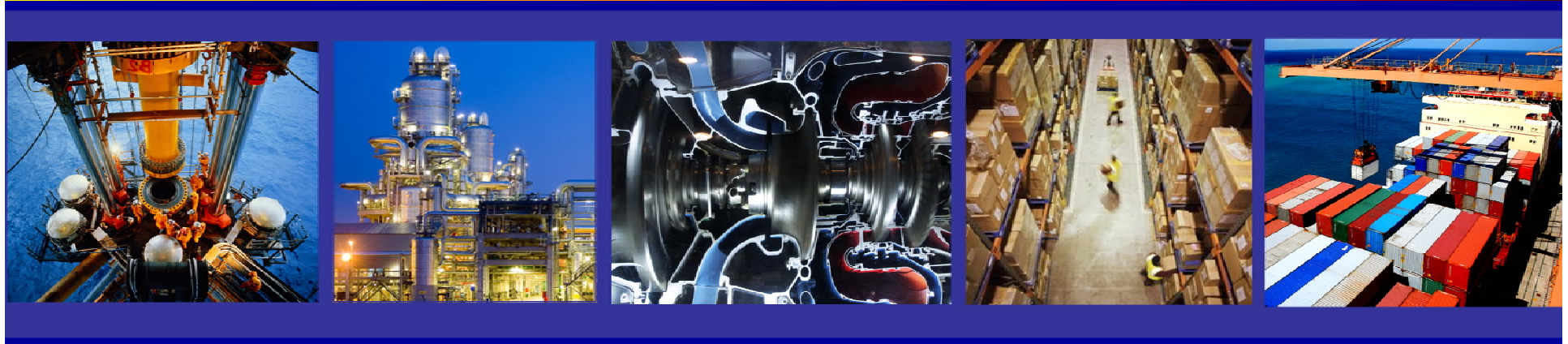


Boston Strategies International, Inc.

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Global Supply Chain Management: Shanghai

Along the Yangtze

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Summary

- **Growth of China trade**
 - World trade has grown at an increasing rate
 - China emerged in the early 1980s
 - China growth has been remarkable
 - The industrial regions of China
- **Historical Role Of Shanghai In China Trade**
 - Shanghai: the port
 - Trade through Shanghai has boomed since 1993
 - Waterborne trade defines Shanghai
 - Shanghai: now the largest world port by tonnage
 - Third largest port by container throughput
 - Second largest Chinese container port
- **Exploding Growth And Shanghai's Recent Development**
 - Foreign direct investment amount and trend
 - Port construction projects around Shanghai
 - Shanghai Port berth development
 - Transit times vary widely by mode
 - Customs has launched an e-port initiative
 - Customs waits are getting shorter
 - Yangshan Deepwater Port
- **Managing Shipments In And Around Shanghai**
 - A full complement of carriers
 - Competing and inland ports along the Yangtze
 - Inland access via Shanghai vs. Ningbo
 - The road network has expanded
 - Rail undergoing major expansion

