



大连海事大学
DALIAN MARITIME UNIVERSITY

学汇百川 德济四海

Ports Status and Development in North-east Asia

LU Jing

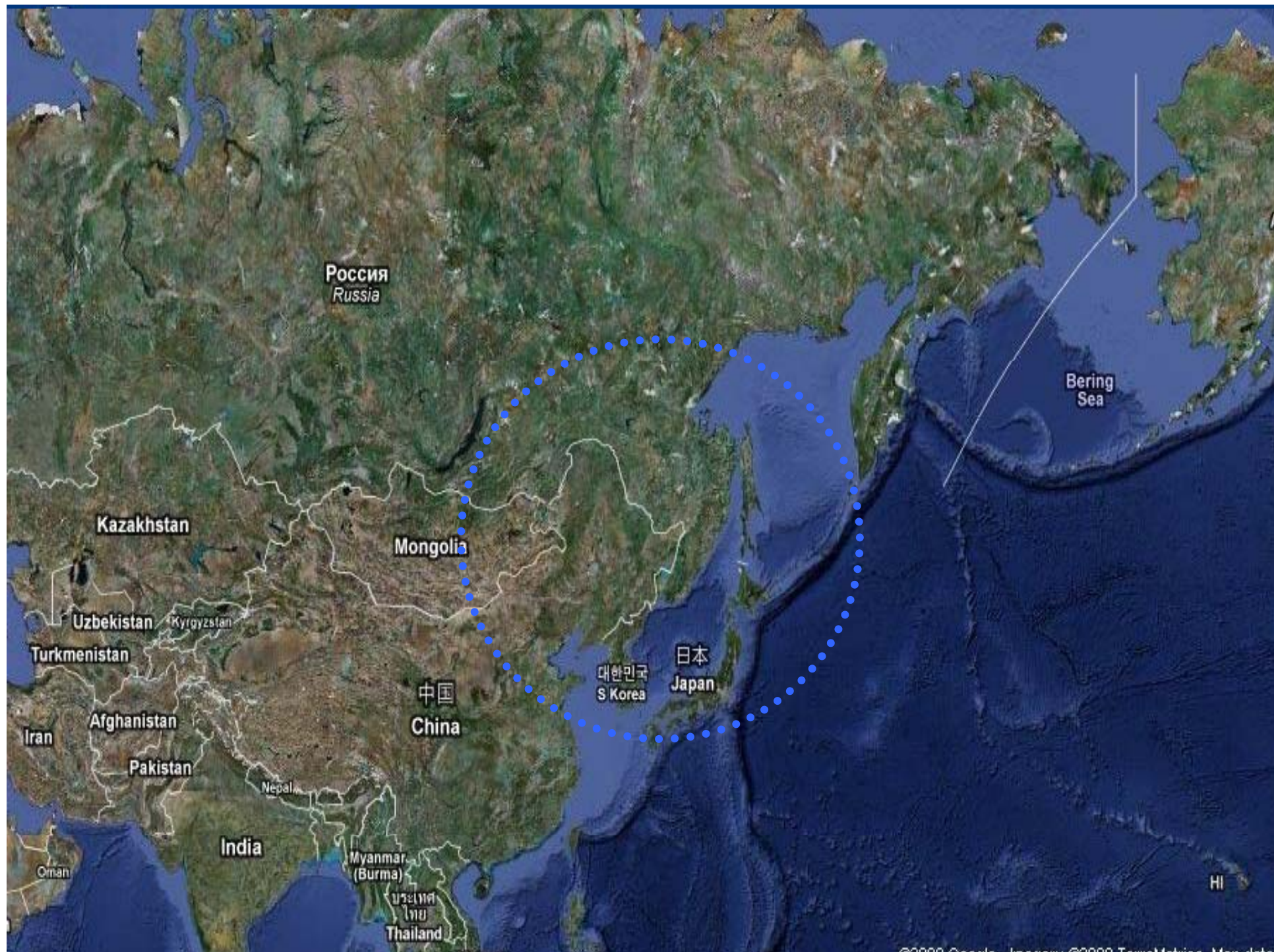
Dalian Maritime University

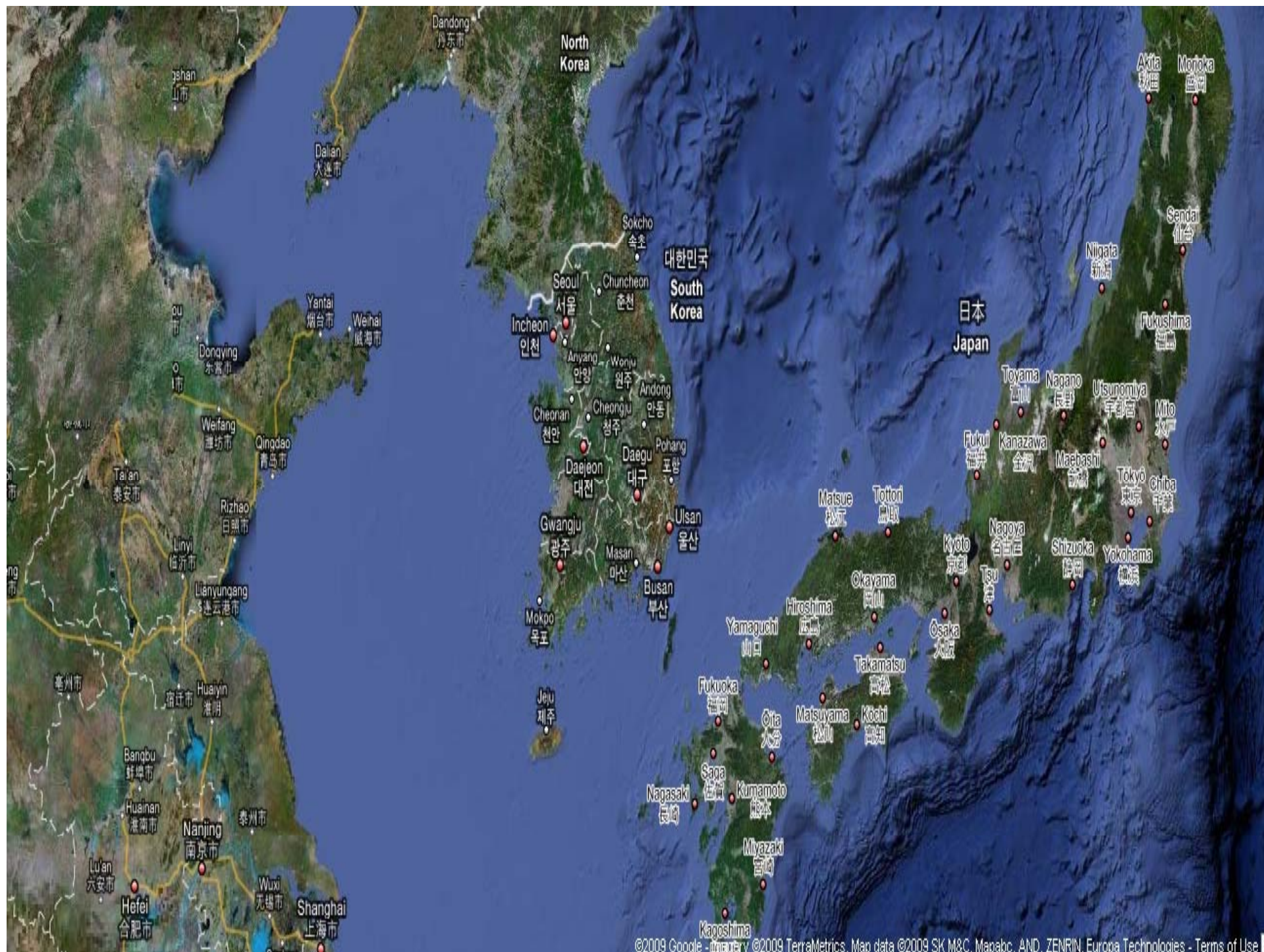
Jul. 2009



- Introduction
- Current Conditions of Ports in NE Asia
- Outlook for Ports Development in NE Asia
- Status Quo of Ports in China
