

A joint venture of DHL Express and Lufthansa Cargo

Luftfracht – Arbeitgeber der Zukunft?

Technische Universität Dresden - Fakultät Verkehrswissenschaften

Wir bewegen die Welt – we are moving the world

Ulf Weber, CEO AeroLogic GmbH

- **Intro – AeroLogic**
- Air Cargo– dependencies, trends, technologies – an excursion

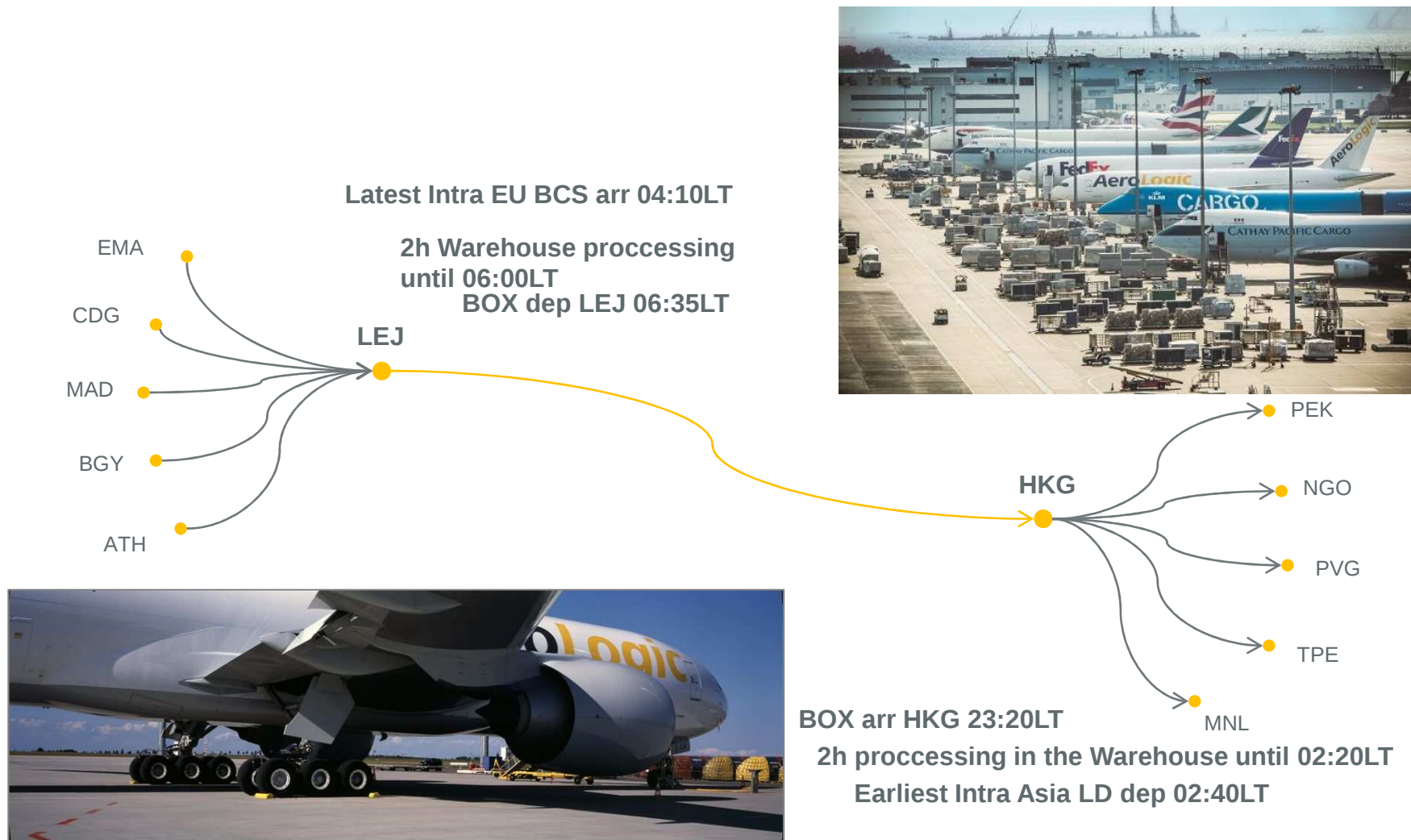


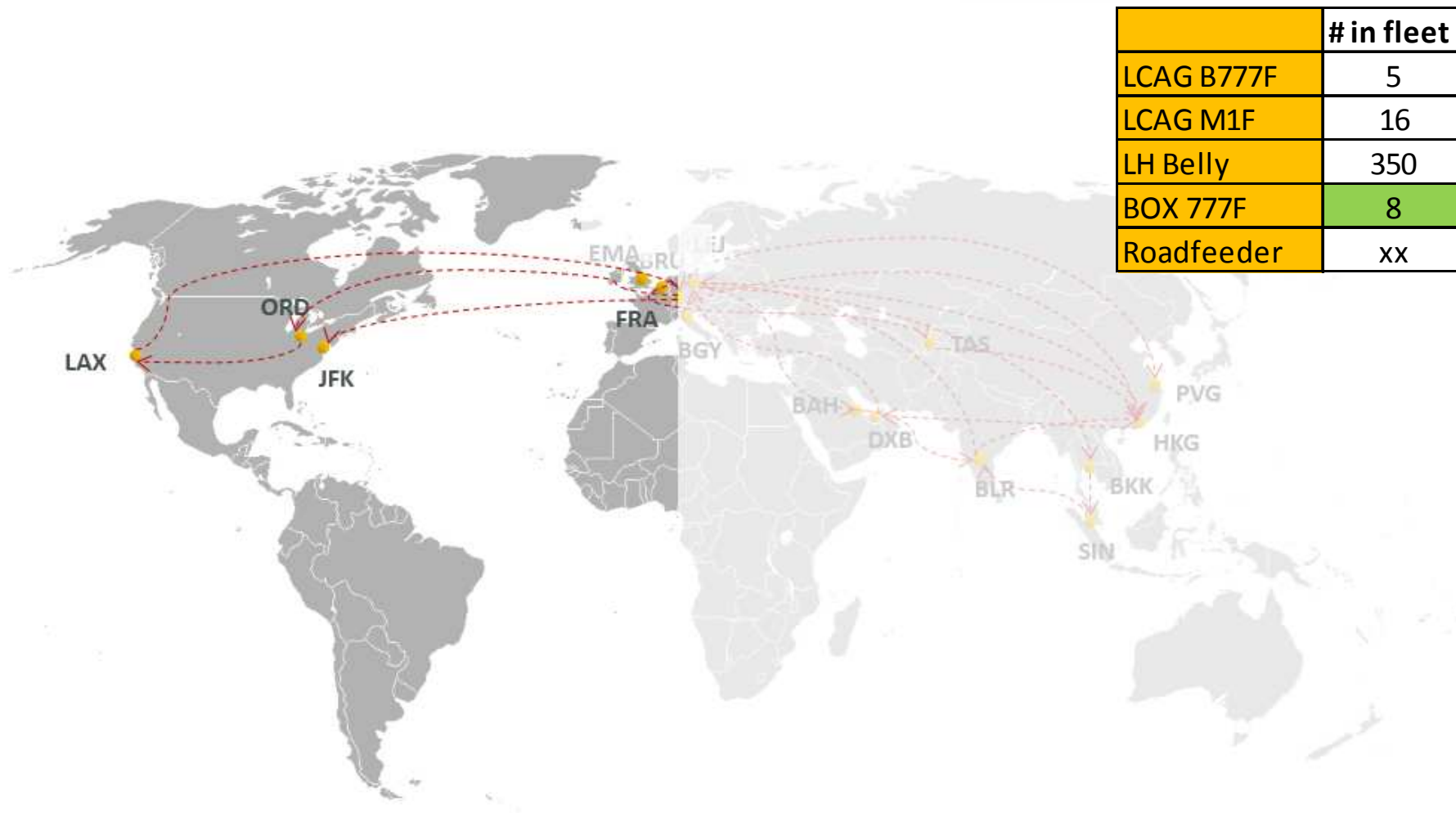
Facts and Figures

... about AeroLogic



- German Leipzig/Schkeuditz based limited liability company (GmbH) with own Air Operator Certificate (AOC)
- 50/50 joint venture of DHL Express and Lufthansa Cargo AG
- Fleet of eight Boeing 777F aircraft delivered in 2009 and 2010
- Start of scheduled operations on June 29th, 2009
- Ground Staff: ~ 75; Crews: ~ 200
- Total cost p.a.: €500m
 - (50% Fuel, 17% Aircraft Lease, 12% Maintenance, 11% other DOC, 5% Crew, 1% Ins., 2% Charter capacity, 2% Overhead)
- Production platform, focusing on the operation