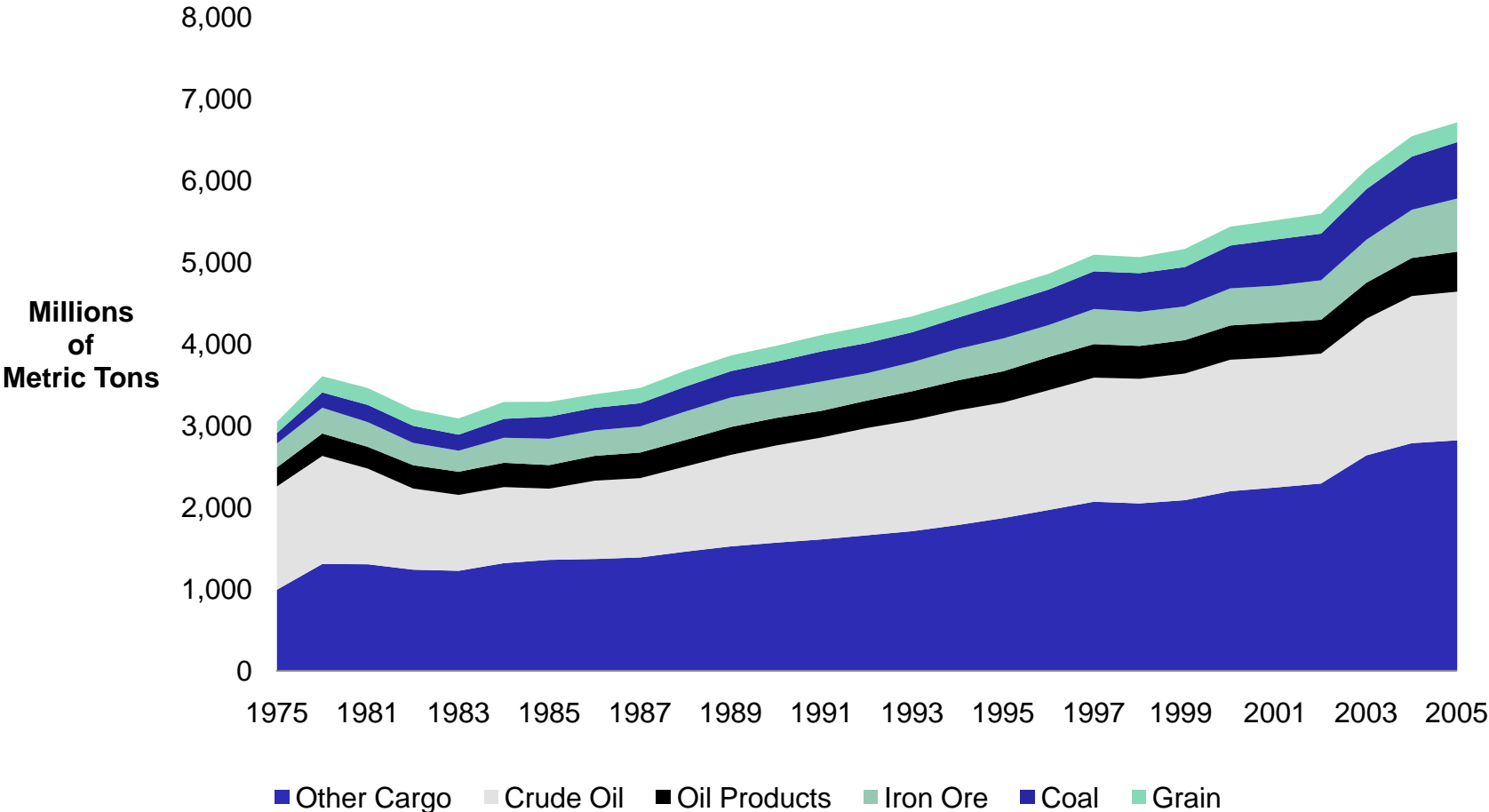


Growth of China Trade



World trade has grown at an increasing rate

World Seaborne Trade Since 1990

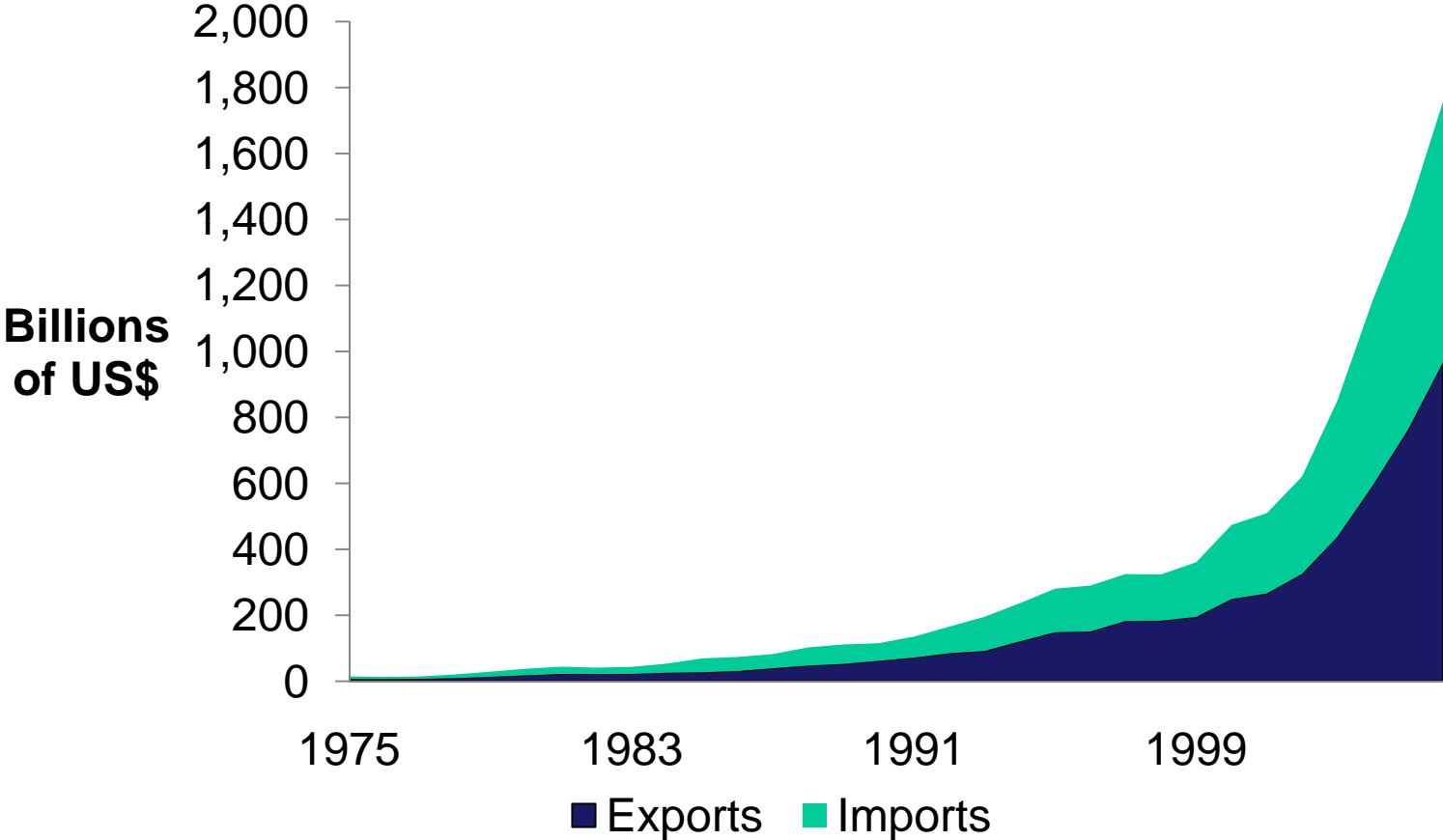


Source: Boston Strategies International analysis of data from the Shipping Statistics Yearbook