- Prospect on Port development in China
- Conclusion







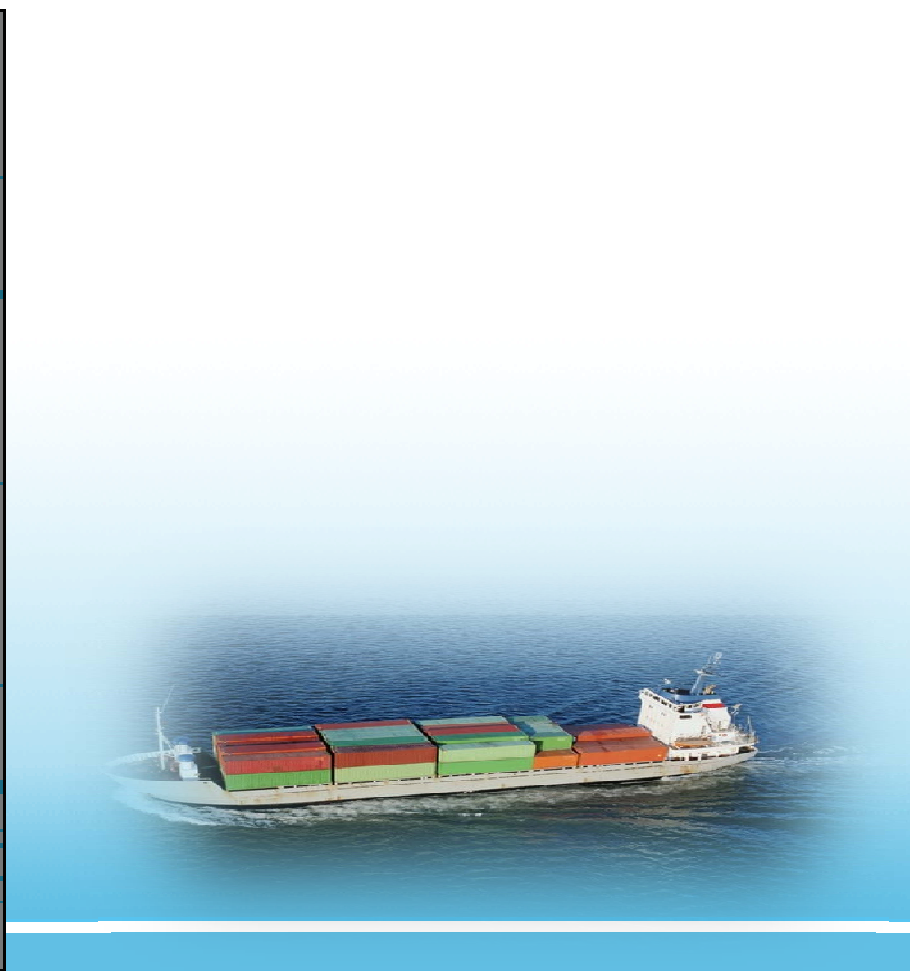


- ✓ *Reasons for rapid port development in North-east Asia*
 - ✓ Eastward shift of the world's three major industrial bases
 - ✓ The accelerating process for economic integration in East Asia
 - ✓ Accelerating internationalization of China