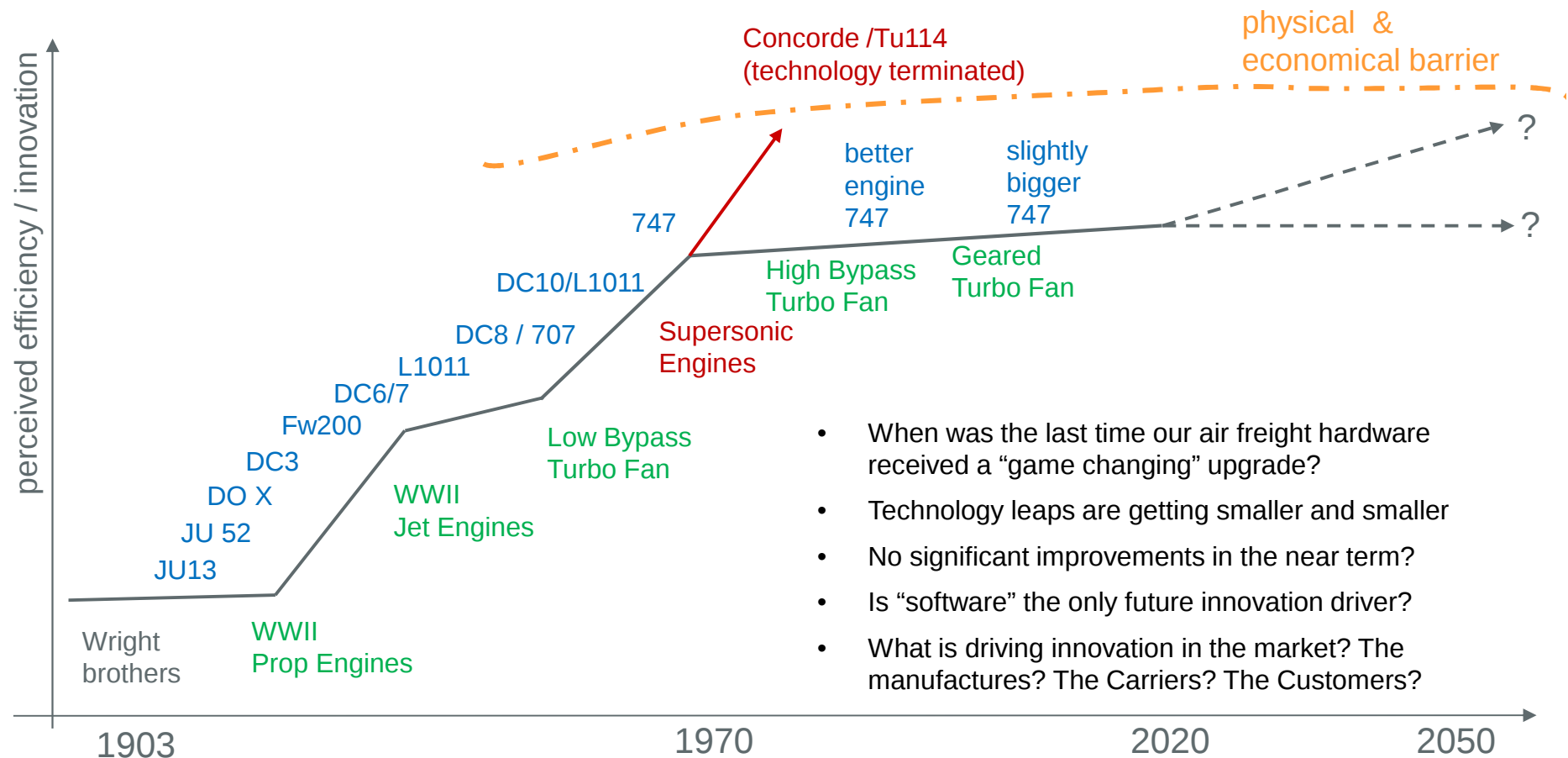
Agenda

- Intro – AeroLogic
- **Air Cargo – structures, trends, technologies – an excursion**



Air Cargo

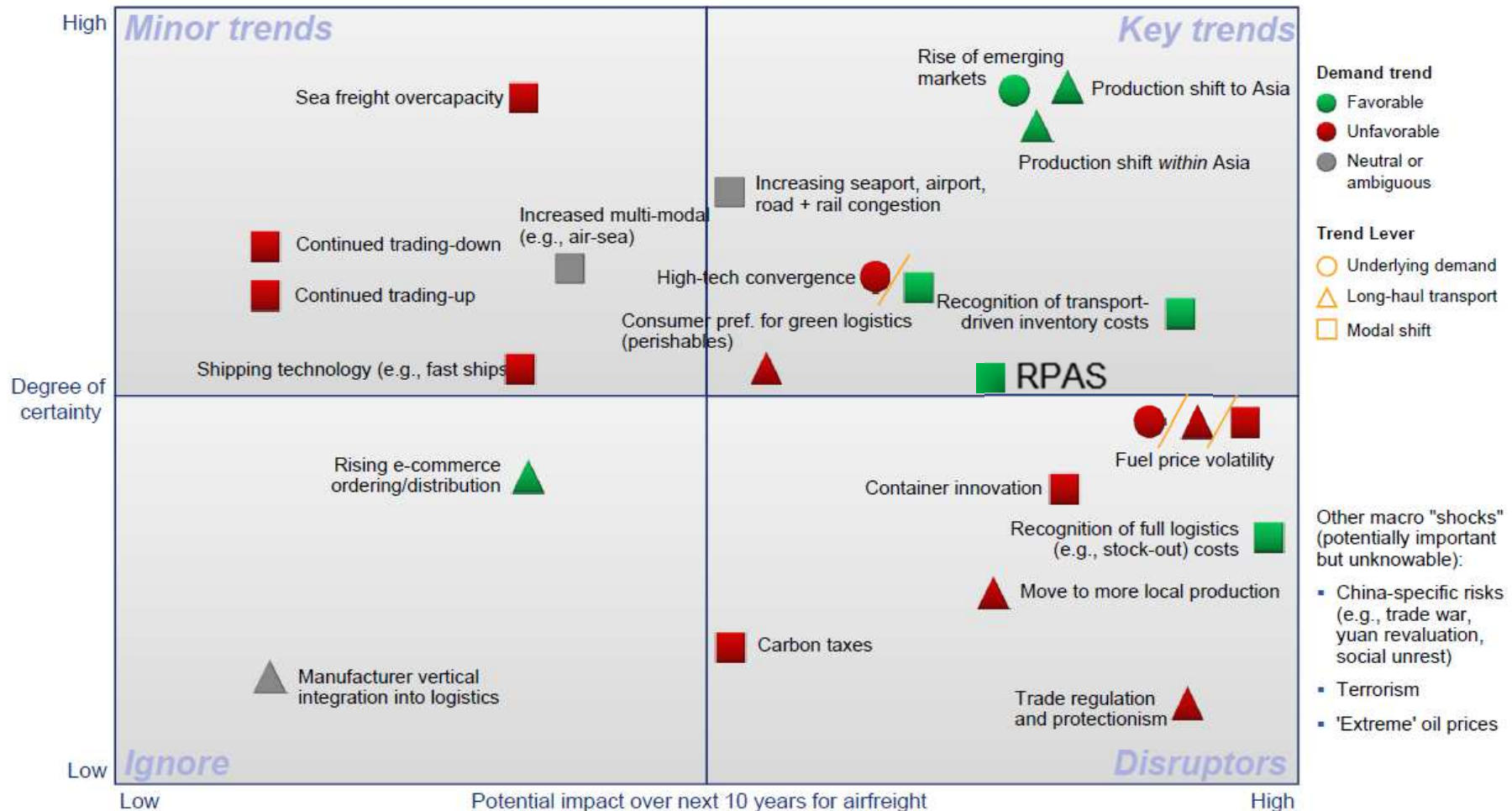
... Technology Development



- When was the last time our air freight hardware received a “game changing” upgrade?
- Technology leaps are getting smaller and smaller
- No significant improvements in the near term?
- Is “software” the only future innovation driver?
- What is driving innovation in the market? The manufactures? The Carriers? The Customers?