China emerged in the early 1980s

Chinese Export and Imports Since 1950

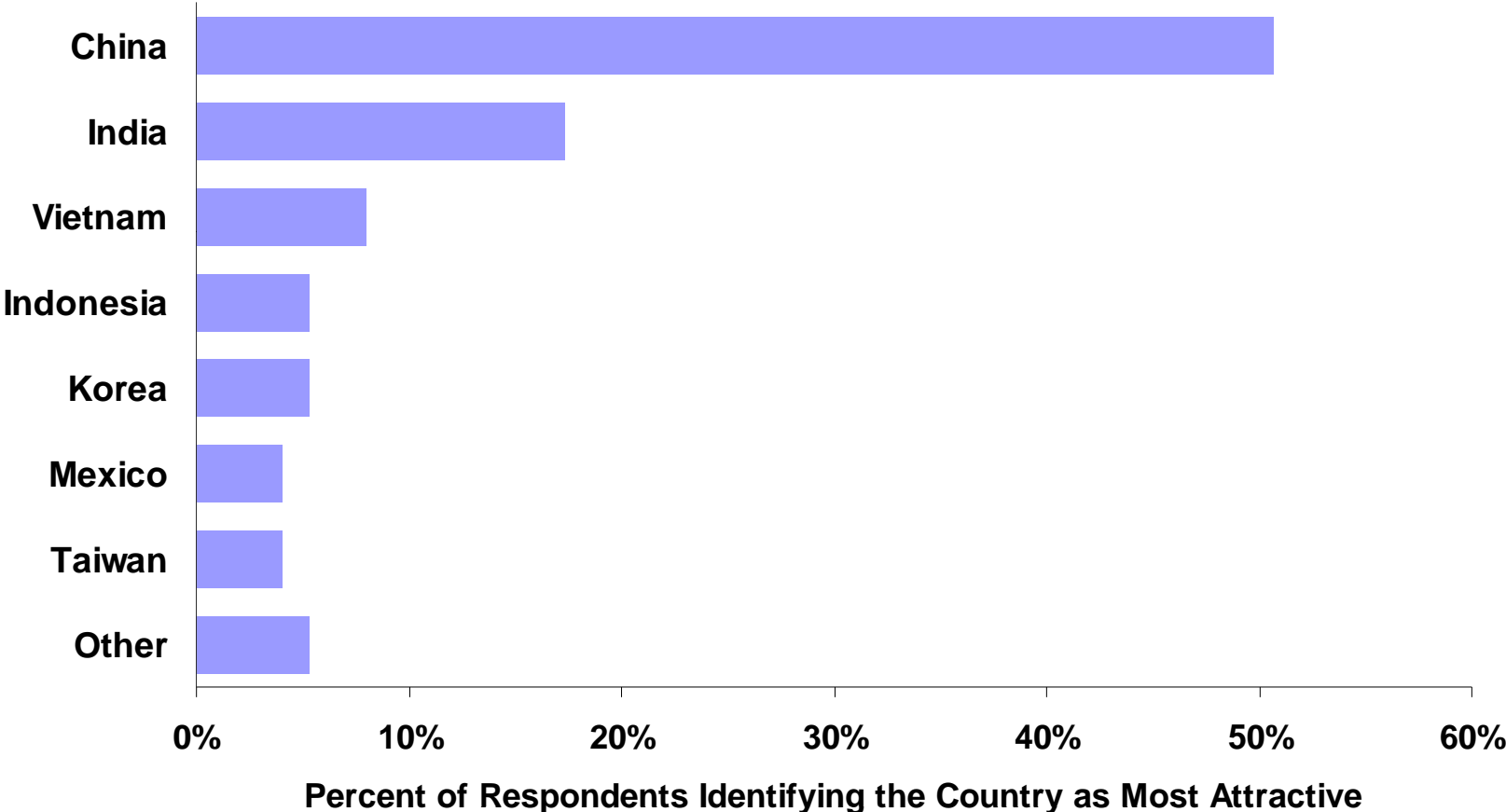


Source: Various



China, China, China

Top Low-Cost Country Sourcing Platform in 2011



Industry in China, by Region

- Northeast
 - Beijing
 - Qingdao
 - Dalian
 - Tianjin
- Central
 - Shanghai
 - Nanjing
 - Suzhou
 - Hangzhou
- South
 - Guangzhou
 - Shenzhen
 - Hong Kong



