

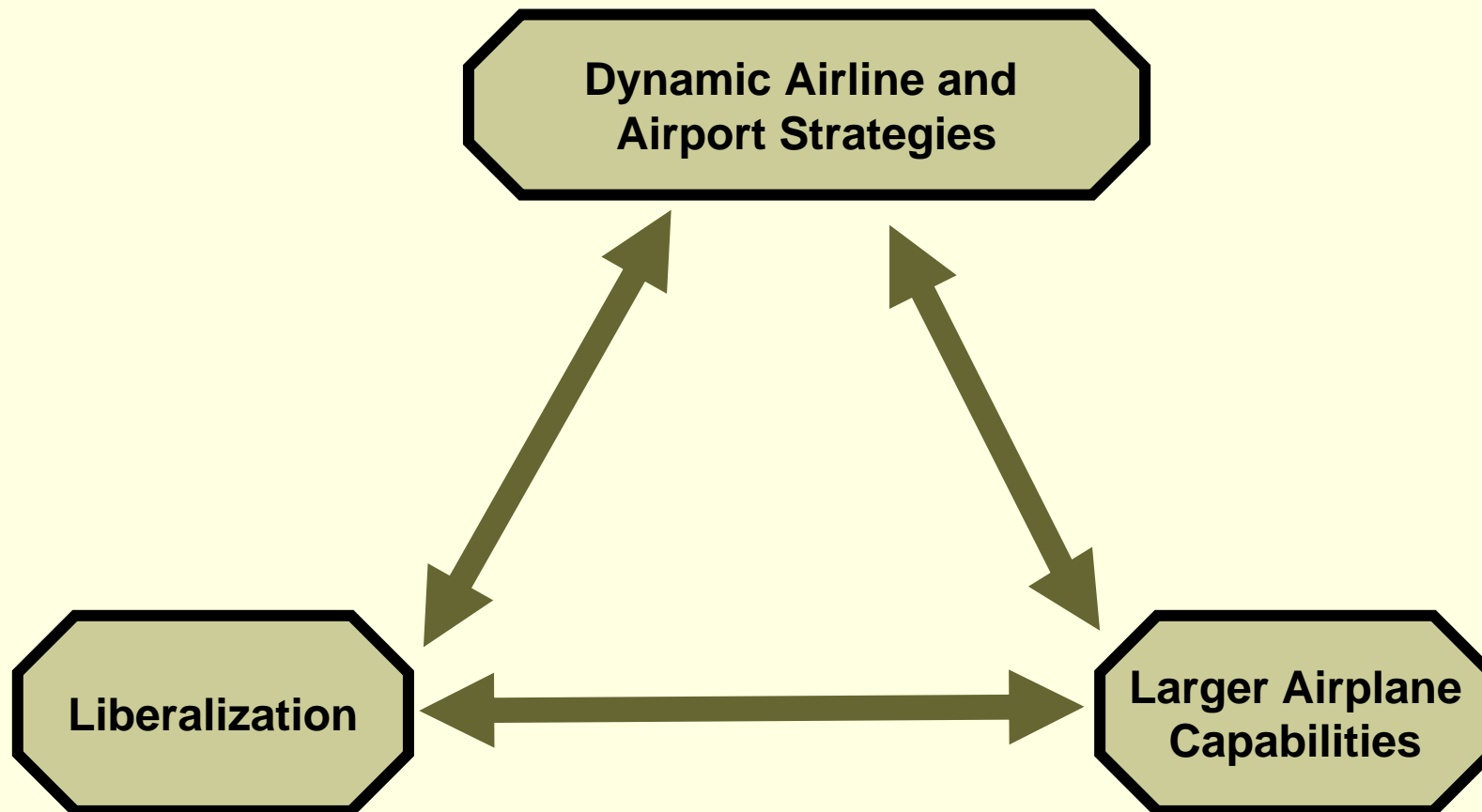
Logistics Hub: Wither air-cargo in Singapore

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outline

- *Introduction*
- Globalization, travel and trade
- Globalization: Impact on Singapore
- Globalization: Singapore's response
- Conclusion

Aviation environment



“Aircraft carry around 2 per cent of international trade by volume, but around 40 per cent by value”

FedEx chief operating officer Michael Ducker.

“7.3 percent annual growth in world trade value will help drive a 6.1 percent average yearly increase in air cargo (ATKs).”