Air Cargo

... Trends



Source: Boeing Global Cargo Summit XV

- “Shift to belly cargo” vs. “full freighter business”
- „Freight moves through hubs“ vs. „new point to point connections“
- Speed of Shipments – customer wants shipment immediately after ordering...
- Which impact have sudden fuel price fluctuations?
→ current 101,8 USD/bbl down 16% yoy
- Influence of Modal Shift – e.g. to Ocean Freight, AP-EU Rail

- Boeing / Airbus predict 5% CAGR until 2030, resulting in approx. 600 new large freighters
- World GDP is projected to grow at only 3%.
- Boeing sold 42x 777F in 2011, and only 13x 2012-2014.
- Boeing 747-8 – 67x ordered, 52x delivered, 4x ordered 2008-2014
- No orders for A330F in 2014, 6x ordered in 2013 vs. 18x cancellations

Air Cargo

... Business Models and their profitability

Fullfreighter Carrier

- Cargolux
- Air Bridge Cargo



ACMI

- Kalitta
- Atlas
- ABX
- Air Contractors



Combi Carrier

- Lufthansa
- Air France
- Cathay Pacific
- Singapore Airlines
- Emirates



Integrators

- DHL
- FedEx
- UPS
- TNT



Belly Only

- British Airways / Iberia
- Delta / American / UA
- JAL /



Forwarder

- Panalpina
- DGF
- Dachser
- Kühne & Nagel

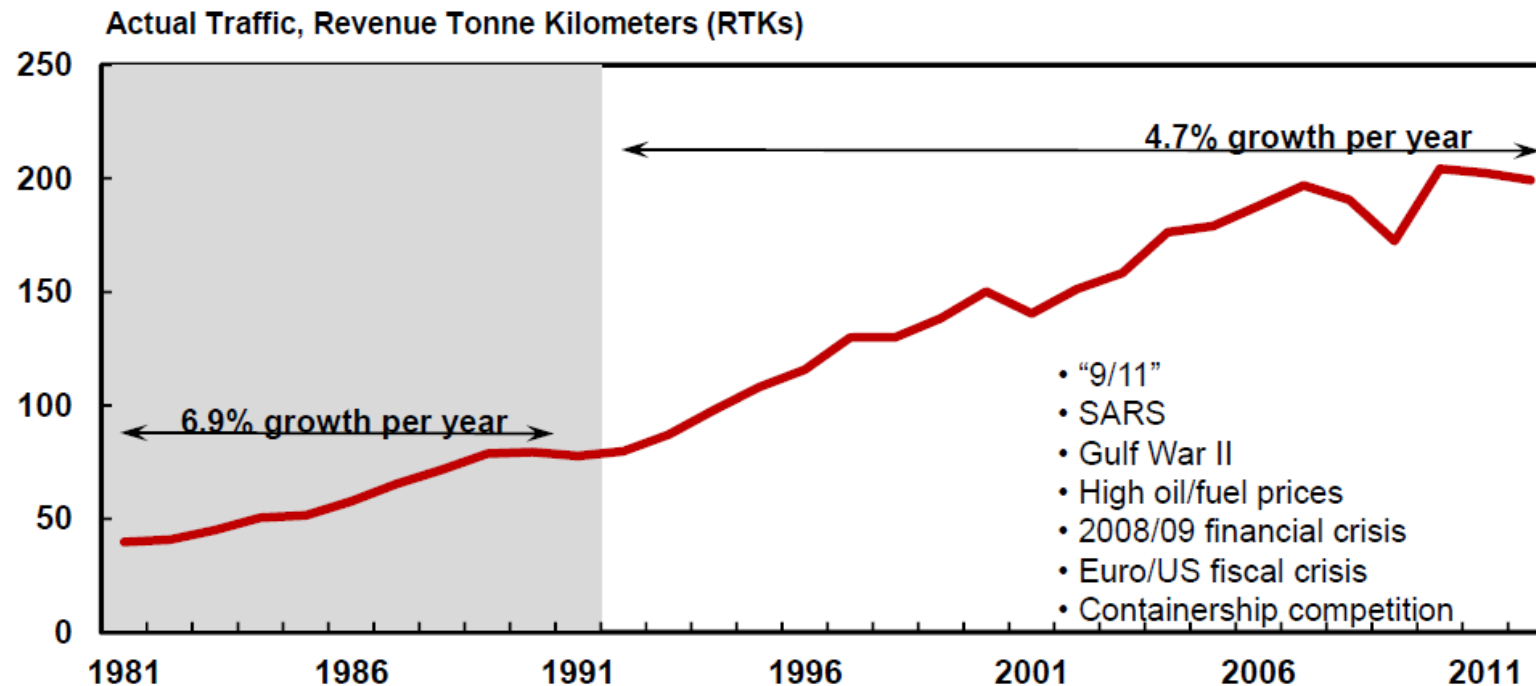




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Industriestrasse 70
04435 Schkeuditz (Germany)
www.aerologic.aero