Historical Role of Shanghai in China Trade



Shanghai: the port

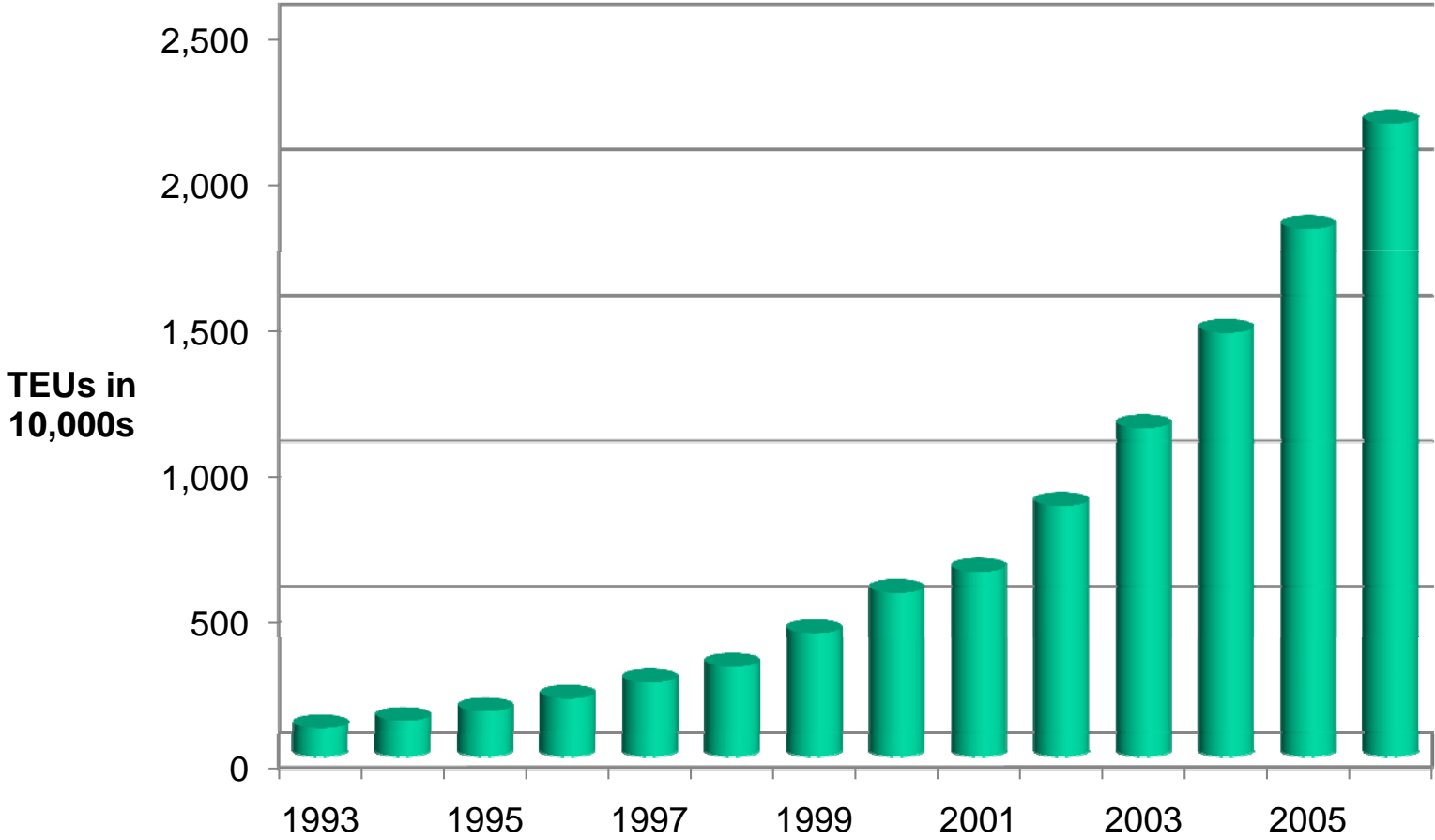


Source: Alibaba



Trade through Shanghai has boomed since 1993

TEU Volume in Shanghai Ports

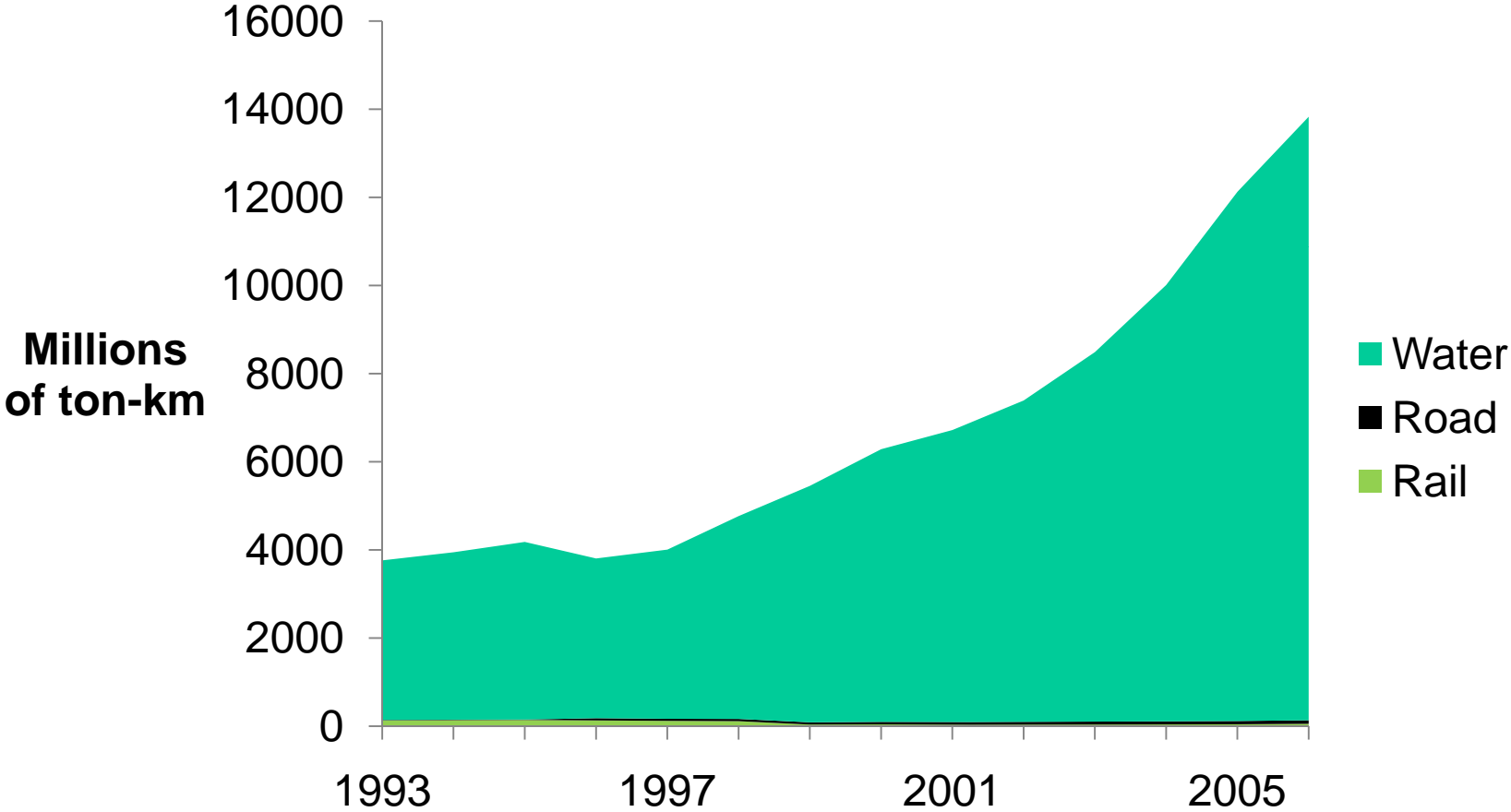


Source: Shanghai International Port Group (SIPG)