✓ 1. Backgrounds of major ports in NE Asia

➤ Korea



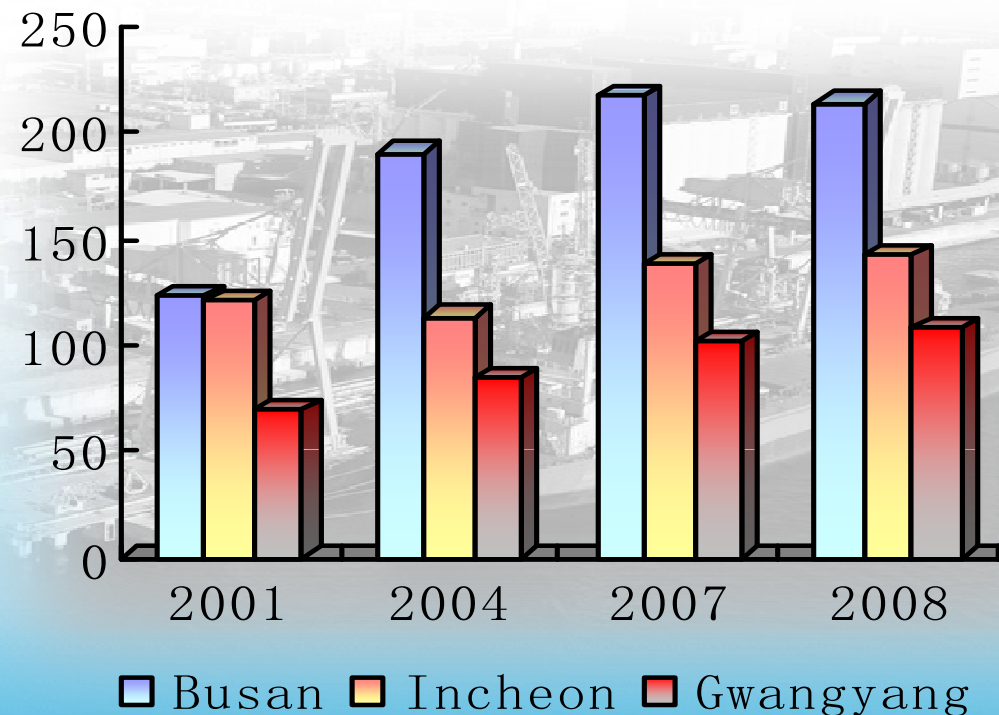


✓ 1. Backgrounds of major ports in NE Asia

➤ Korea

Cargo throughput of three major ports in Korea

Unit: Million Ton

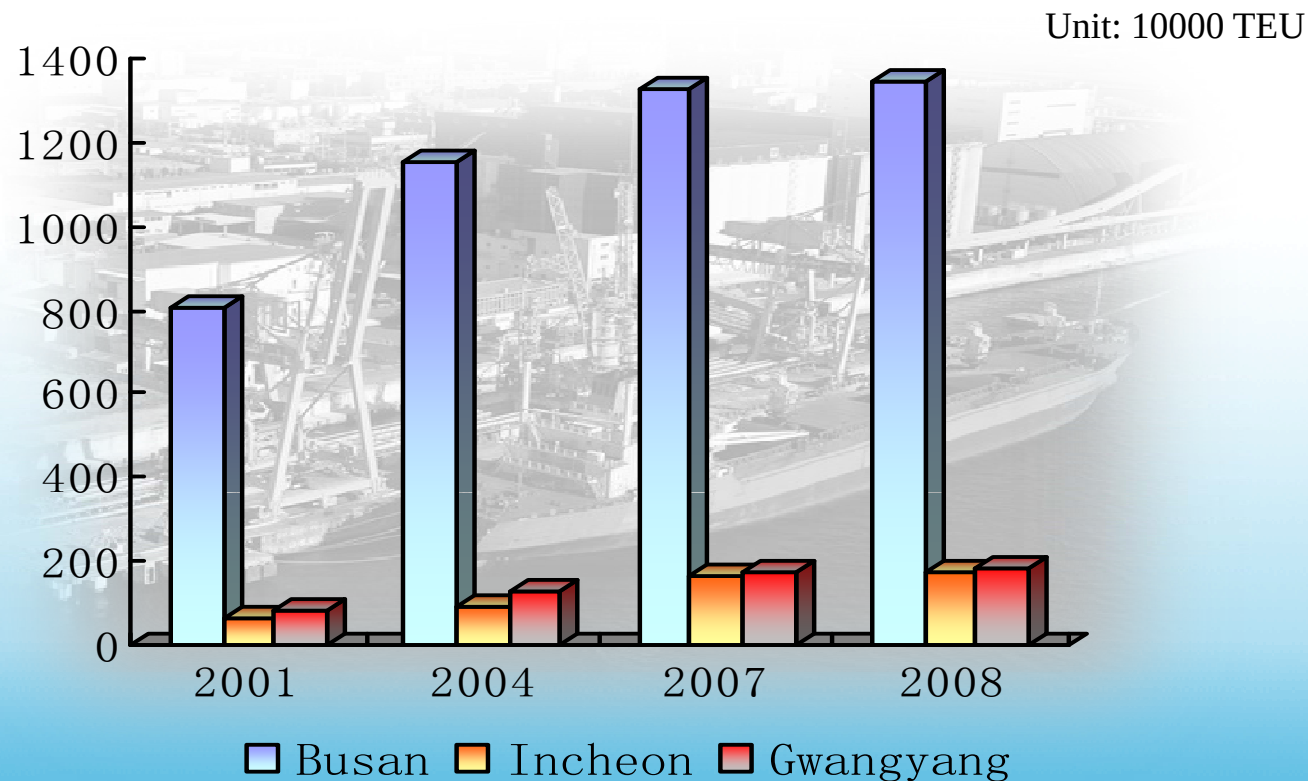




✓ 1. Backgrounds of major ports in NE Asia

➤ Korea

Container throughput of three major ports in Korea





✓ 1. Backgrounds of major ports in NE Asia

➤ Korea

◇ *Global logistics network strategy*

- Engage in the operation of foreign ports through investment, merger and acquisition
- Purchase American and European shipping companies in middle and small scale