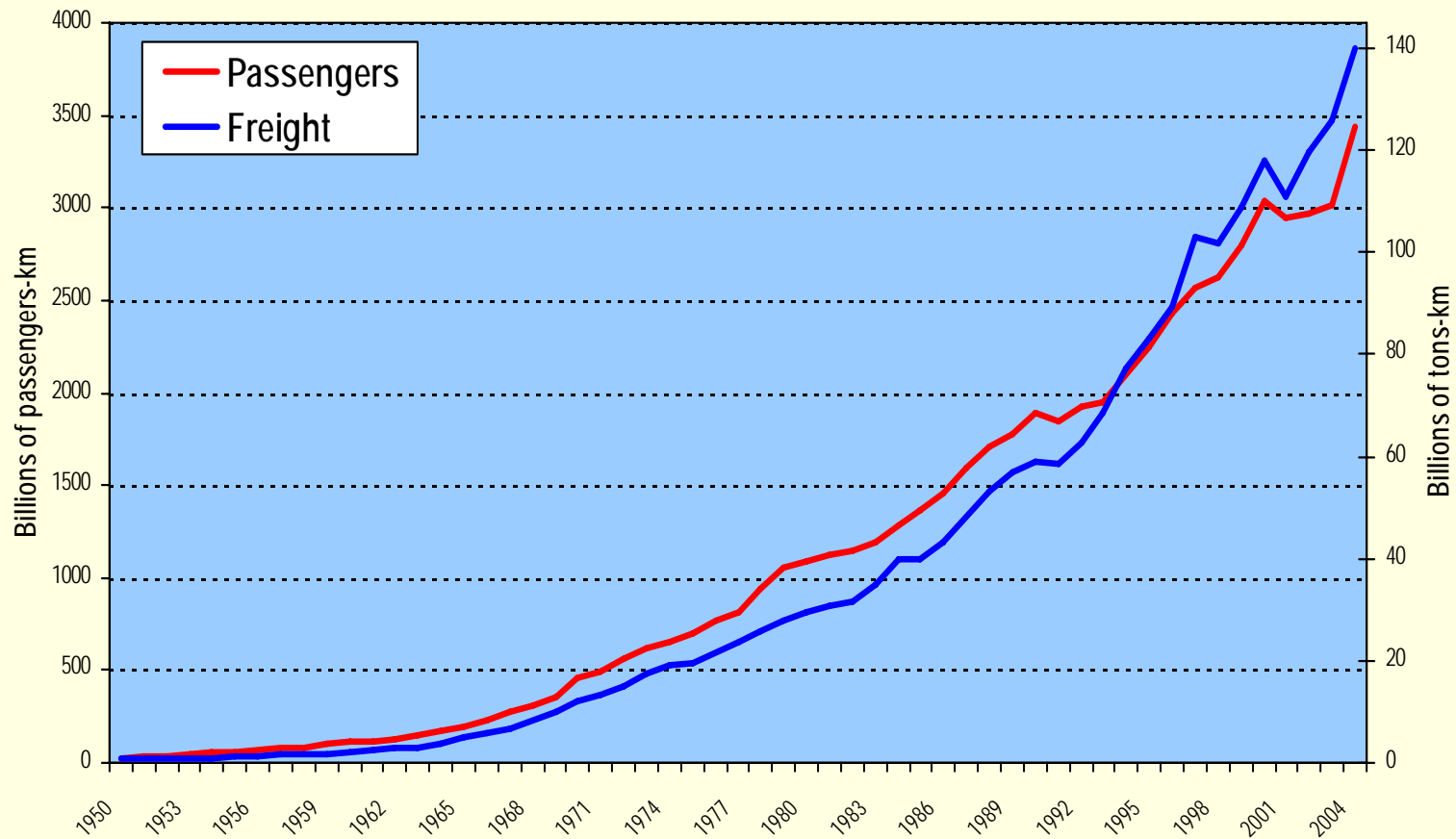
Boeing CMO 2006



International air cargo hubbing involves 3 types of operations:

- 1. Finished goods may be brought to a hub in one aircraft to be transshipped onto another aircraft bound for the destination with little storage involved.**
- 2. Goods which are brought in are stored as inventories in warehouses at the hub and are sent to the markets when the need arises.**
- 3. Intermediate goods are shipped as part of the production process by involving logistics management by the manufacturing firms, freight forwarders and airlines.**

World Air Travel and World Air Freight Carried, 1950-2004



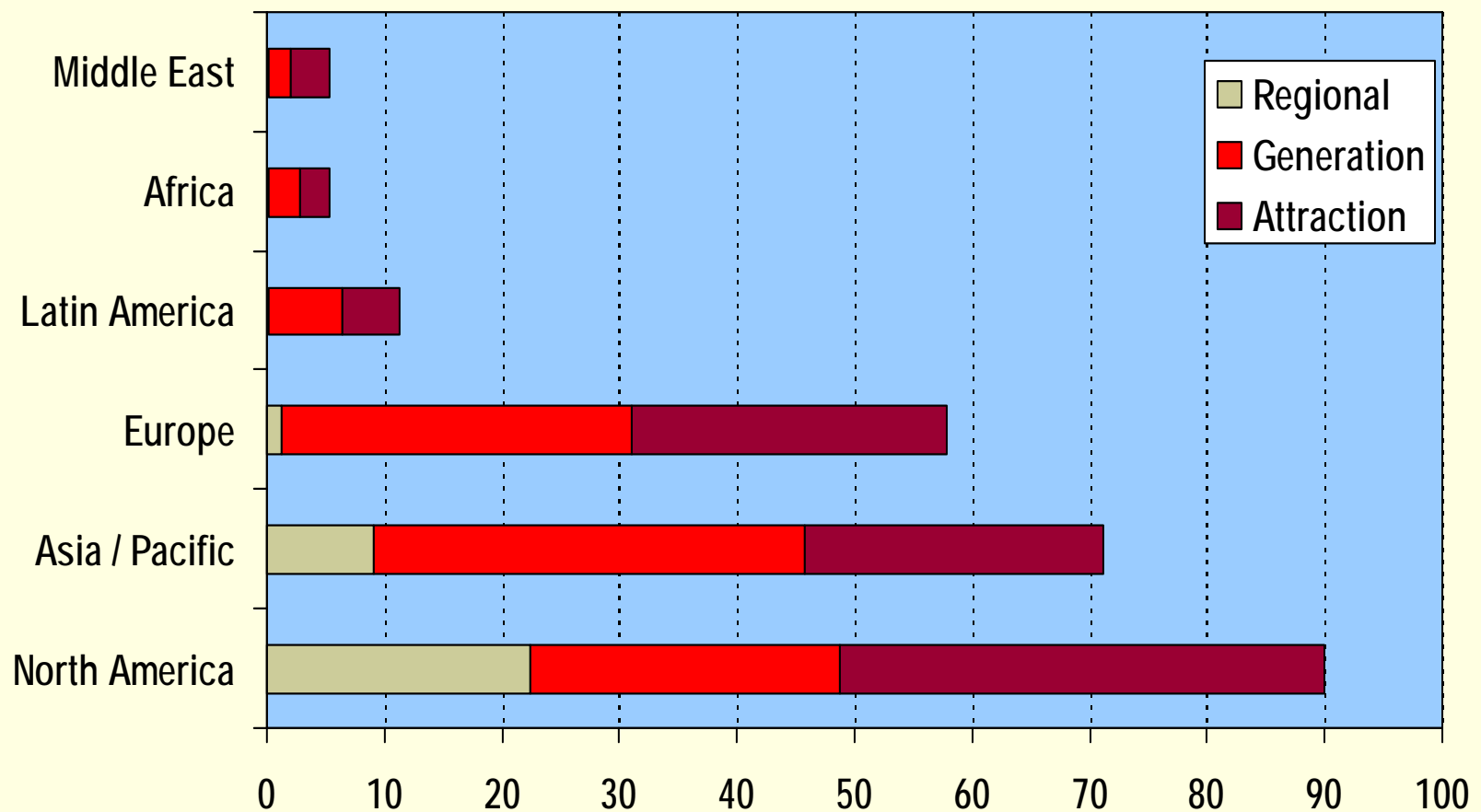
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Poles of the Global Economy



