



# Freighter Market Outlook

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# Boeing's air transport legacy began in air cargo



# Competitive advantage

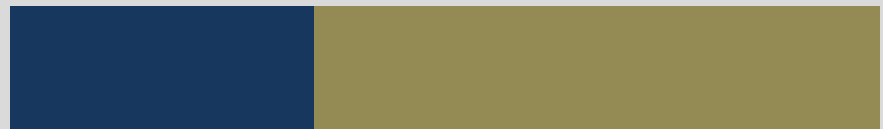
## High value/time sensitive goods

1%

of world trade  
**TONNAGE**  
is carried by  
**Air Cargo**

35%

of world trade  
**VALUE**  
is carried by  
**Air Cargo**



0% 20% 40% 60% 80% 100%

Note: Does not include trans-border tonnage that was transported by truck, rail or fixed installations such as pipelines or conveyors

Source: IATA

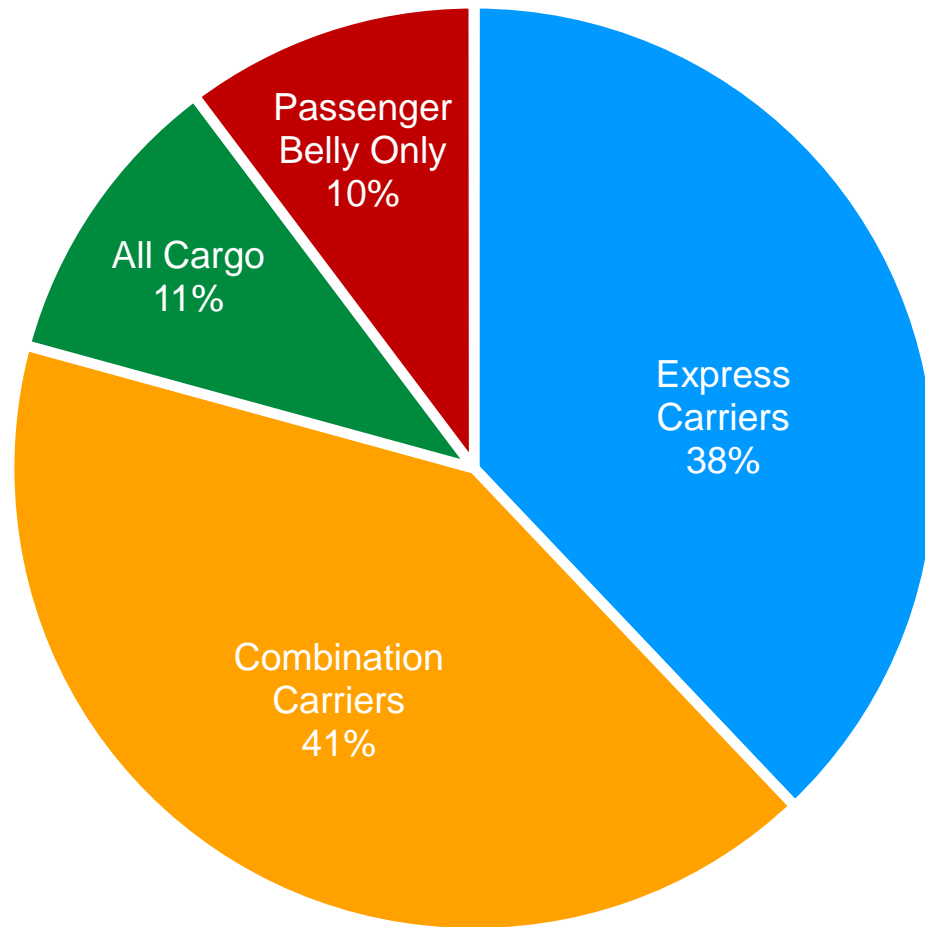


## Freighter service advantages over passenger lower hold

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