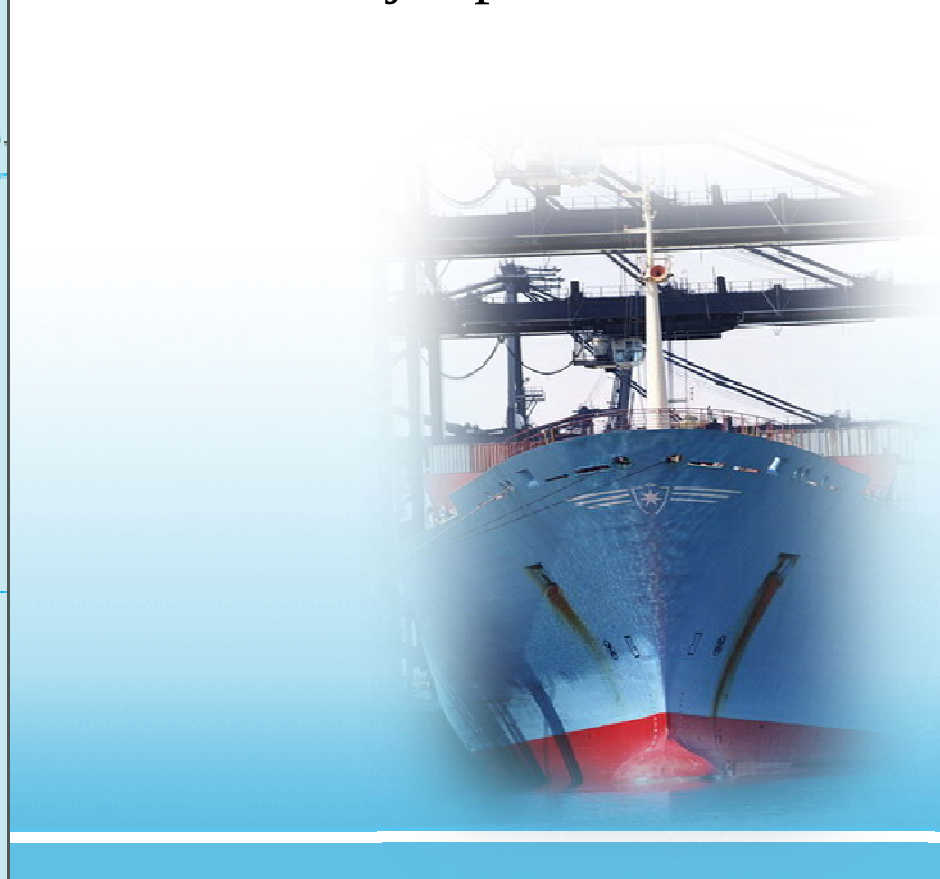


✓ 1. Backgrounds of major ports in NE Asia

➤ Japan



- Five major ports



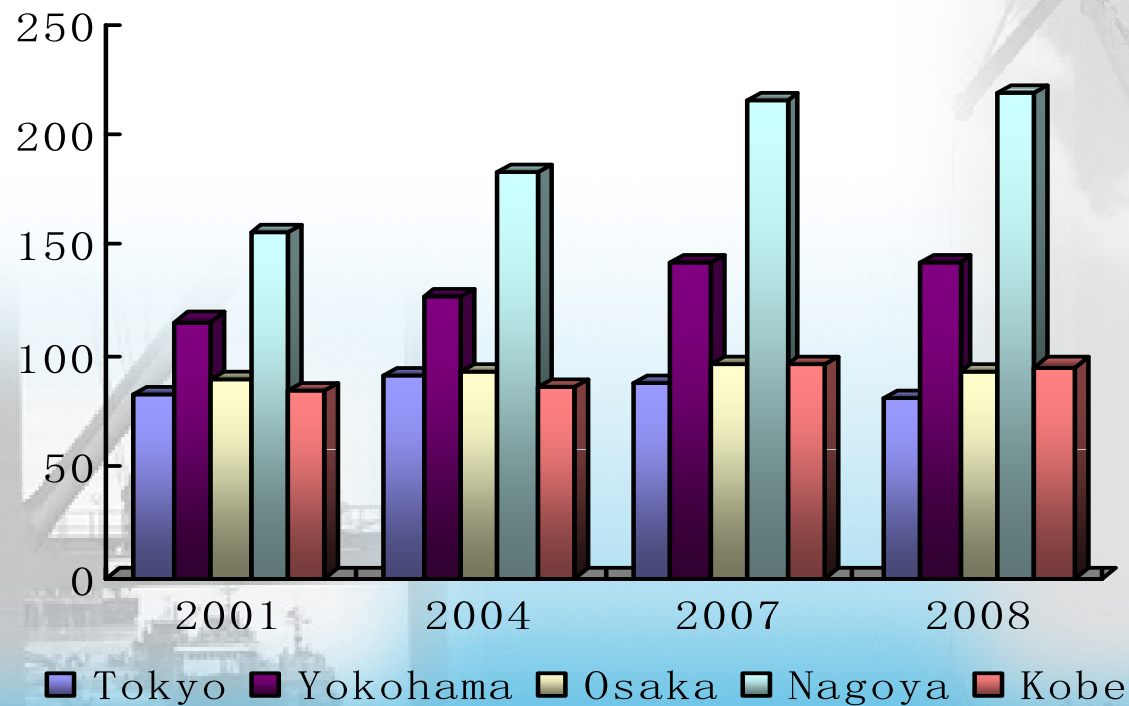


✓ 1. Backgrounds of major ports in NE Asia

➤ Japan

Cargo throughput of five major ports in Japan

Unit: Million Ton



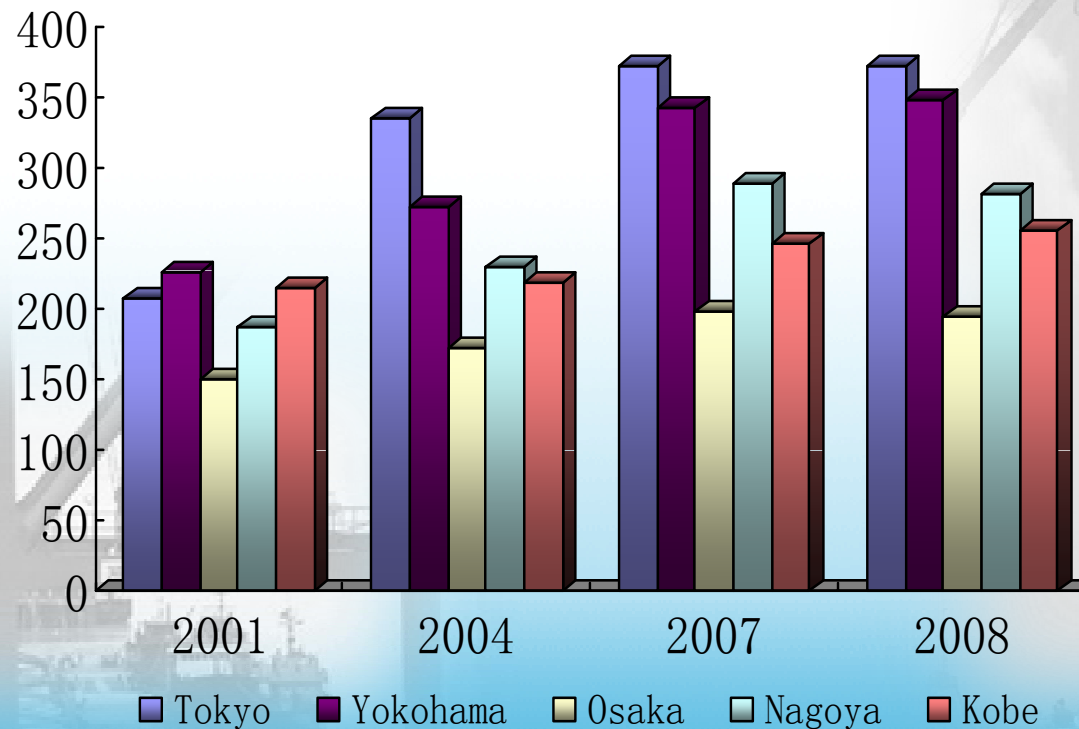


✓ 1. Backgrounds of major ports in NE Asia

➤ Japan

Container throughput of five major ports in Japan

Unit: 10000 TEU





✓ 1. Backgrounds of major ports in NE Asia

➤ Japan

◇ *Super port plan*

- Integration of Tokyo, Yokohama and Kawasaki under the coordination of Tokyo Bay joint harbor authority
- Improvement in investment and management in Tokyo、Ise、Kyushu、Osaka as four international central ports





- ✓ 1. Backgrounds of major ports in NE Asia
- ✓ 2. Status quo on port development in NE Asia

➤ 2.1 *Rapid development accelerated by trade and economy*

World container port ranking in 2008 (top 30s)

Port	Ranking	Port	Ranking	Port	Ranking	Port	Ranking
Shanghai	2	Busan	5	Qingdao	10	Tianjin	14
Dalian	20	Tokyo	21	Lianyungang	23		





- ✓ 1. Backgrounds of major ports in NE Asia
- ✓ 2. Status quo on port development in NE Asia

➤ 2.2 Fierce competition for hub port and international logistic center

Development orientation of major port cities in NE Asia

City	Dalian	Qingdao	Tianjin
Orientation	Important international shipping center of NE Asia	Northern international shipping center	Northern international shipping and logistic center
City	Shanghai	Busan	Incheon
Orientation	International shipping center	Hub port of Pacific rim in the 21 century	Hub port of NE Asia
City	Kobe	Kyushu	