Waterborne trade defines Shanghai

Shanghai Traffic by Mode

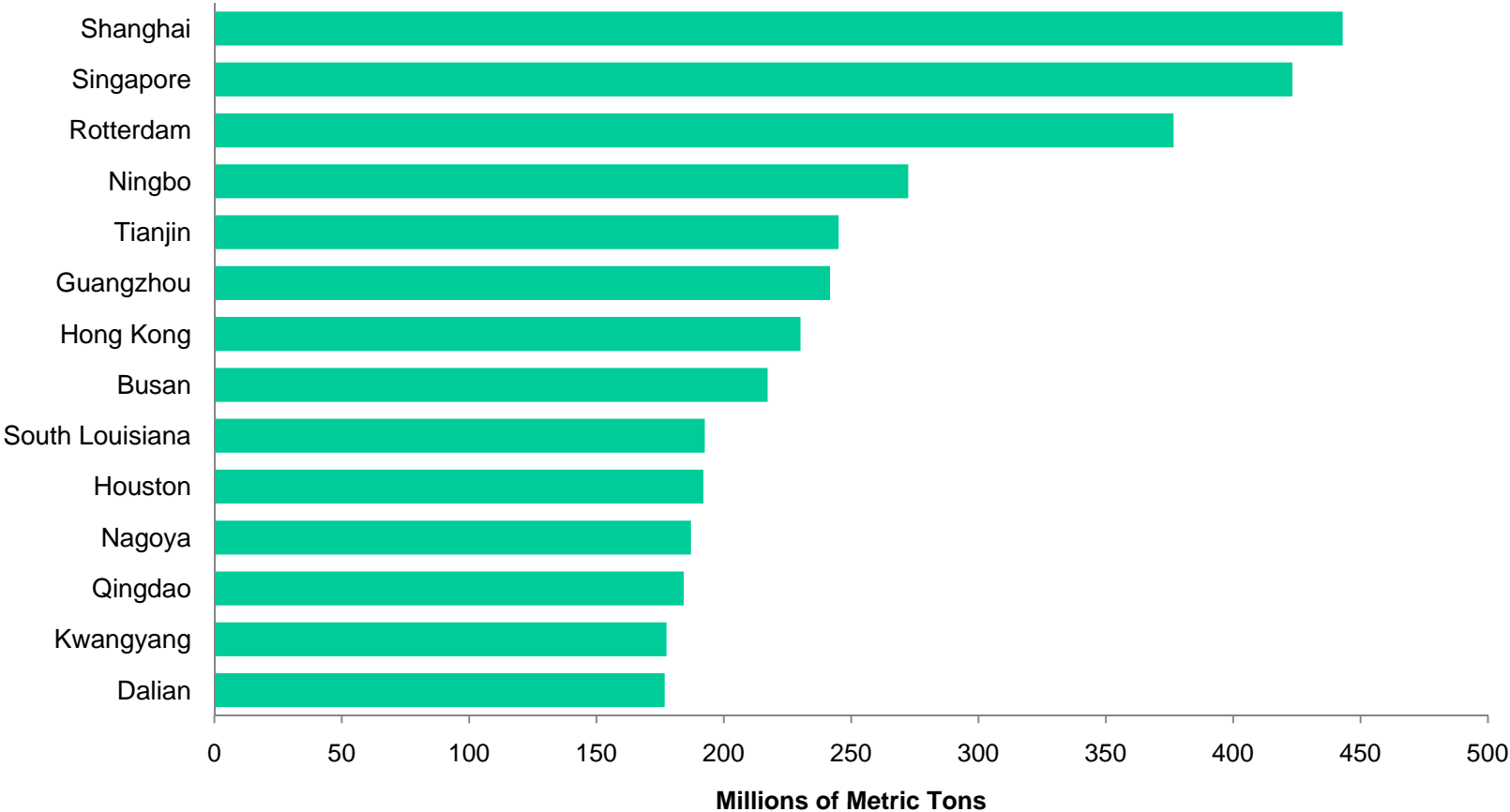


Source: Various



Shanghai: now the largest world port by tonnage

World's Largest Ports, by Tonnage

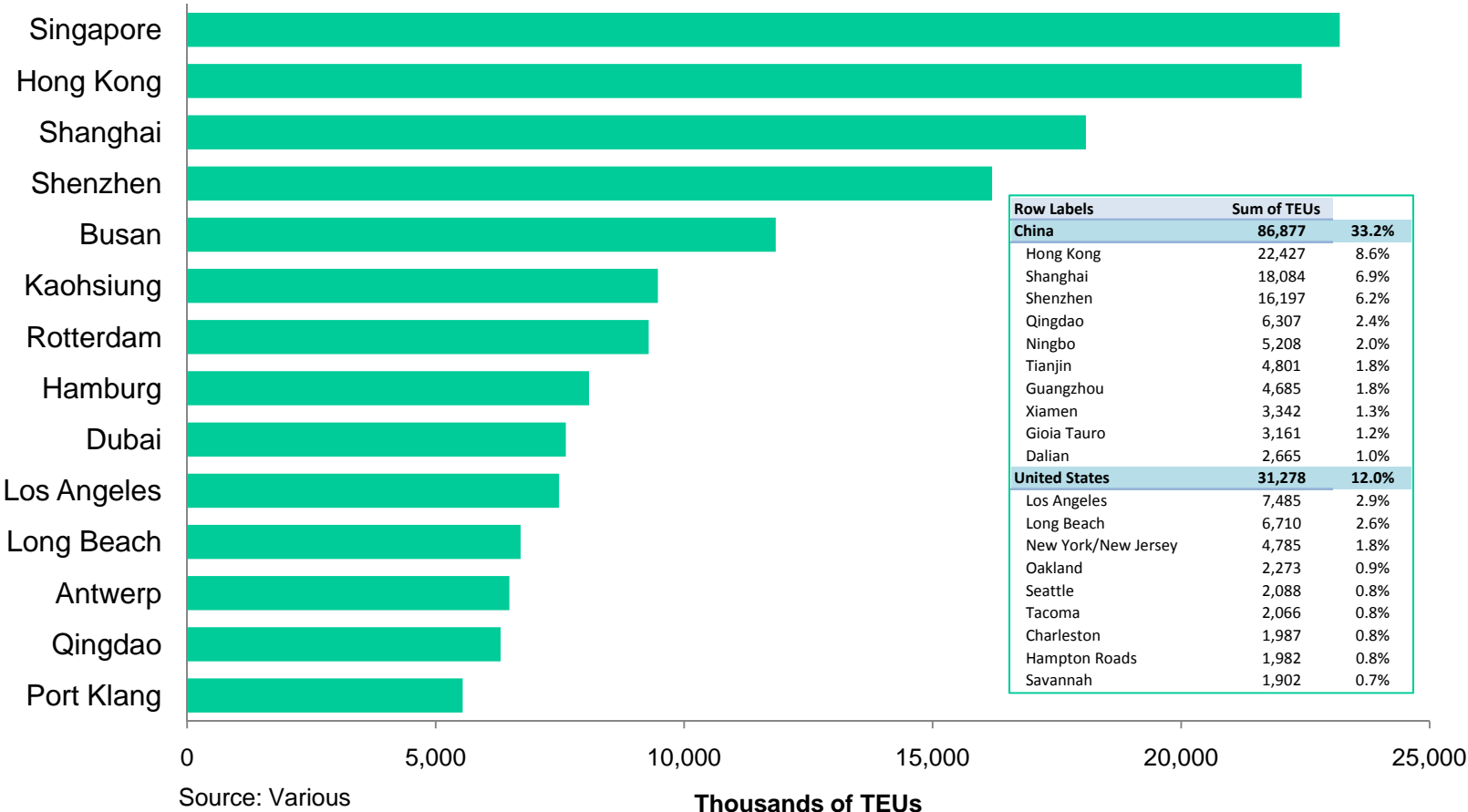


Source: Various



Third largest port by container throughput

World's Largest Ports, by Container Volume



Second largest Chinese container port

China and US: Largest Ports, by Container Volume

Row Labels	Sum of TEUs	% of World TEUs
China	86,877	33.2%
Hong Kong	22,427	8.6%
Shanghai	18,084	6.9%
Shenzhen	16,197	6.2%
Qingdao	6,307	2.4%
Ningbo	5,208	2.0%
Tianjin	4,801	1.8%
Guangzhou	4,685	1.8%
Xiamen	3,342	1.3%
Gioia Tauro	3,161	1.2%
Dalian	2,665	1.0%
United States	31,278	12.0%
Los Angeles	7,485	2.9%
Long Beach	6,710	2.6%
New York/New Jersey	4,785	1.8%
Oakland	2,273	0.9%
Seattle	2,088	0.8%
Tacoma	2,066	0.8%
Charleston	1,987	0.8%
Hampton Roads	1,982	0.8%
Savannah	1,902	0.7%