***Freighters will remain the leading cargo capacity provider***

# Airlines operating freighters generate 90% of industry revenues



**Express Carriers** **\$35.1B**

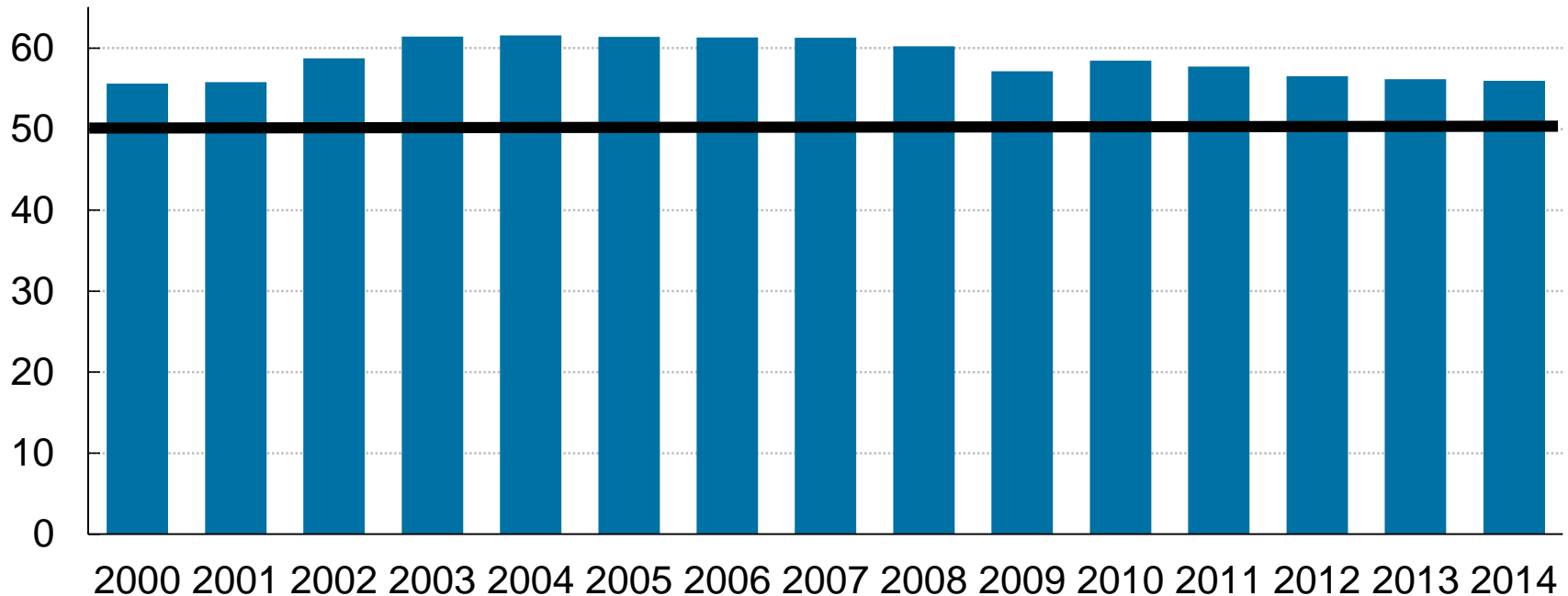
**Combination Carriers** **\$38.3B**

**All Cargo** **\$9.7B**

**Passenger Belly Only** **\$9.5B**

# More than half of air cargo traffic is carried on freighters

Percentage of world RTKs carried on freighters



Introduction of 777 and other widebody passenger airplanes has not significantly reduced freighter share (671 777-300ER airplanes delivered since 2004)

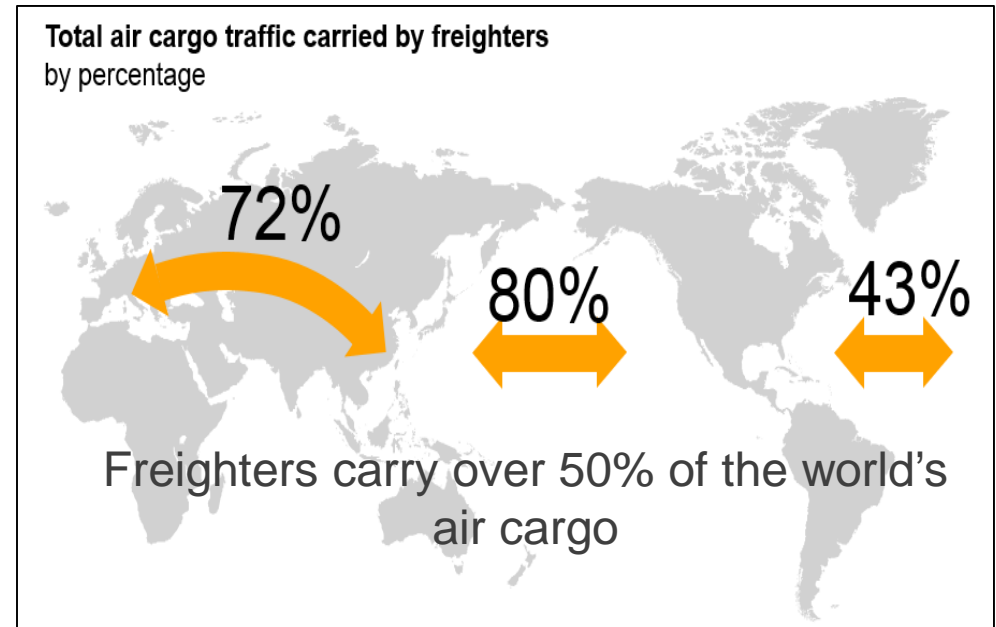
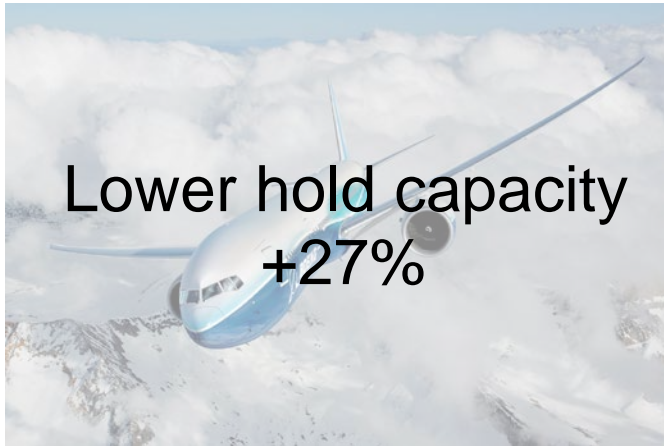
# Express carriers operate substantial freighter fleets