Orientation	Comprehensive logistics hub	International logistic center	



- ✓ 1. Backgrounds of major ports in NE Asia
- ✓ 2. Status quo on port development in NE Asia

➤ 2.3 *Changes in the port pattern*

- Because of the rapid development of Chinese ports, NE Asia ports market is now dominated by three countries together





✓ 1. Trade demand will promote port development continuously

➤ Asia: the process of becoming the “world manufacturing center” is accelerating

➤ The economic integration among ASEAN, China, Korea, and Japan is accelerating





- ✓ 1. Trade demand will promote port development continuously
- ✓ 2. A rational ports layout will be formed through structure adjustment
 - Form port cluster with different scale, reasonable distribution to serve international, regional and domestic trade
 - Combine ports and shipping companies effectively through structure adjustment
 - Accelerate the integration between port economy and city economy
 - Promote logistic development by upgrading port industry
 - Construct large-scale specialized terminals with deep draft



✓ Ports in China have achieved high-speed development during the last two decades due to

- Transportation development in China
- Social and economic progress in China
- World economy's pushing effect





✓ Driving factors of ports development in China:

- Outstanding natural conditions for ports in China
- Strong backup from national economy in China



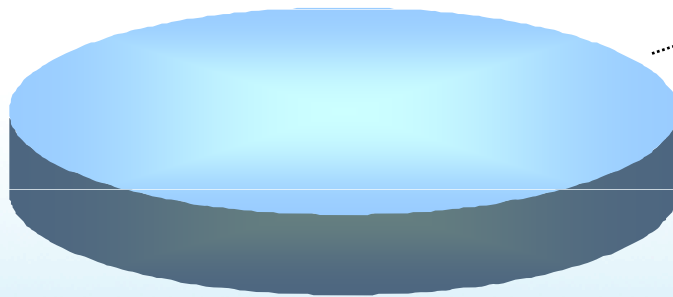


1. *Construction of infrastructure*
2. *Handling volume*
3. *Structure of handling cargo*
4. *Allocation of port resource*
5. *Relevant policy of port industry*
6. *Main achievement of port reform and opening up*