Generation and Attraction of Global Air Freight Flows, 2003 (in billions of ton-km)



International Trade of Merchandises, 2003 (in billions of dollars and in % of all exports)

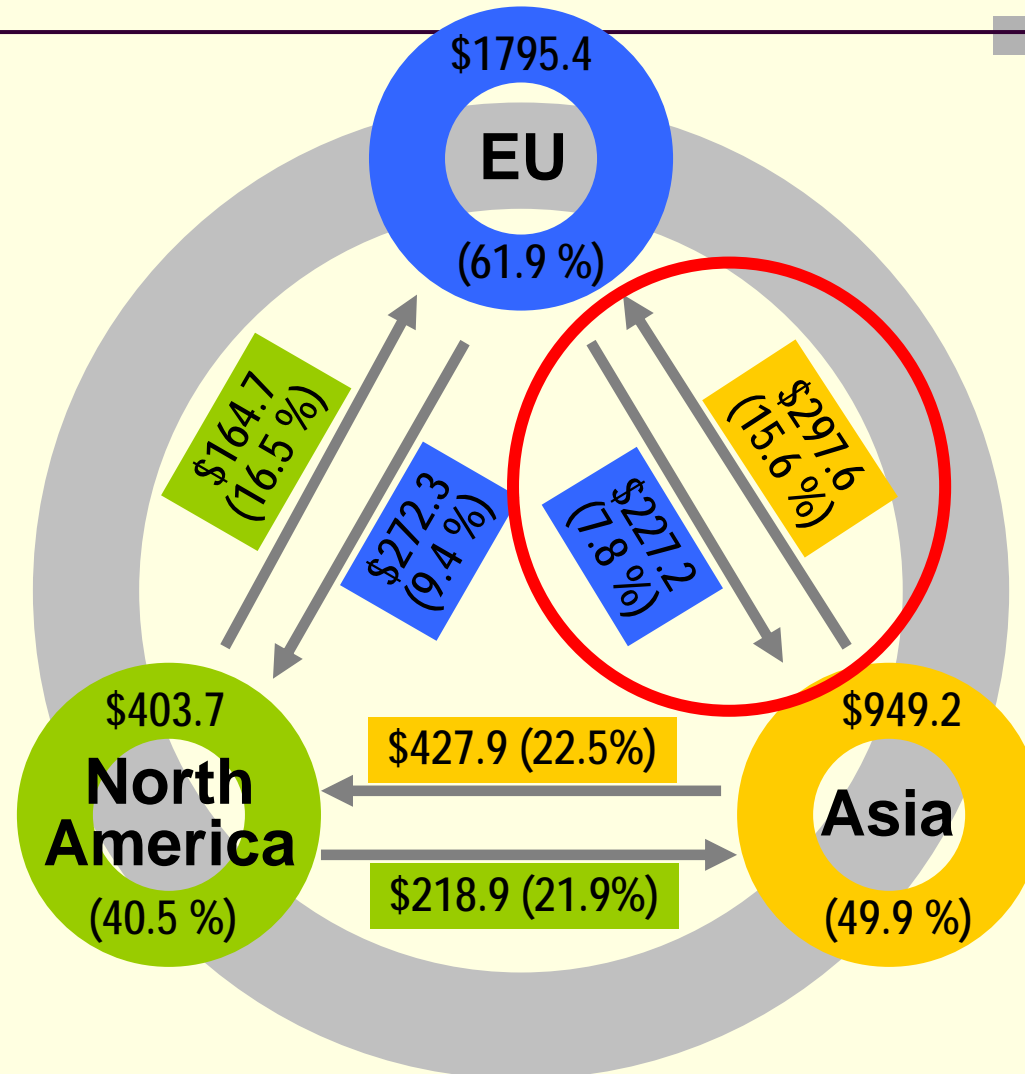
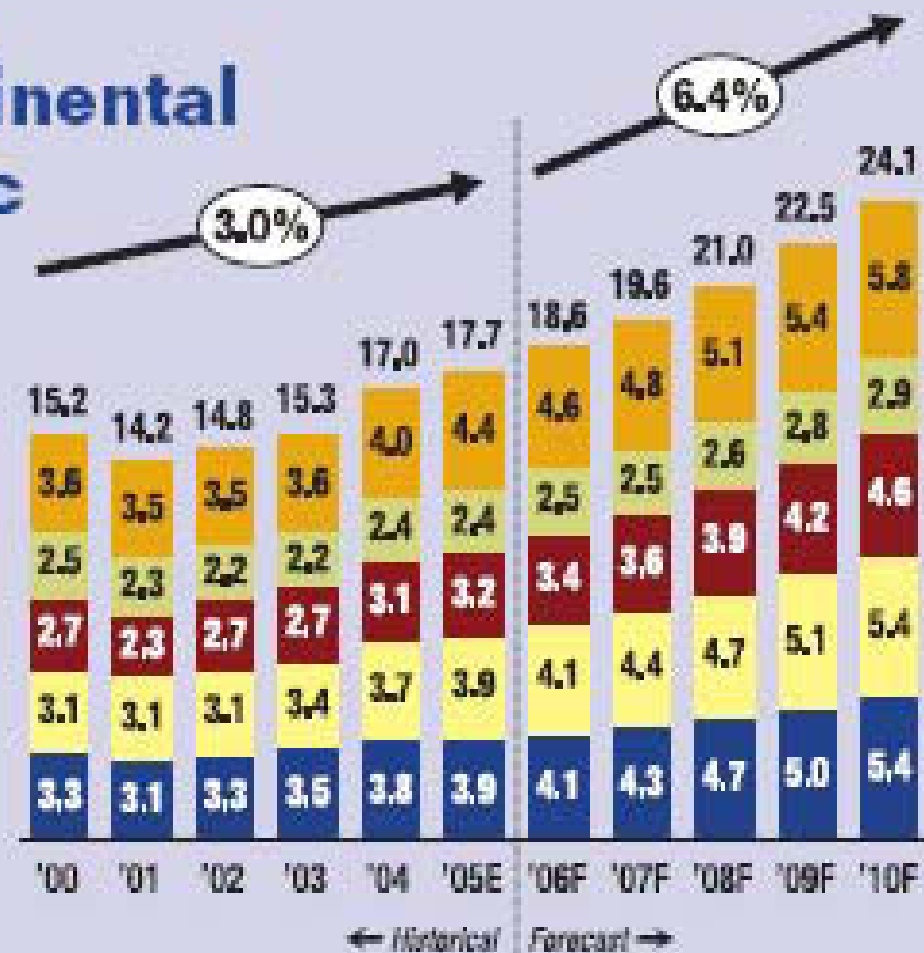