- Express carriers (FedEx, UPS, DHL, TNT) operate over 750 freighters
  - Standard body 327
  - Widebody 424
- Emerging express carriers in China operate about 75 freighters and are growing
  - Standard body 72
  - Widebody 3
- Amazon, a new entrant, has committed to operating 40 widebody freighters



# Even with an increase in lower hold cargo capacity freighters continue to play a dominant role

2010-2015

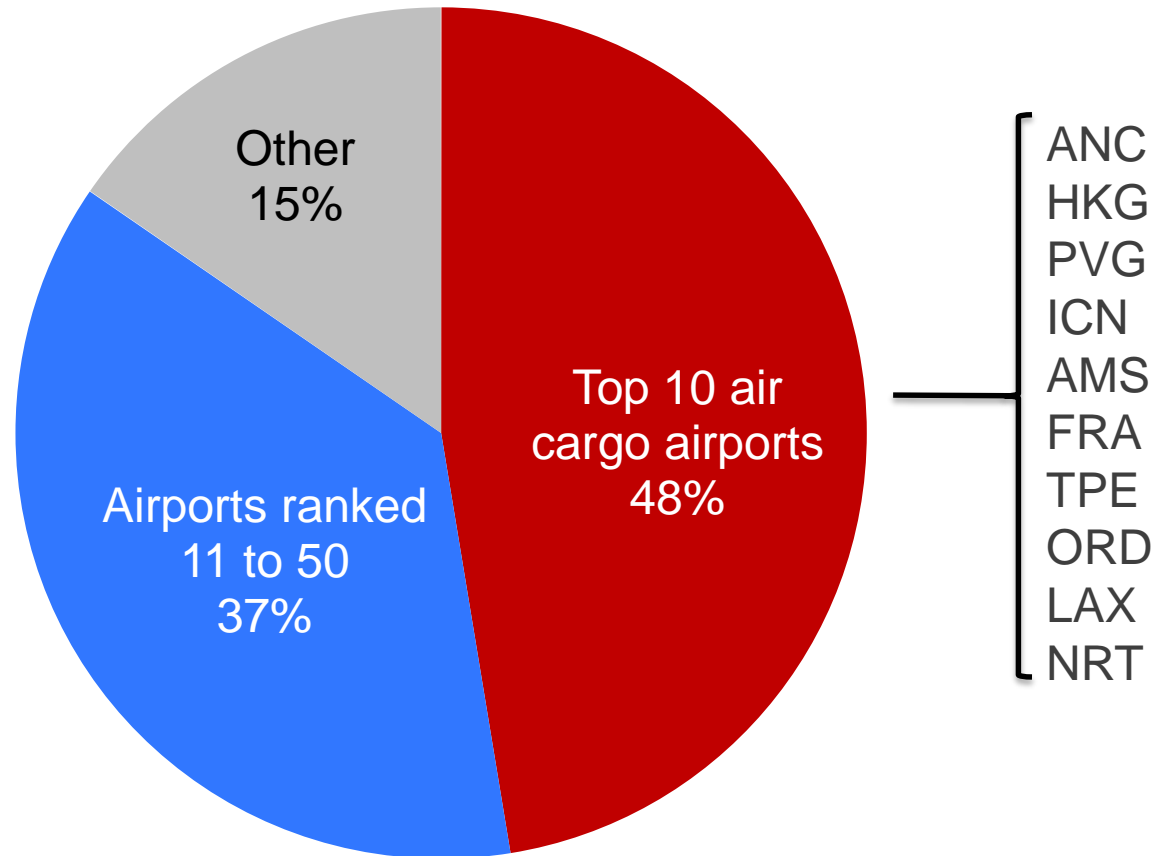




# Cargo demand is highly concentrated

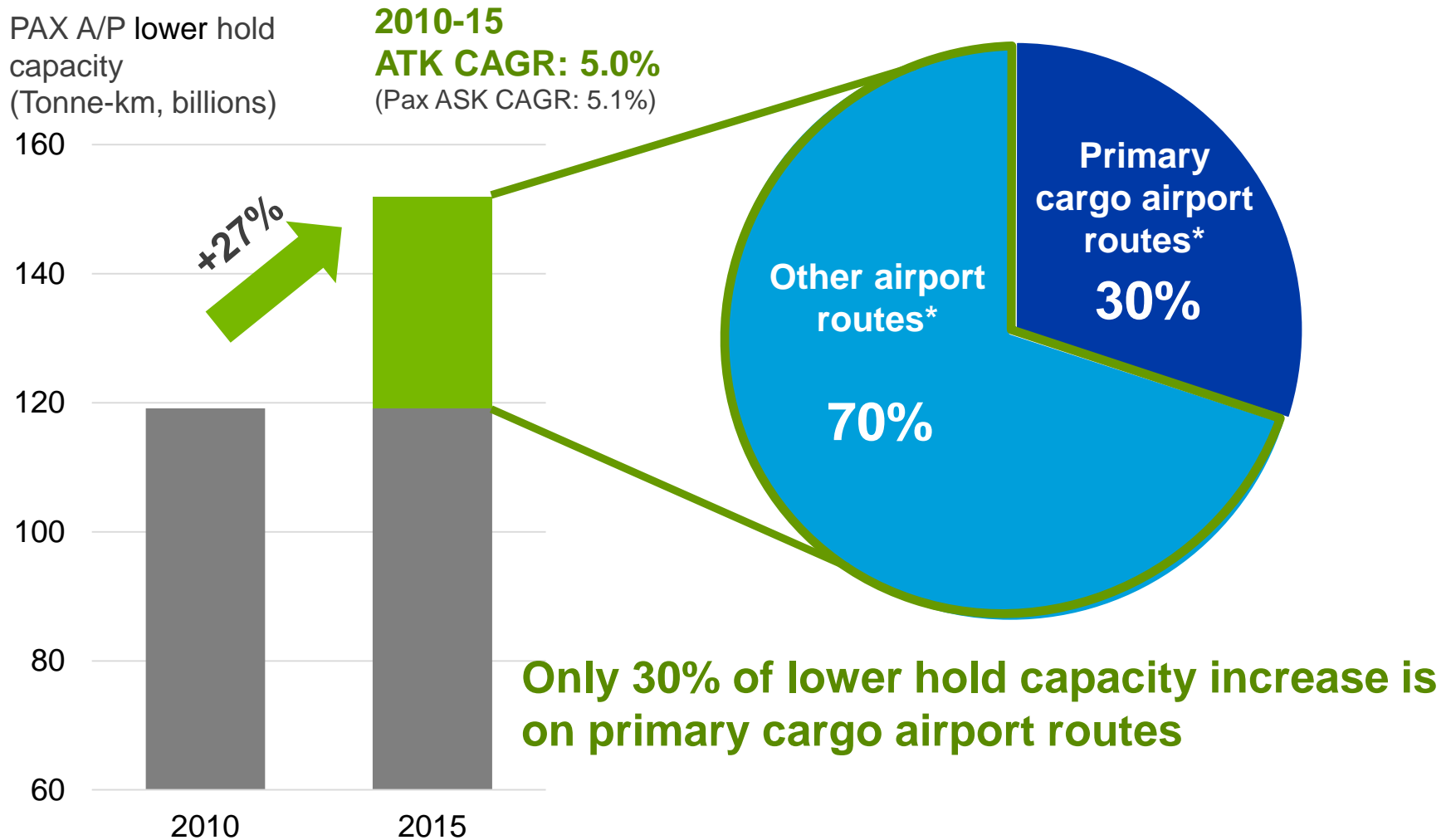
85% of scheduled large freighter flights operating out of Top 50 airports

Share of scheduled large freighter flights



Source: Diio/Innovata Jan-Oct 2015 (no schedule for most express carriers) , Boeing Analysis

