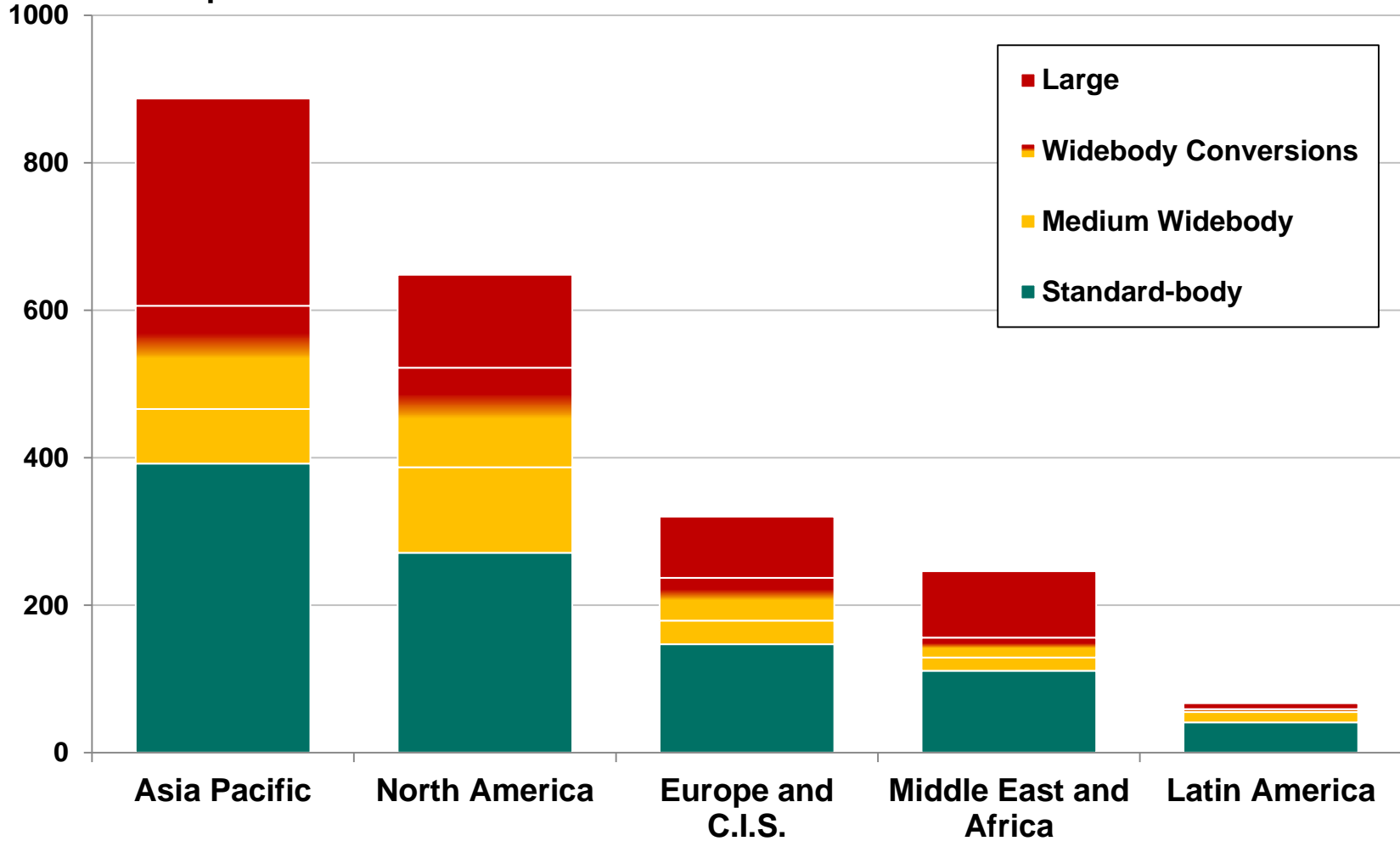


Freighter fleet additions for growth and replacement

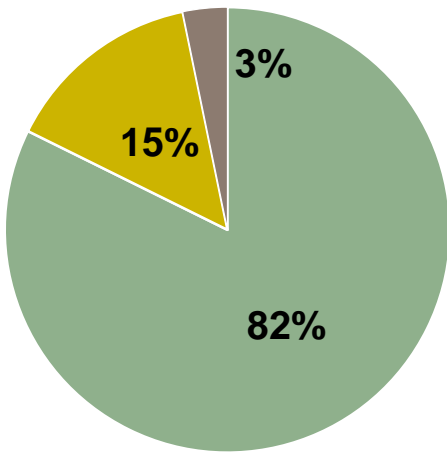


Asia leads in total deliveries; North America follows

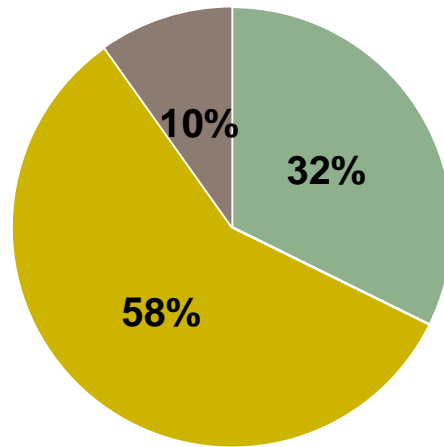
Number of airplanes



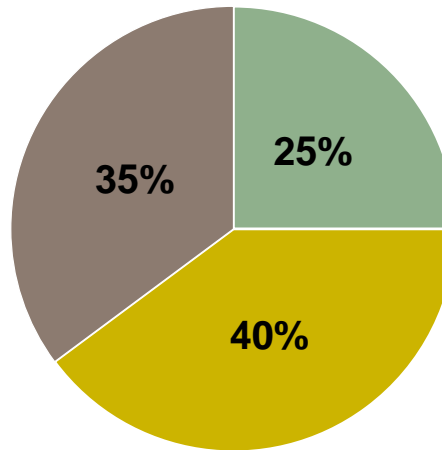
Large Freighters to General Carriers; Medium Widebodies for Express



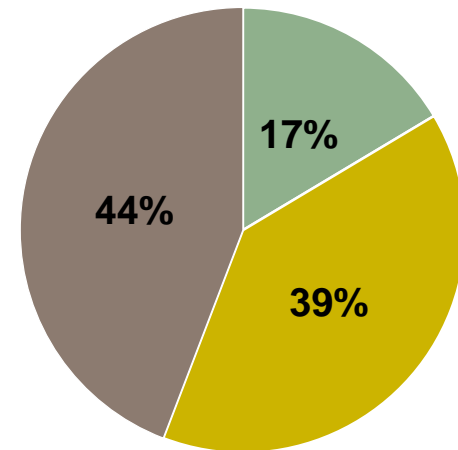
Large Freighters
588 units



Medium Widebody Production