Chart 1

World intercontinental air freight traffic

Millions of metric tons



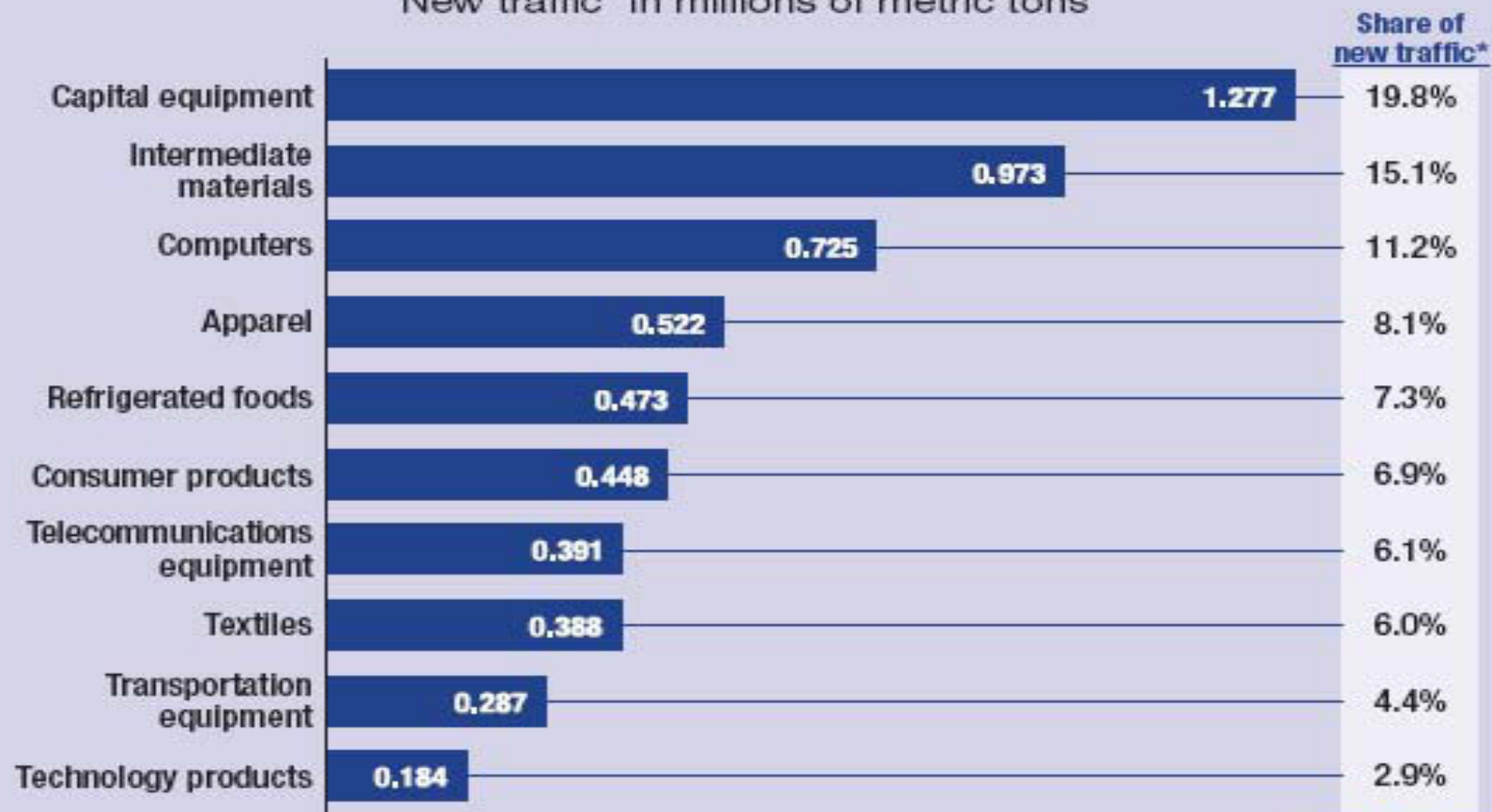
$x\%$ → Compound average growth rate (CAGR)
between the years indicated on each graph.