# New widebody capacity is deployed for passenger demand and not for cargo demand



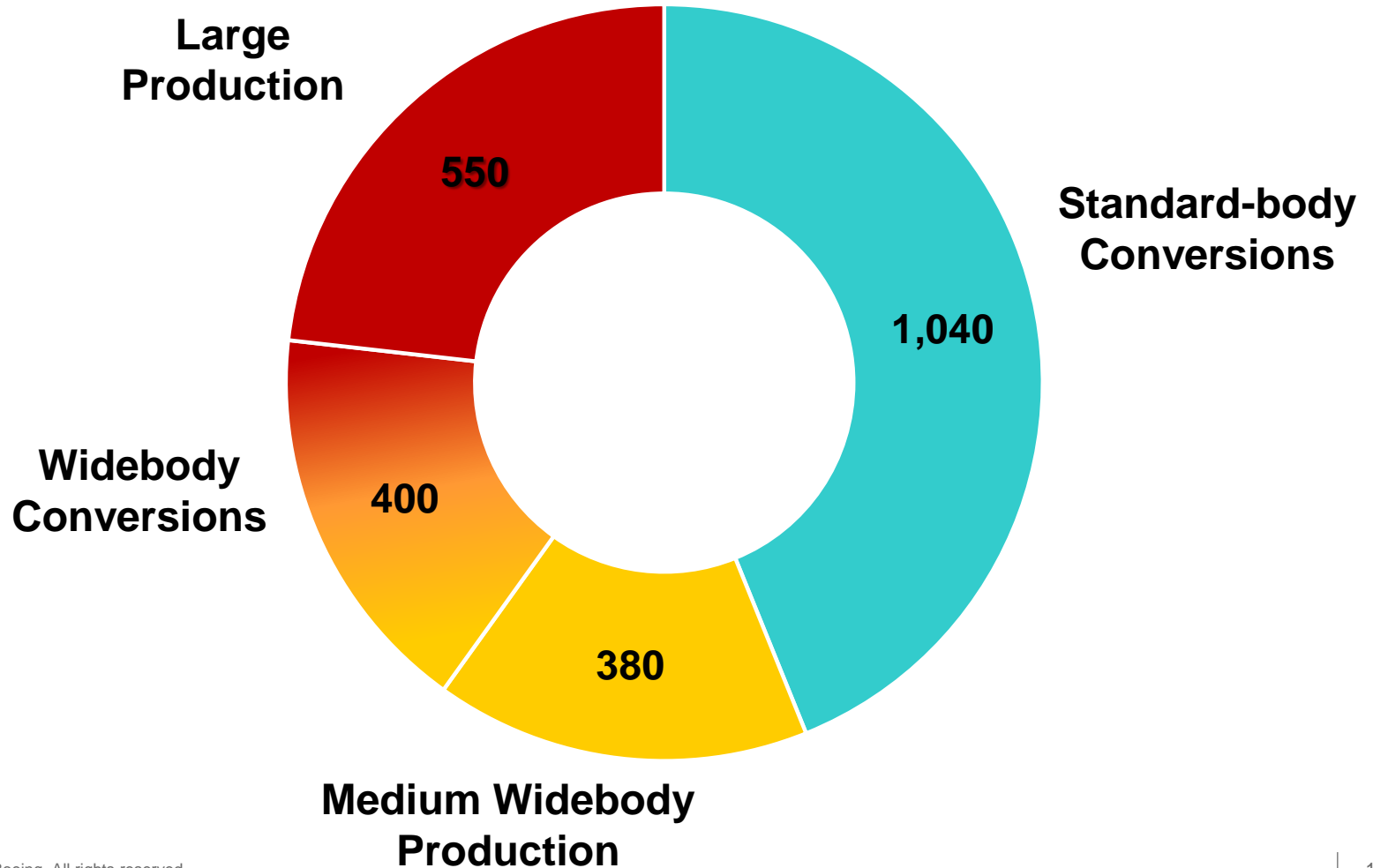
\* Primary cargo airports are the top 50 cargo airports which account for 80% of total air cargo traffic.

SOURCE: Diio/Innovata schedule 2010-15 (all widebodies > 5,000 KM), ACI, Boeing Analysis

# Freighter market will require 2,370 additional freighters

930 New and 1,440 Converted Airplanes

- Standard-body (<45 tonnes)
- Medium widebody production (40-80 tonnes)
- Widebody conversions (40-120 tonnes)
- Large (>80 tonnes)



# Boeing family of commercial freighters

Complete market coverage for every demand level and business model