254 units

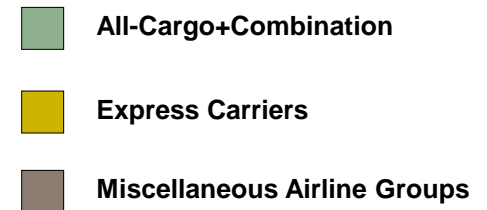


Widebody Conversions
364 units



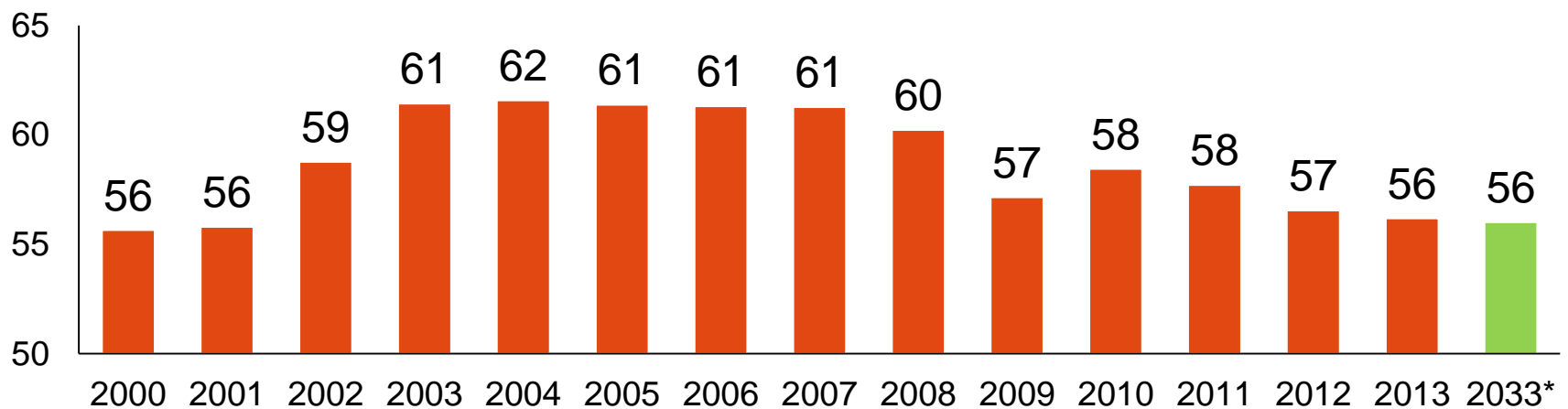
Standard-body
962 units

2014-2033 new and converted



More than half of air cargo traffic is carried on freighters

Percentage of world RTKs carried on freighters



SOURCES: IATA, ICAO, Company reports, Boeing research

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Freighters will remain the leading cargo capacity provider