Source: MergeGlobal world air freight supply & demand model.

Chart 6

Fastest growing shipper industry segments: 2005E-2010F

New traffic* in millions of metric tons



*New traffic represents the increase in annual tonnage between 2005 and 2010, calculated by subtracting actual tonnage in 2005 from forecast tonnage in 2010.

E – estimated • F – forecast



Top 10 share of new traffic

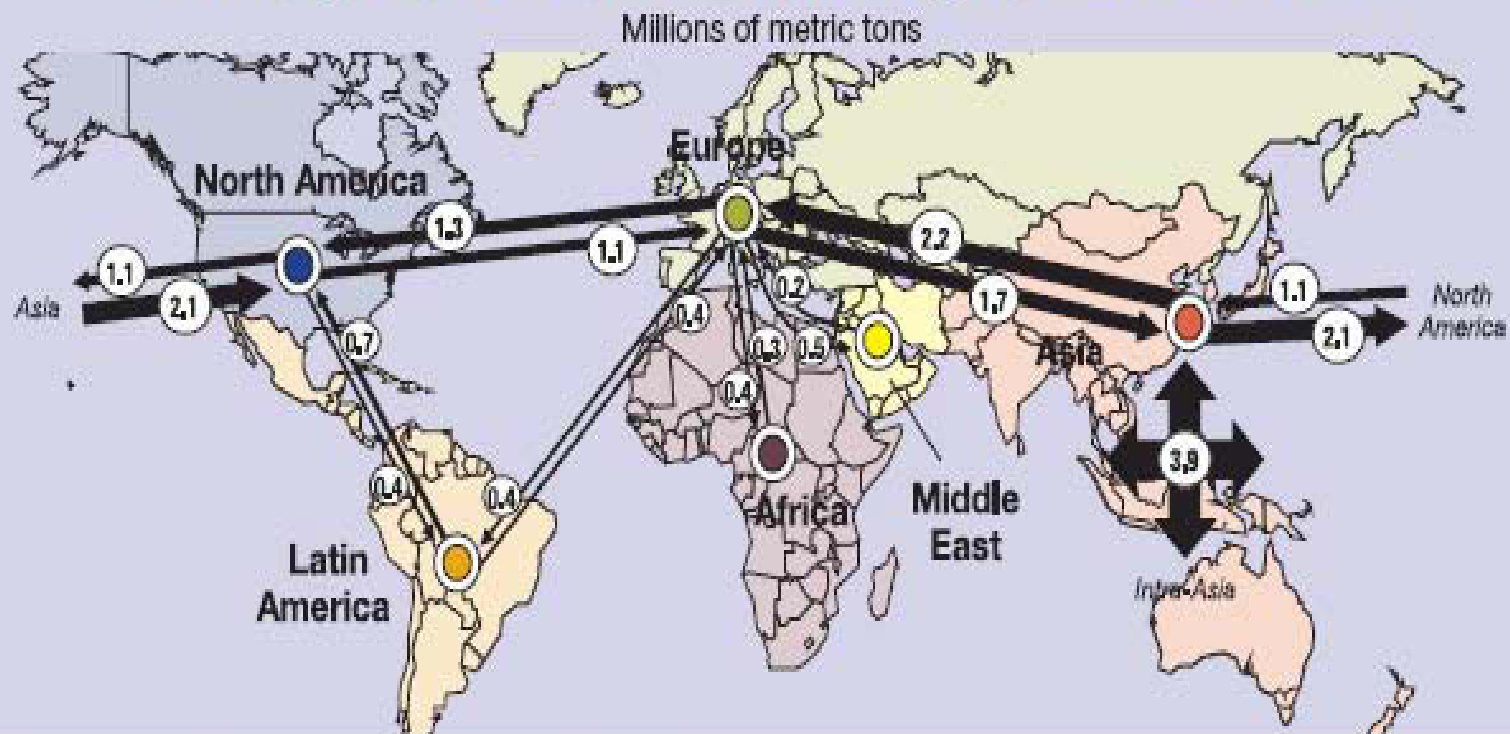
Source: MergeGlobal world air freight supply & demand model.