1. Construction of infrastructure

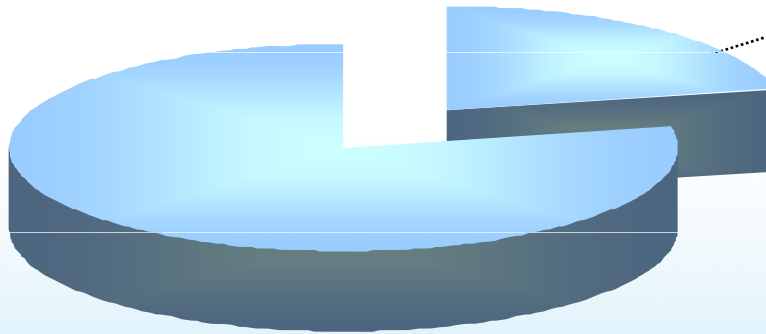


5119 productive berths of
all coastal ports in China





1. Construction of infrastructure

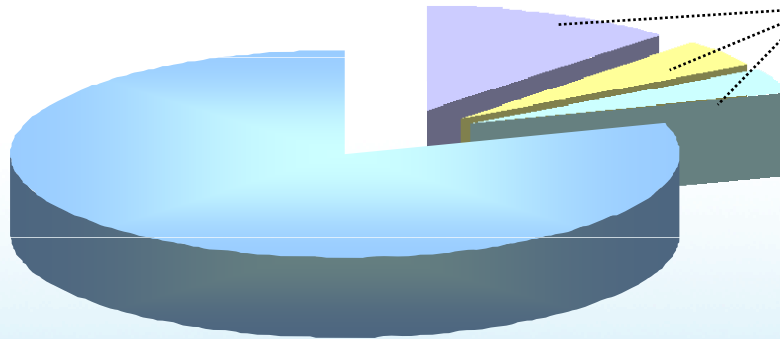


1416 berths with capacity
of over 10,000 tons





1. Construction of infrastructure



252 general bulk berths
with capacity of over
100,000 tons





1. Construction of infrastructure



Container Terminals

- ✓ Established modern system of container terminal
- ✓ Three port cluster
- ✓ Mature utilization of computer application, communication network, and data standardization advance management level
- ✓ Specialized loading and unloading facilities made in China become the mainstream machinery



1. Construction of infrastructure



Bulk Terminals

✓ **162** coal terminals and **23** grain berths

✓ **19** large scale ore berths, handling **905** million tons of iron ore, accounting for **12.7%** of total coastal throughput

● For both ● For ore ● For coal

1. Construction of infrastructure



Oil Terminals

✓ **59** oil berths with tanks of **18** million cubic meters

✓ **8** berths with the handling capacity of **300** thousand tons class in Dalian, Qingdao, Tianjin, Yingkou, Huian, Caofeidian, Huizhou and Ningbo





2. Handling volume



Cargo handling volume of ports in China has been on top of the world for years



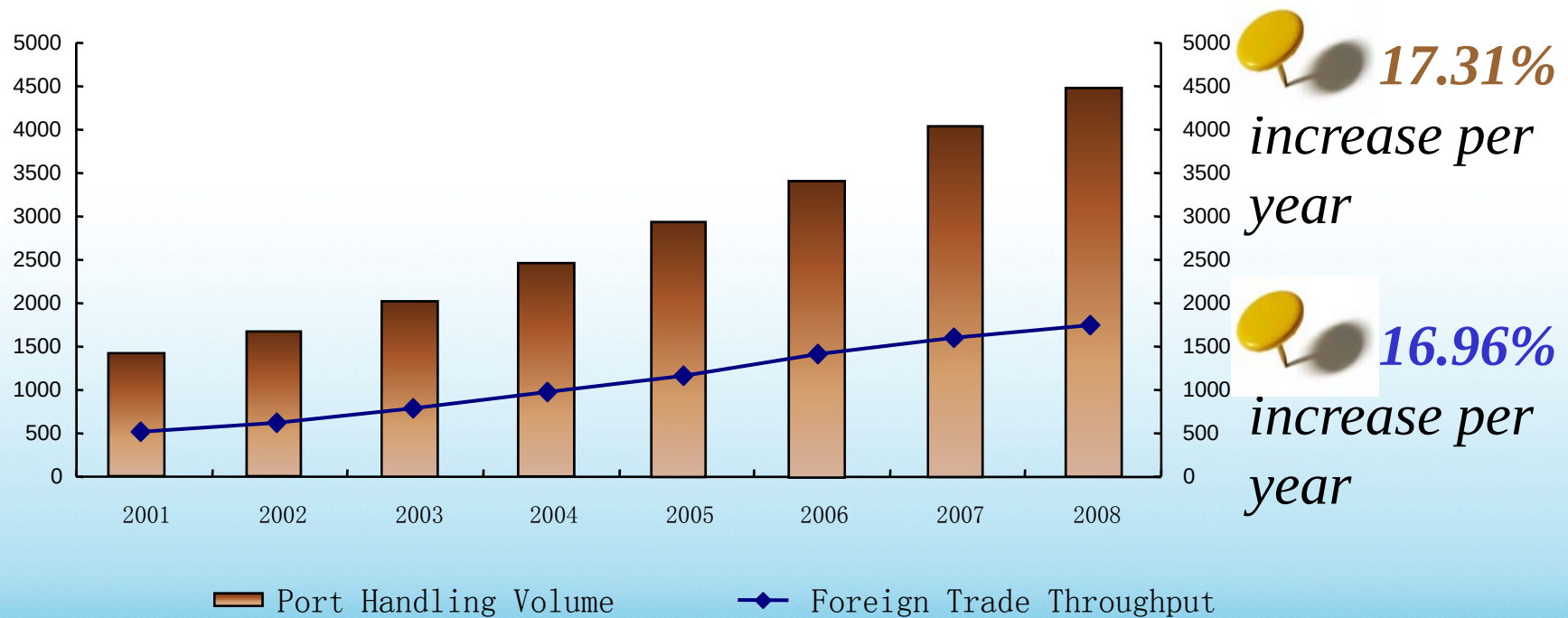
- Port handling volume keeps a rapid increase
- Integrated and large-scale ports play important roles
- Handling volume of certain cargos increase rapidly