Source: Various



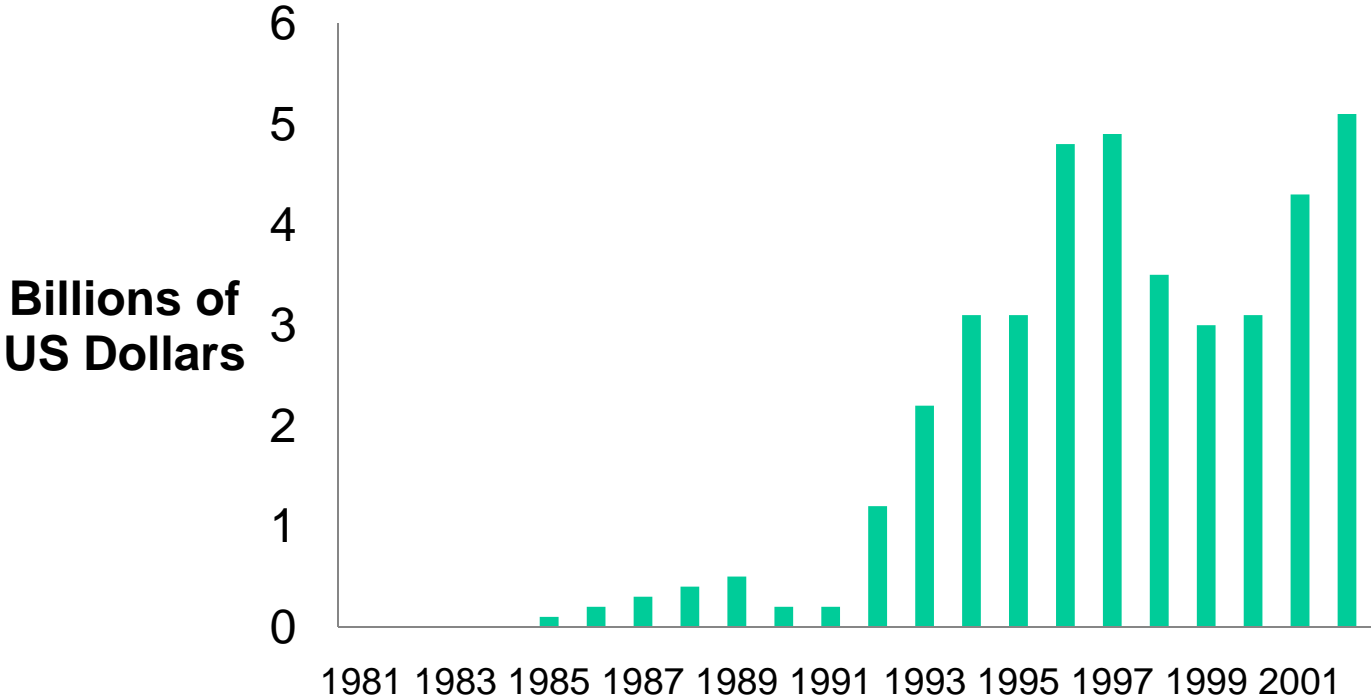
Exploding Growth And Shanghai's Recent Development



Billions of dollars in foreign direct investment

- Maersk bought into second phase of 12b expansion of Shanghai port

Growth of Foreign Direct Investment in Shanghai

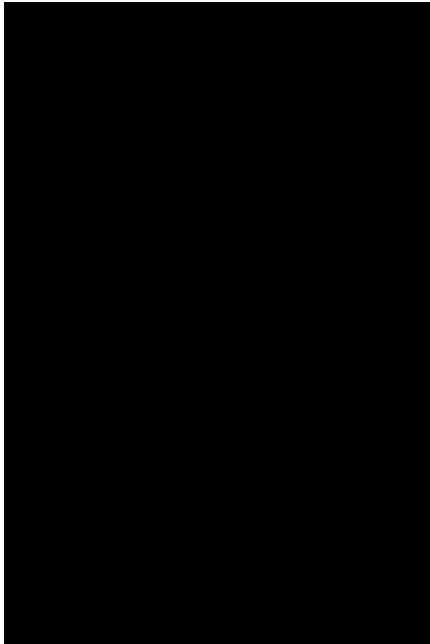


Source: SSB



Port construction projects around Shanghai

Port Construction Projects



Source: Cullinane



Shanghai Port berth development

- \$1.8b in dredging in 2006
- Simple but effective capacity measures
 - Maintenance and clearance of underwater reefs
 - Riverbank markers and signals
 - Mandating use of GPS

Dredging Projects

Phase of Project	Length of Navigation Channel (km)	Deep Water Depth (m)	Width of the Channel (m)	Width of the Channel Outside the Jetties (m)
1 st Phase	51	9	300	300
2 nd Phase	72	10	350	400
3 rd Phase	86	13	350	400

Source: Dredging and Port Construction



Transit times vary widely by mode

Transit Time Comparison

Route	Mode	Transit Time
Chongqing-Shanghai	Road	3-4
	Rail	7-10
	Water	8-11
Chongqing-Wuhan	Road	3
	Rail	6
	Water	4-6

Source: Boston Strategies International analysis of data from Chang'an Minsheng Logistics



Customs has launched an e-port initiative

- Ports involved
 - Shanghai (the “laboratory for China’s ports”)
 - Tianjin
 - Guangzhou
- Links
 - PRC Customs
 - General Administration for Quality Supervision, Inspection, and Quarantine
 - Ministry of Finance
 - Banks
- Systems upgrades
 - Old H883 system to a newer H2000 system
- Reduction in clearance time
 - 100 hours for imports, 30 hours for exports, down to 3 hours recently
- E-filing eliminates paper filing



Customs waits are getting shorter

- Longer Hours
 - From 5 days/week (2003) to 7 days/week (2007) EXCEPT Inspection
 - 24-hour cargo inspection in Hong Kong/Shenzhen
- Like CT/PAT
 - 69 participating companies with a clean record with customs
 - These get expedited
 - 58 black-listed companies
 - These receive “the slow treatment”
 - Shanghai Customs College (5,000 students enrolled)
 - US Customs officials working on CSI in Shanghai
 - The 36th operational CSI port



Yangshan Deepwater Port

- 50-berth container complex
 - Phase 1: 2.2m TEU capacity (2005)
 - Phase 2 : 4.2m TEU total capacity (2006)
 - Phase 3: 20 million TEUs (2020)
- 20-mile bridge connecting Yangshan Island to the mainland (the Dong Hai bridge), costing \$11.5b
- Total investment for the 20-year project is US\$40–50 billion