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Chart 4

Primary intercontinental air freight flows in 2005



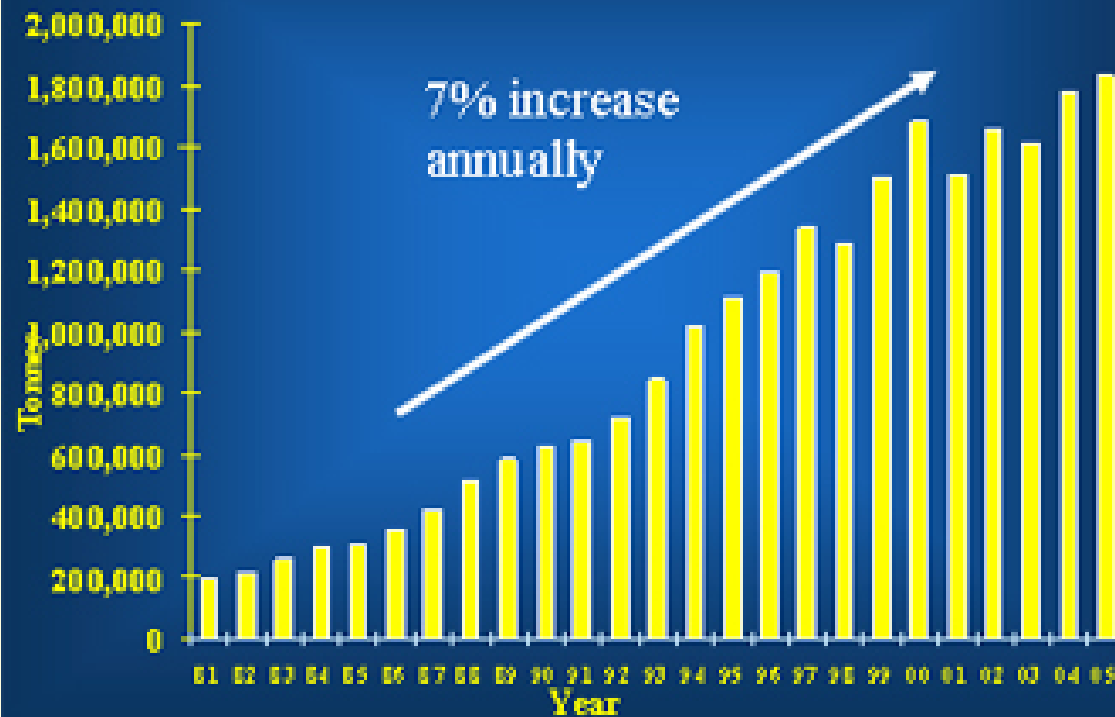
Source: MergeGlobal world air freight supply & demand model.