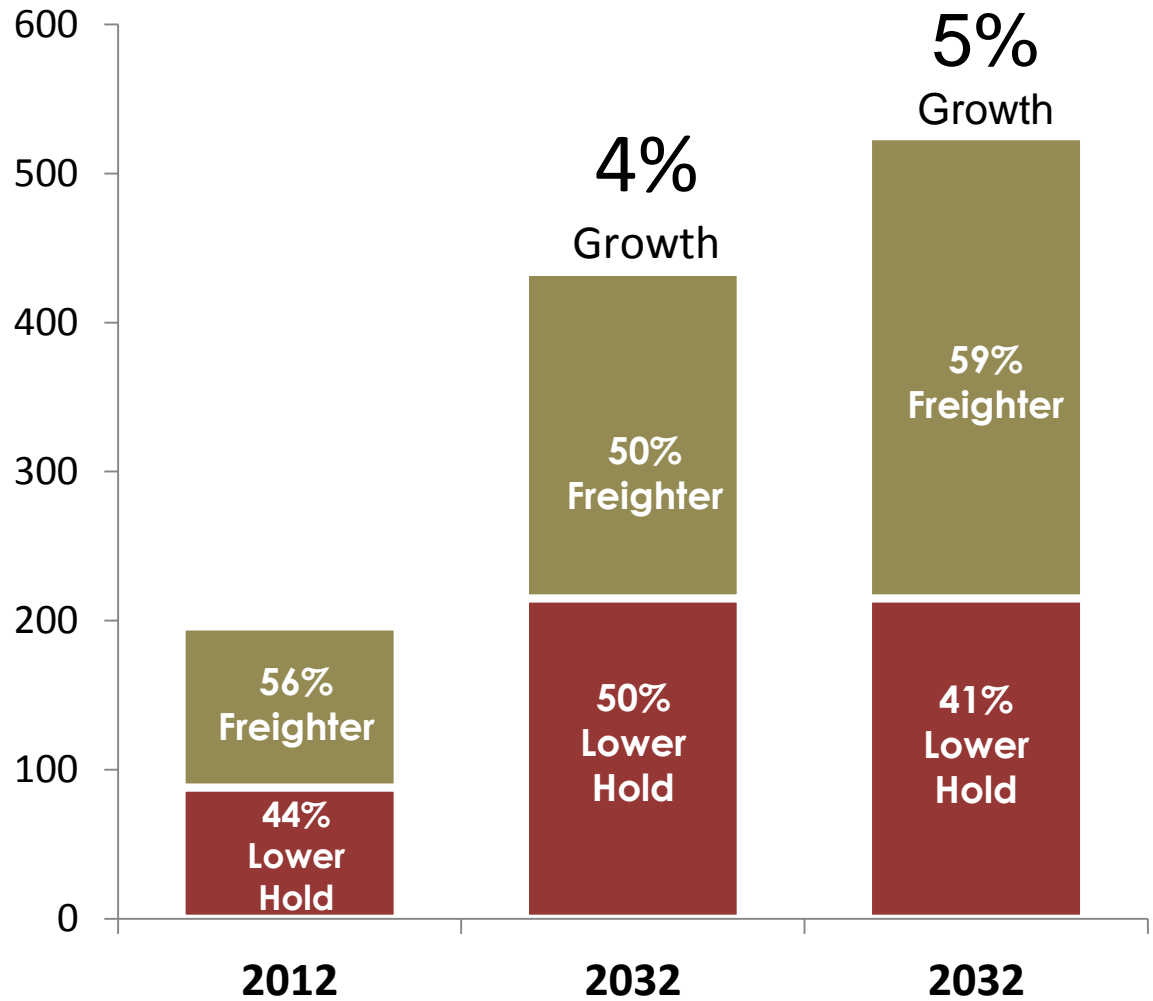
Freighter service advantages over passenger belly

- Cargo focus and control
- Timing and routing
- Capacity (volume, weight, hazmat & dimensional)
- Handling location and ramp proximity
- Reliability and predictability



Lower-Hold and Main-Deck Split

Annual RTKs (billions)



Things to remember



Slow trade, air cargo growth was mostly driven by weak demand growth

World air cargo traffic recovering

World air cargo traffic forecast to grow 4.7% per year through 2033

Freighters will remain the leading cargo capacity provider

World Air Cargo Forecast 2014-2015



www.boeing.com/commercial/cargo

Thank You!