Air Cargo

... world air cargo traffic growth is slowing down

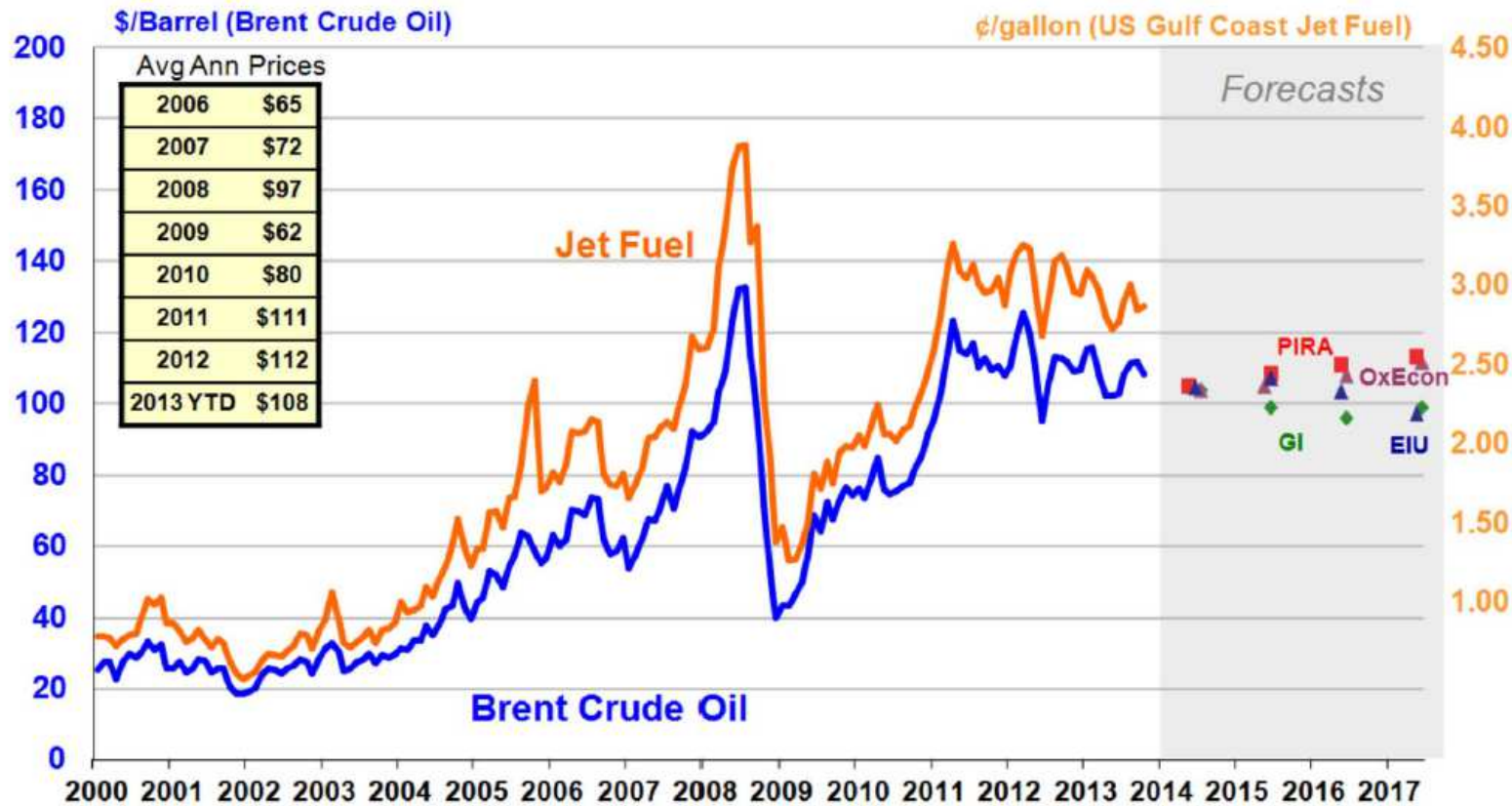


* Source: Boeing Global Cargo Summit XV

Air Cargo

... jet fuel price development

Updated on: 10/30/13

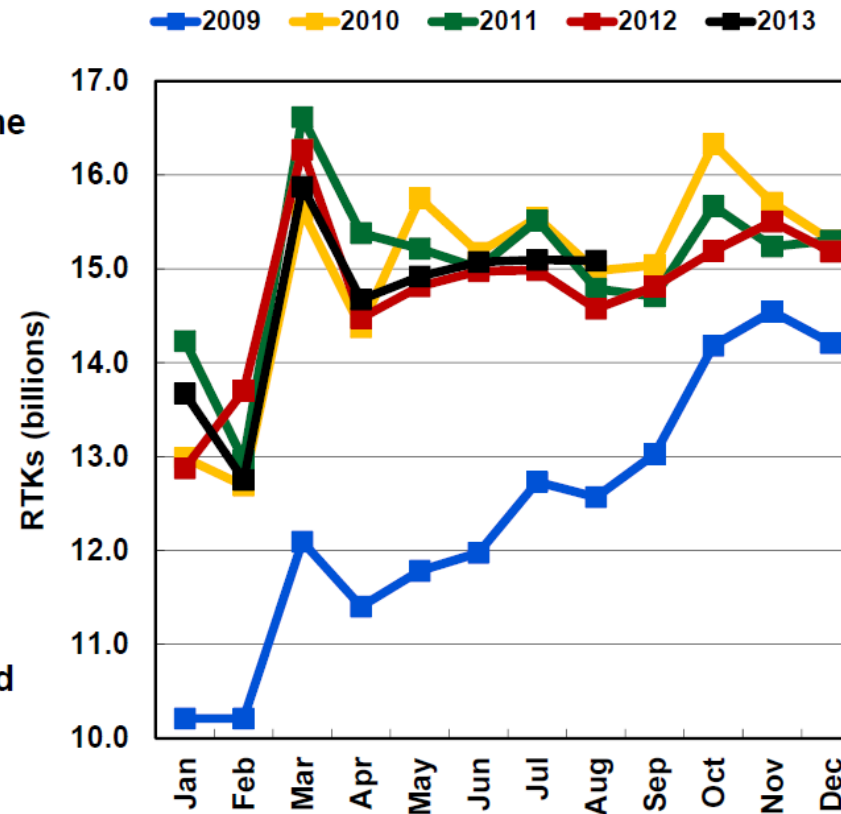


Oil price forecasts are nominal annual average prices for 2014-17
Historical data source: EIA

Air Cargo

... basically no air cargo growth since 2011

- Air cargo volumes reached all-time high in early 2011, but growth stalled since mid-2011
 - Weak economy
 - Trade growth slowed
 - Economic uncertainty