Dong Hai Bridge

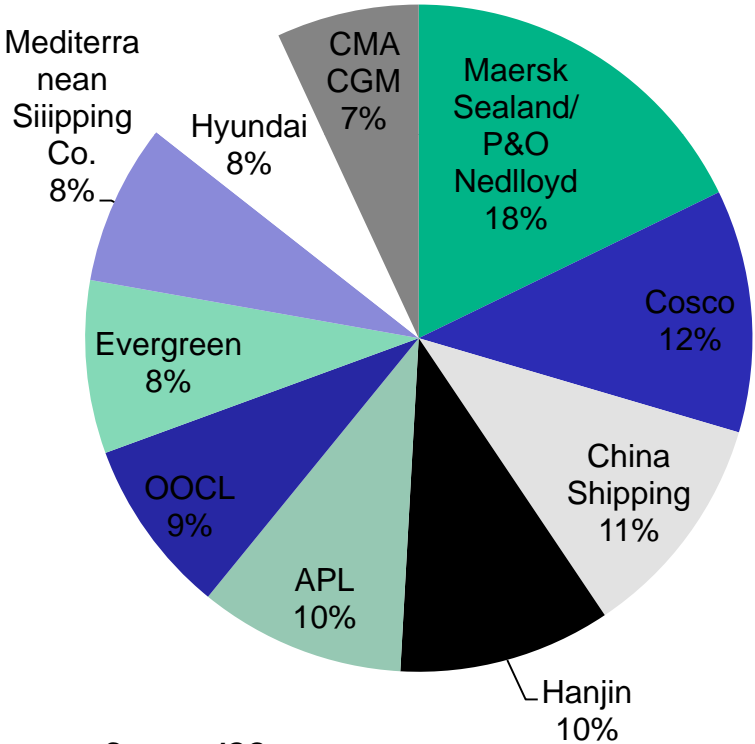


Managing Shipments In and Around Shanghai



A full complement of carriers

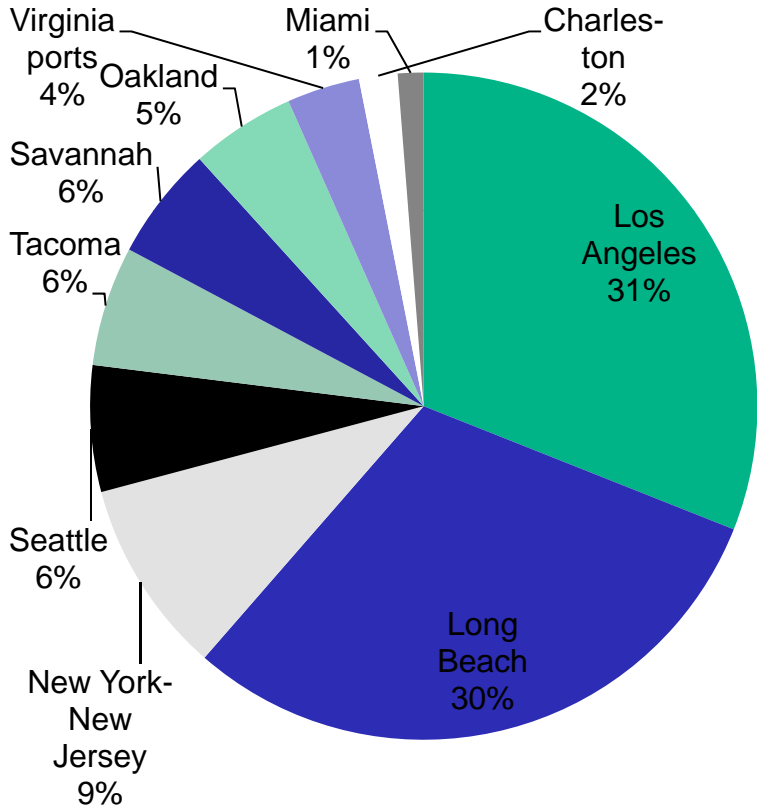
China and US: Largest Ports, by Container Volume



Source: JOC

Note: Carrier data represents the top 68% of the market, and port data represents 96% of the market

China and US: Largest Ports, by Container Volume



Competing and inland ports along the Yangtze

Nearby

- Ningbo

Within 170 miles

(by distance from Shanghai)

- Nantong
- Jiangyin
- Changzhou
- Yangzhou
- Zhenjiang
- Nanjing

Far Inland

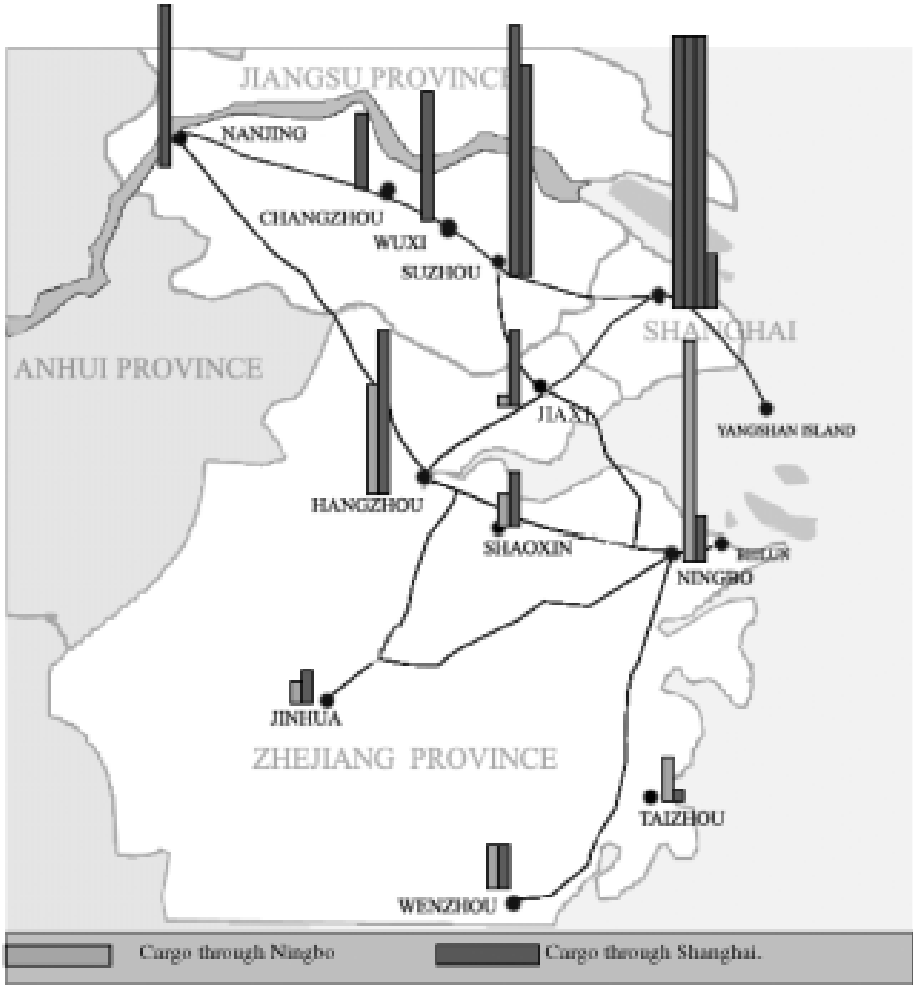
(by distance from Shanghai)