Top 10 Asian Airports for 12 months ending December 2005

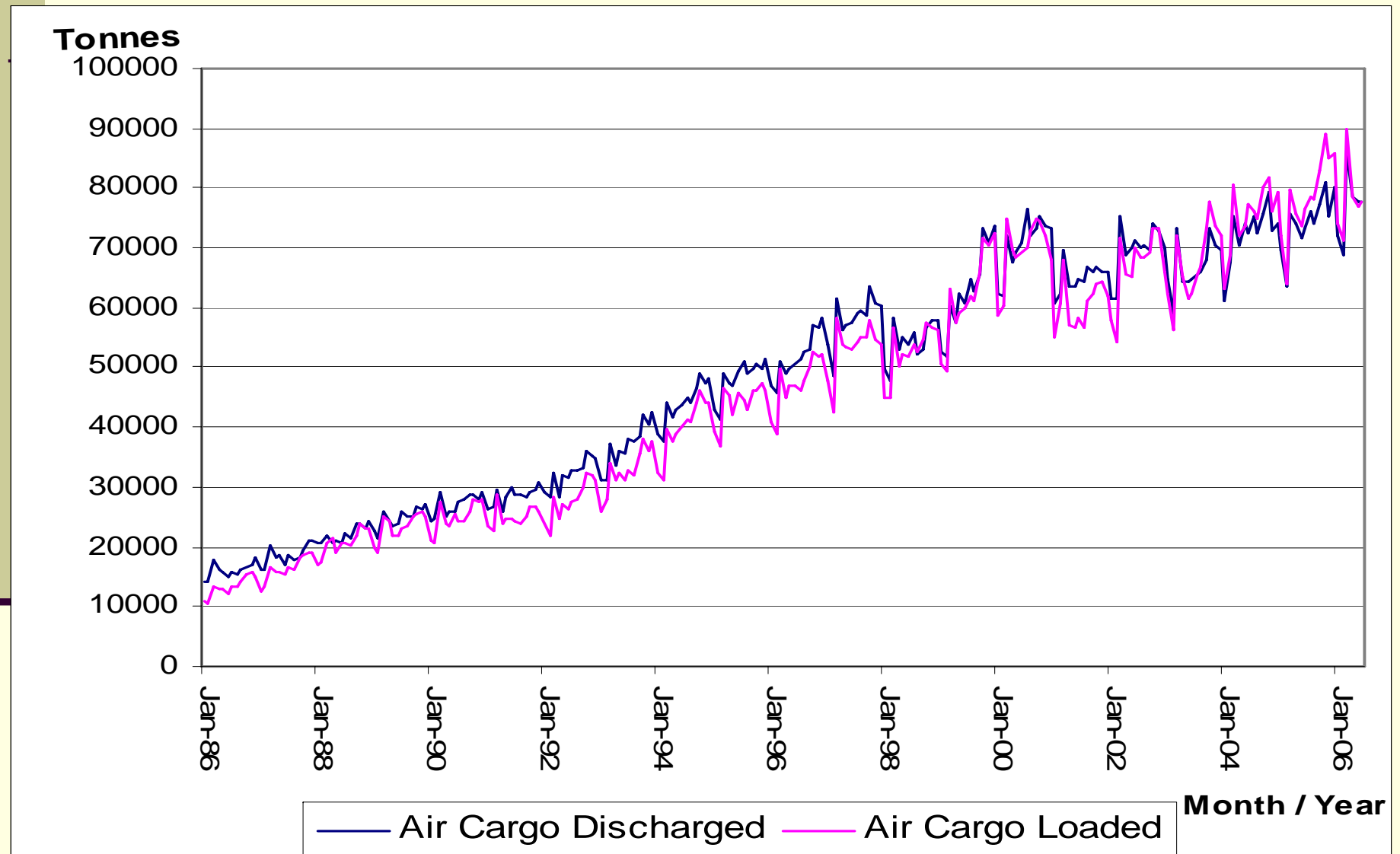
World Rank	Airport	Tonnage	% change
2	HONG KONG, CHINA (HKG)	3,433,349	9.9
4	TOKYO (NRT)	2,291,073	(3.5)
5	SEOUL (ICN)	2,150,140	0.8
9	SHANGHAI (PVG)	1,856,655	13.1
10	SINGAPORE (SIN)	1,854,610	3.3
13	TAIPEI (TPE)	1,705,318	0.3
18	DUBAI (DXB)	1,314,906	12.5
19	BANGKOK (BKK)	1,140,836	7.8
22	OSAKA (KIX)	869,474	(3.5)
23	TOKYO (HND)	799,073	(2.1)

Airports Council International (updated 17 July 2006)

Air Cargo Traffic at Changi Airport (1981 – 2005)