- World air cargo traffic growth:
 - -1.7% for Jan-Dec 2012
 - +3.5% August 2013 SMLY and +0.4% YTD

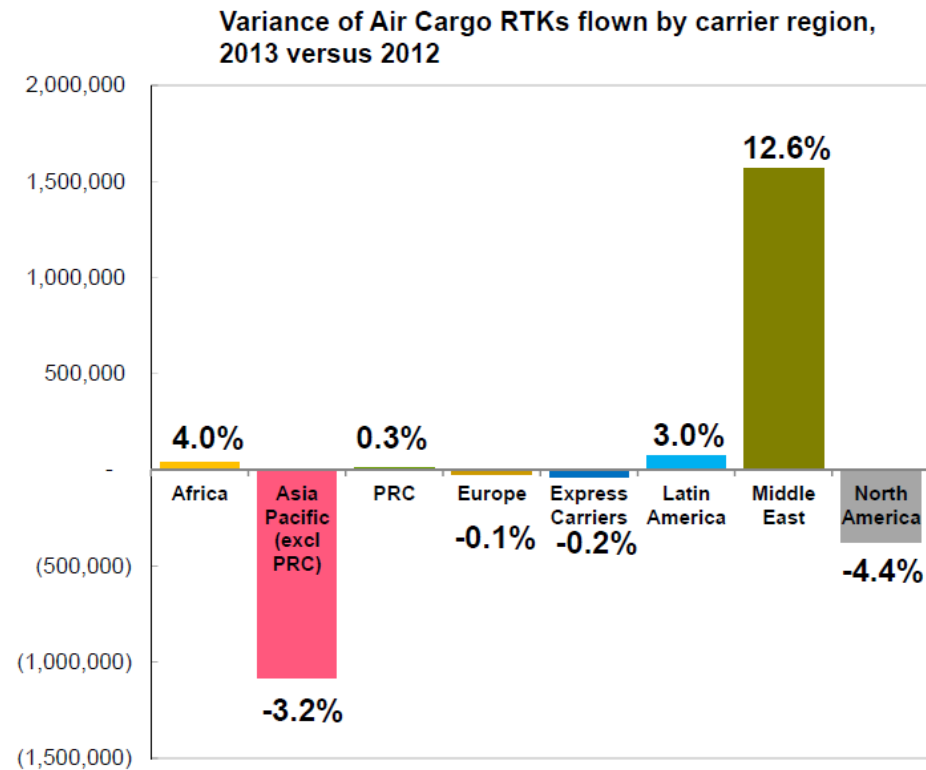


Sources: IATA Carrier Tracker (Industry International Scheduled Freight) and ATA US Domestic Cargo Traffic account for 87.7% of the world RTKs.

Air Cargo

... MEB 3 cannibalizing the rest of the world?

- World air cargo has grown **0.4% YTD in 2013**
- Asia-Pacific and N. American non-express carriers most adversely affected
- Middle East carriers adding capacity to capture emerging opportunities