- Maanshan
- Wuhu
- Tongling
- Anqing
- Jiujiang
- Huangshi
- Wuhan



Inland access via Shanghai vs. Ningbo

Inland Paths from Shanghai and Ningbo



Source: Ningbo Port Authority



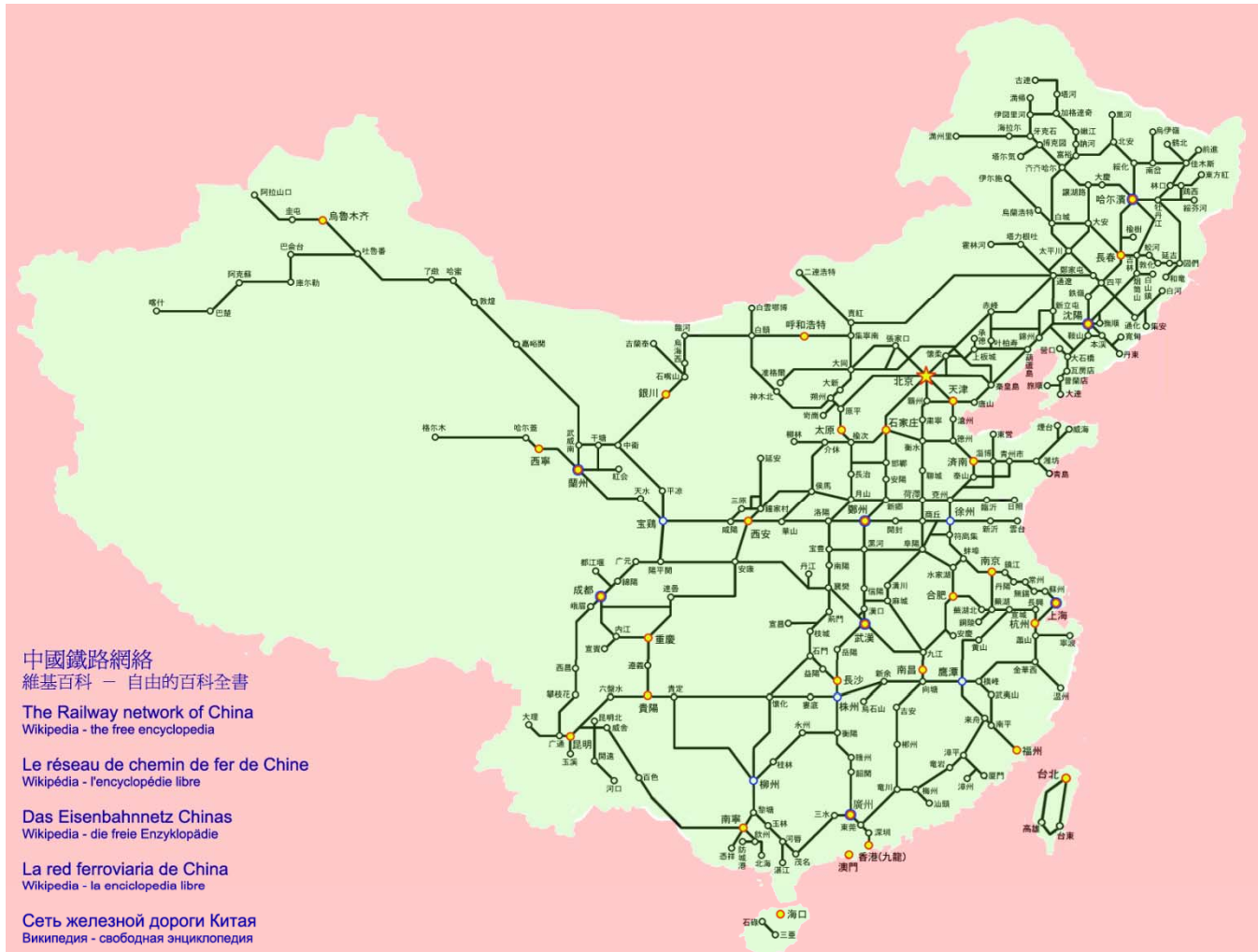
The road network has expanded

Road Network



Rail undergoing major expansion

Chinese Rail Network

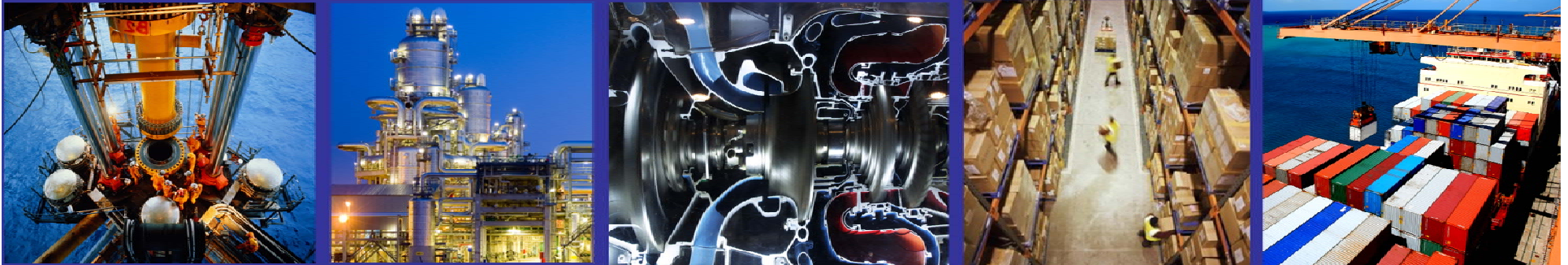


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Boston Strategies International is a global management consulting firm that helps market leaders achieve competitive advantage through supply chain management through:

- **Supply Market Analysis** that helps identify emerging issues that affect their supply chains
- **Supplier Enablement** that facilitates global growth and local content requirements
- **Supply Chain Optimization** that reduces project and life cycle costs



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