Growth in Singapore's Air Cargo



Air cargo discharged by region 1985 to 2005

Tonnes

2000000

1800000

1600000

1400000

1200000

1000000

800000

600000

400000

200000

0

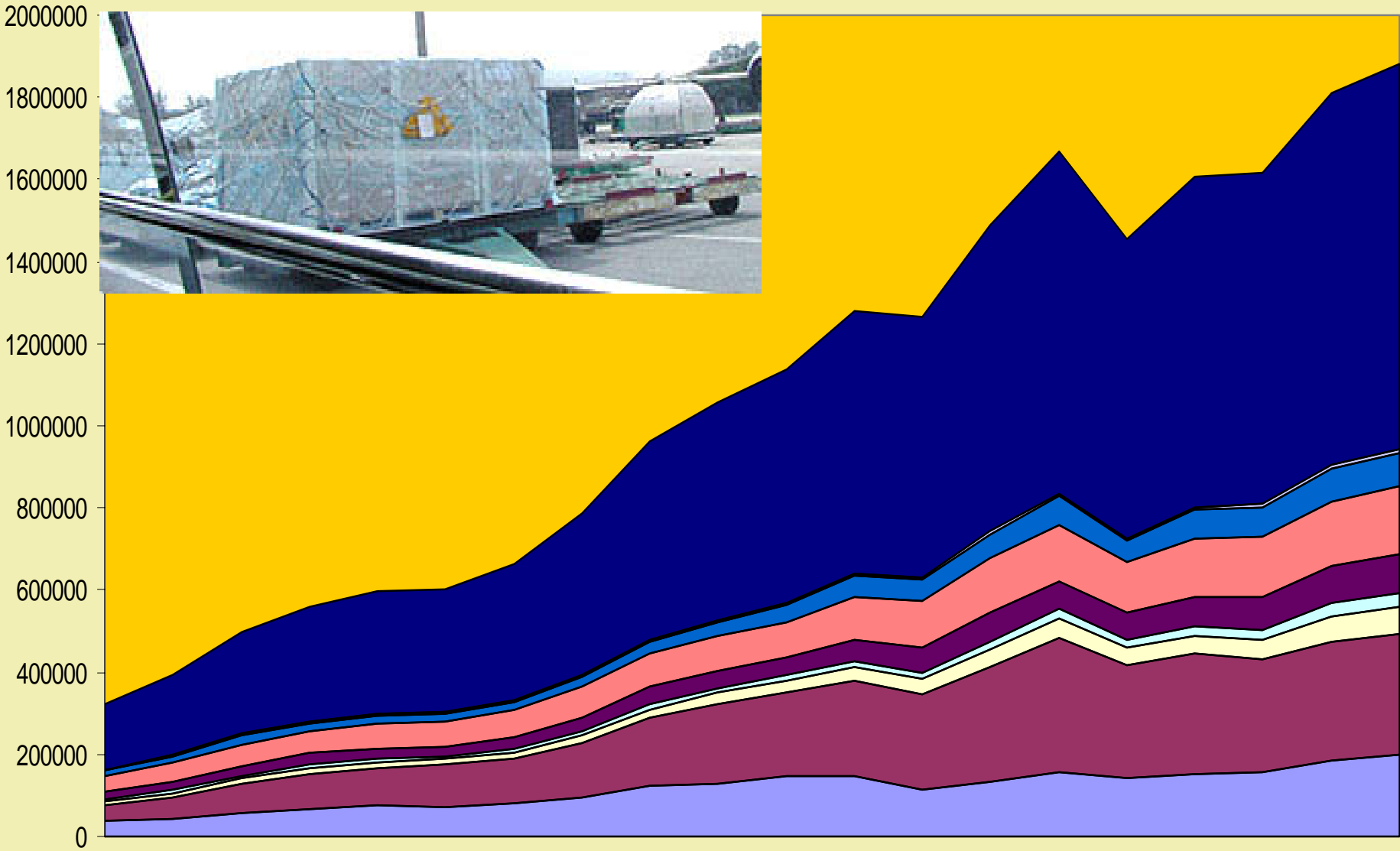


Year

SEA NEA SA WA OCEANIA EUROPE NA OR TOTAL

Air cargo loaded by region 1985 to 2005

Tonnes



Year

SEA NEA SA WA OCEANIA EUROPE NA OR TOTAL

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-
- 1 September 2006, Changi Airport is served by **82 airlines** with about **4,100 weekly scheduled flights** connecting to **184 cities** in **57 countries**.
 - Airfreight operations at **Changi Airfreight Centre** (CAC), a **47-hectare area** which functions around the clock. Capacity: **3 million tonnes** of cargo per year, Customs Free Trade Zone (FTZ). **ALL** transshipment cargo may be broken down and re-consolidated without any customs formalities.

Singapore Airlines Cargo

- 14 B747-400F freighters: Mega Arks with a range of 8,245 kilometres carrying a full payload of 110 tonnes.
- 5 continents to 74 cities in 38 countries throughout the world, and we schedule in excess of 600 flights a week.

Airfreight Terminals

- 9 airfreight terminals (AFTs), 3 ground handling agents
- AFTs equipped with state-of-the art material handling system to ensure the efficient handling of cargo.
- SATS, CIAS and Swissport have specialized capabilities, well-trained staff and facilities to handle and store niche cargo such as dangerous goods, perishables, animals and valuables.



Express Courier Centres

Time sensitive and time definite needs: 2 dedicated Express & Courier Centres (ECCs): 1) DHL Express as its Singapore Regional Hub, 2) TNT and is operated by SATS for general express and courier shipments with an annual handling capacity of 40,000 tonnes. FedEx and UPS, operate gateway facilities within the CIAS Airfreight Terminal. Air express parcels can be shipped or transshipped within an hour.

DHL Singapore Hub

DHL opened its purpose-built express facility in the CAC in 2001. Dubbed the “DHL Singapore Hub”, this US\$34 million, 10,000 m² facility has an annual handling capacity of 180,000 tonnes.



Cargo Agents Buildings

Four Cargo Agents Buildings (CABs) with a total of 110,000 m² of office and warehouse space enable export cargo to be sorted, packed and loaded on the aircraft smoothly, and import cargo to be collected, broken down and cleared through Customs within a few hours.

Megaplex

“Flow through” concept is leveraged to improve the level of operational efficiency gains in terms of cargo processing time as compared to conventional warehouses, resulting in less waiting time and minimum traffic congestion as each Megaplex warehouse has two accessible open sides – one for trucks and one for dollies.



■ **Freighter Parking Bays**

12 freighter bays fronting the airfreight terminals each able to serve B747Fs. 33 remote stands to cater to additional demand.

■ **Related Infrastructure**

One-stop location for efficient clearance for all types of cargo. Airmail Transit Centre, Quarantine Centre and a 24-hour Customs Checkpoint to cater to round-the clock operations.



■ AIRPORT LOGISTICS PARK OF SINGAPORE (ALPS)

26-hectare ALPS to promote the growth of logistics as a driver for air cargo shipments. A Free Trade Zone. Customs formalities are minimal, major third party logistics players undertake rapid, value-adding replenishment and fulfillment activities for the entire region with greater efficiency as time and manpower relating to transportation and documentation is reduced. Almost fully occupied with a tenant list that reads like a who's who in logistics.

Tenants of Purpose-Built Facilities

Bax Global, Exel, Expeditors, Menlo Worldwide, Nippon Express, UPS Supply Chain Solutions, Sandvik, SDV

Tenants of Multi-Tenanted Facilities

Airmark Freight Services, EGL Eagle Global Logistics, Geologistics, Global Airfreight Kerry Logistics, Kuehne & Nagel, KWE Kintetsu World Express, MOL Logistics, UPS Supply Chain Solutions, Schenker

Performance Standards	Target
Cargo documents available within 2 hours of passenger aircraft arrival	90%
Cargo documents available within 4 hours of freighter aircraft arrival	90%
Cargo available within 3.5 hours of passenger aircraft arrival	90%
Cargo available within 5.5 hours of freighter aircraft arrival	90%
Cargo cleared by customs within 13 minutes	90%

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Conclusion

- Liberal operating environment
- Strong freight carrier / alliance
- Pro-active investment in infrastructure
- Holistic approach to logistic hub development and global supply chain management
- Customer orientated development
- Minimize impediments to goods facilitation
- Benchmarking and constant review