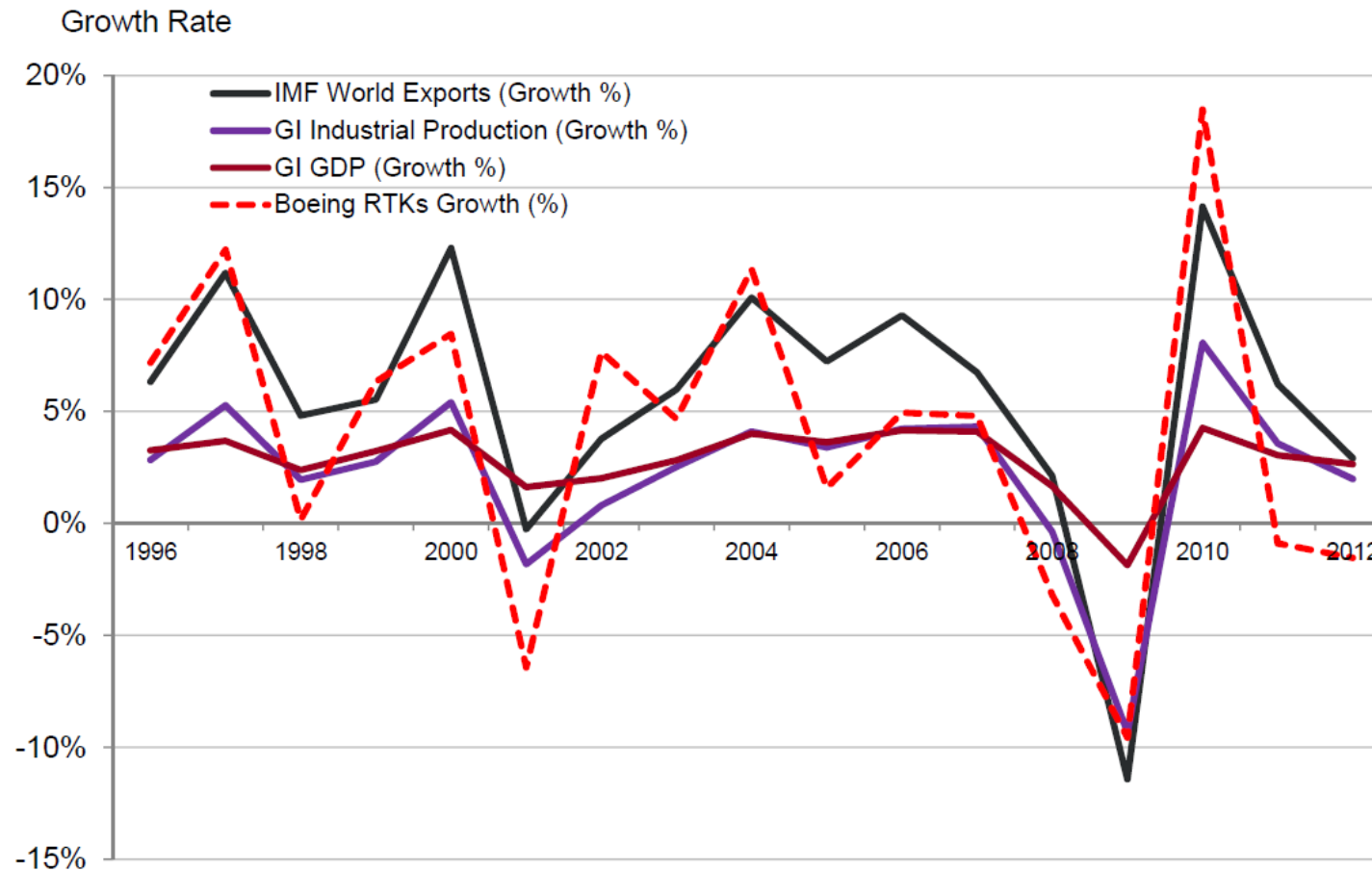


Sources: IATA Carrier Tracker (industry international scheduled freight), China Eastern and A4A US domestic cargo traffic, and Boeing analysis.

August 2013 Year-to-date

Air Cargo

... correlation of economic development with RTKs?



*IMF = International Monetary Fund, GI = Global

** Source IMF & Worldbank

IMF World exports – statistical correlation (r^2) with air cargo traffic: 0.73

- Growth rate only, not comparative size
- Value, not volume based, and subject to price variation influences
- Regional data limited

GI Industrial production - statistical correlation (r^2) with air cargo traffic: 0.67

- Growth rate only, not comparative size
- Index value, prone to “auto-correlation”
- Reflects production, not consumption
- Time series history lacking

GI GDP - statistical correlation (r^2) with air cargo traffic: 0.97 (based on size)

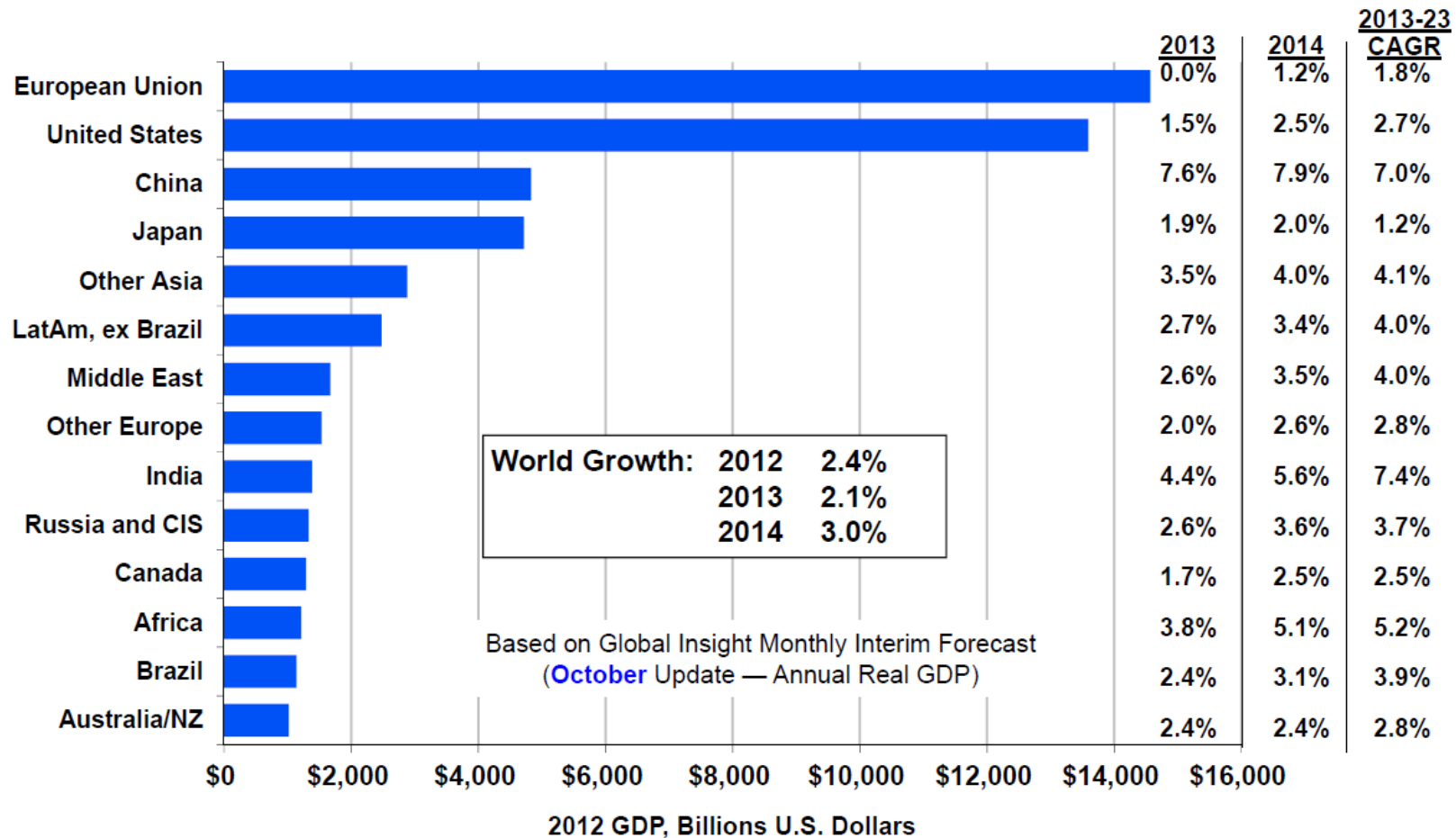
- Size values (not just growth rates) are available
- Comprehensive, consistent database (country to country detail with relative sizes)
- Long term time series data available
- Causal

*IMF = International Monetary Fund, GI = Global

** Source IMF & Worldbank

Air Cargo

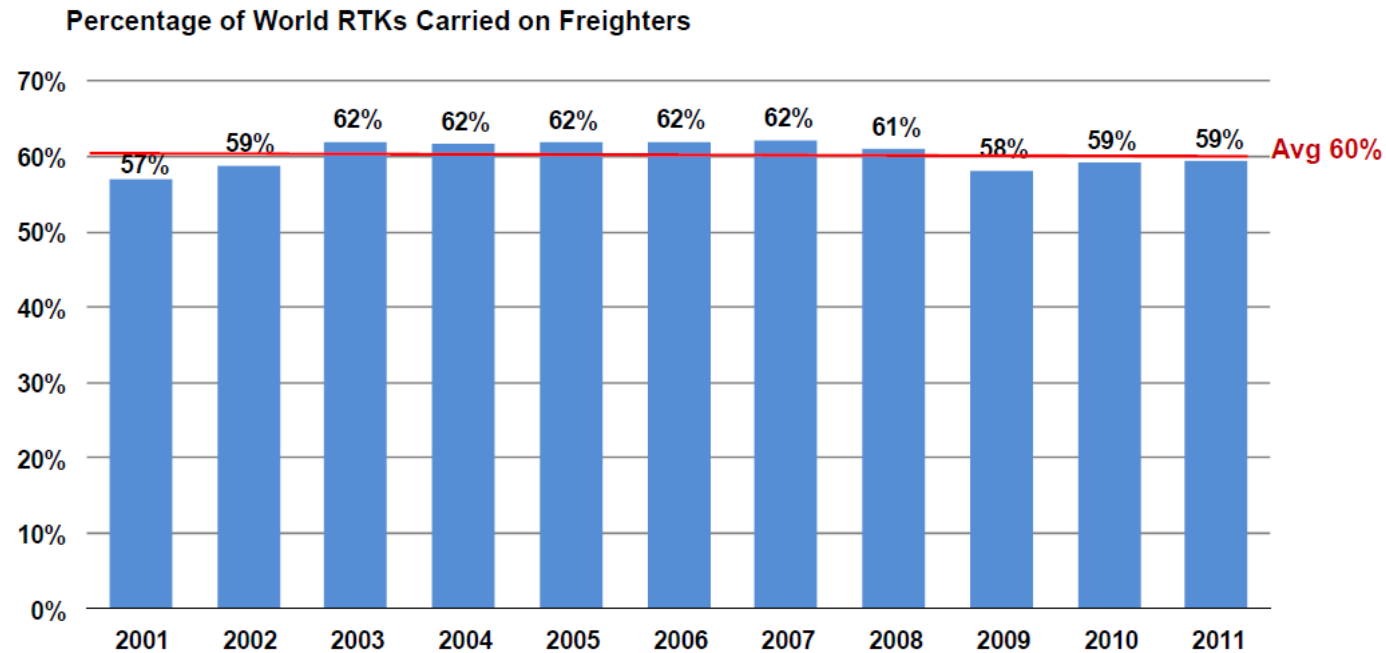
... which markets are expected to grow?



Note: "China" includes Hong Kong and Macau. China's stand alone growth rates: 2013 7.8%, 2014 8.0%.

Air Cargo

...full freighter share stable at 60% of RTK...



- From 2001 to 2011
 - Boeing delivered 825 passenger widebody airplanes
 - 604 777 passenger airplanes
- 313 777-300ERs have been delivered from 2004 to 2011

Sources: ICAO, IATA, A4A, Boeing