2. Handling volume

✓ 2.1 Rapid Increase of ports handling volume

Coastal handling volume and foreign trade throughput

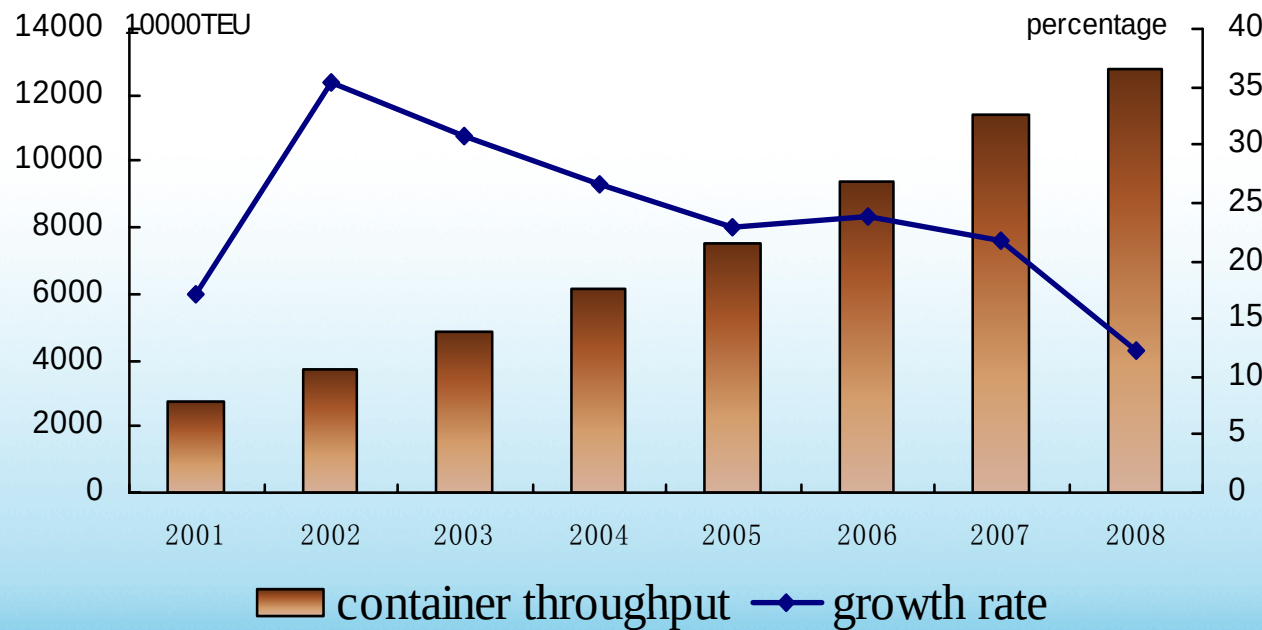




Handling volume

✓ 2.1 Rapid Increase of ports handling volume

Container throughput and growth rate



23.7%

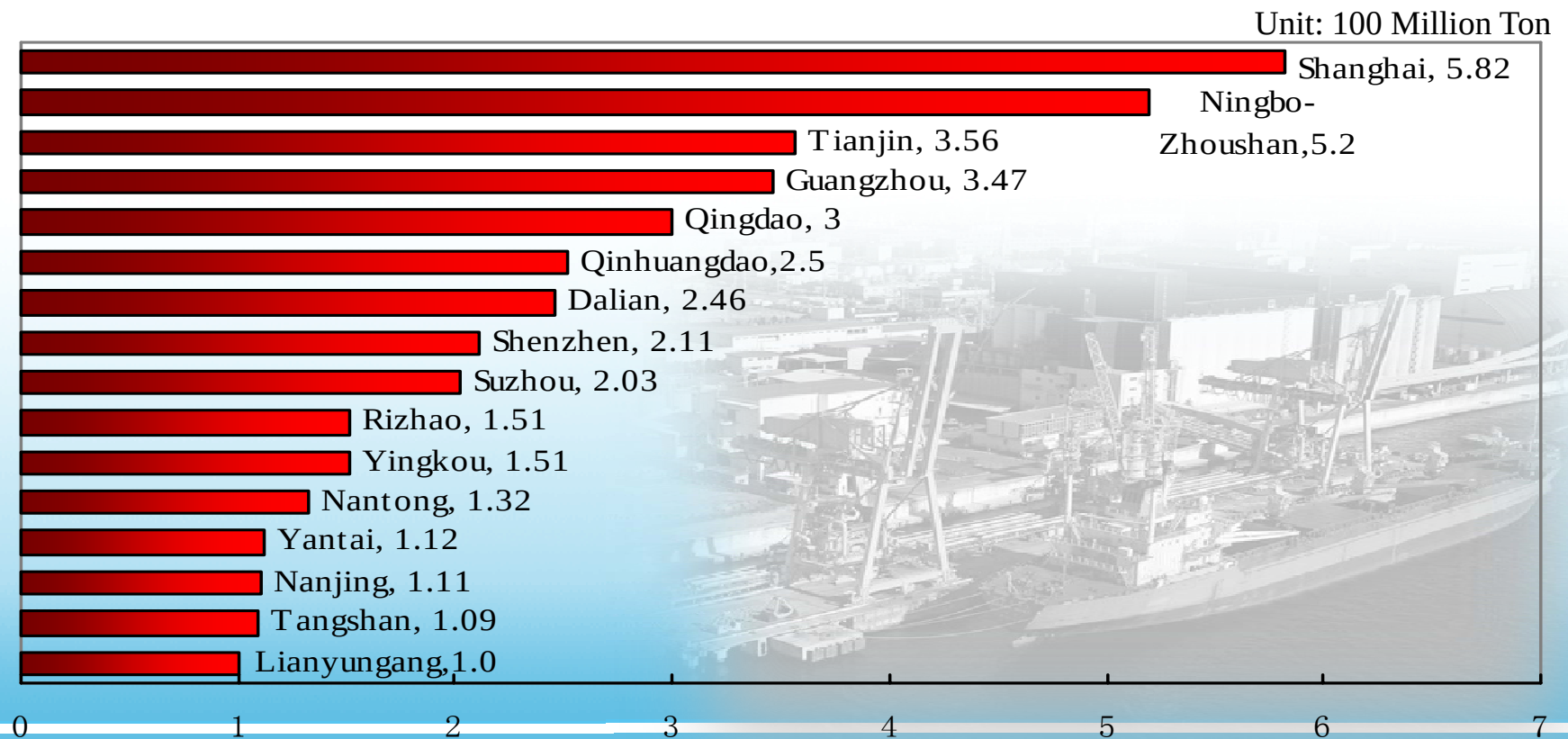
increase per
year



Handling volume

✓ 2.2 Large Ports Play Important Roles

➤ Ports with Handling Volume over 100 Million Tons (2008)

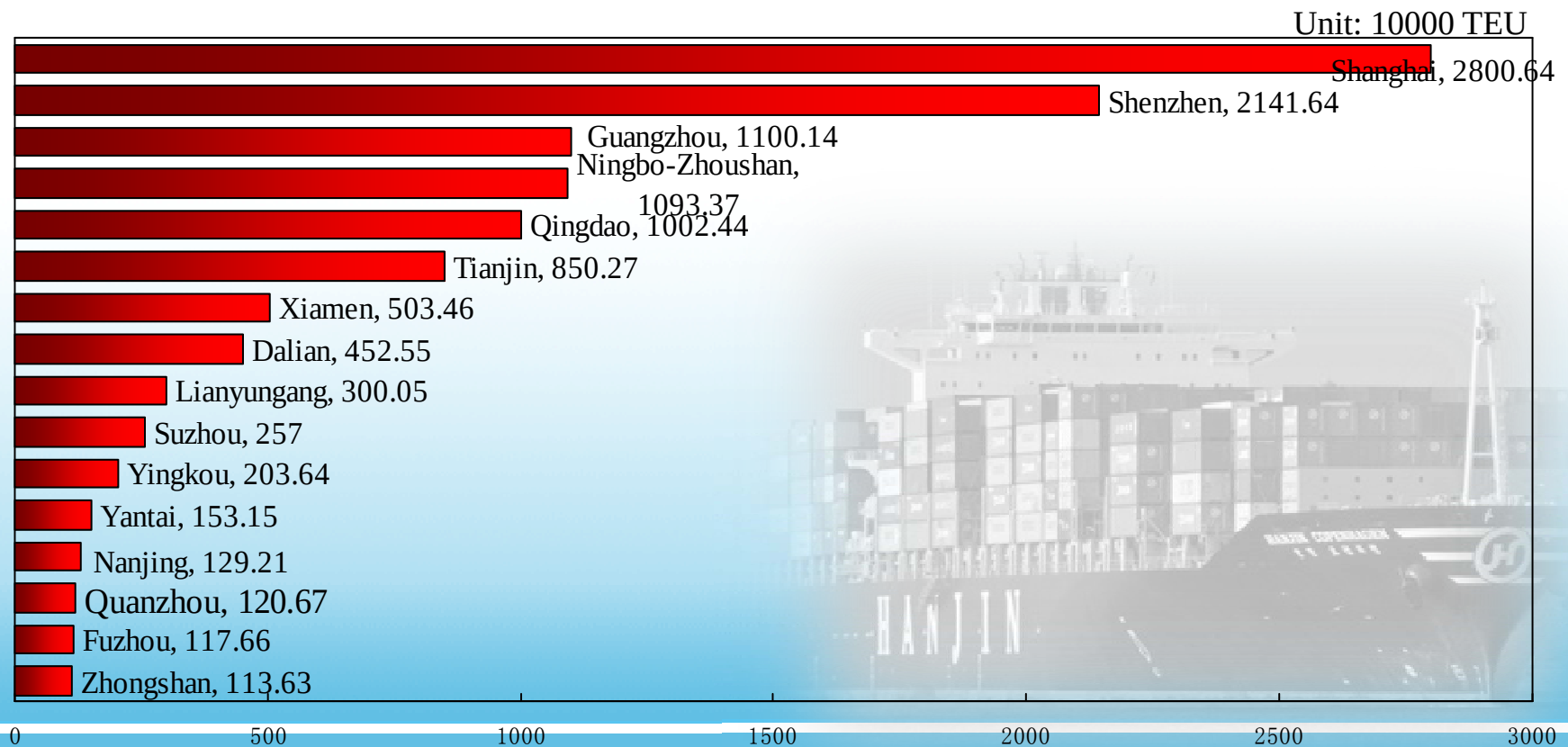




Handling volume

✓ 2.2 Large Ports Play Important Roles

➤ Ports with Container Throughput over 1 Million TEU (2008)





Handling volume

✓ 2.3 Certain Types of Cargoes Increase Rapidly



Container:

➤ Coastal container handling volume increased by **23.7%** per year, becoming the **rapidest growing cargo type**



Handling volume

✓ 2.3 Certain Types of Cargoes Increase Rapidly



Ro-ro cargo

➤ **277 million tons**
increasing by **18.0%** in
2008



Handling volume

✓ 2.3 Certain Types of Cargoes Increase Rapidly



Dry bulk cargo:

➤ 3.98 billion tons with a 11.5% increasing percentage in 2008, taking 56.6% of total cargo throughput



3. Structure of handling cargo

Changes in Cargo Structure

	Year	Dry Bulk	Oil	Container	General Cargo
<i>Coastal Transport</i>	1990	62.1%	18.4%	8.1%	11.4%
	2000	50.7%	16.9%	21.6%	10.8%
	2007	52.2%	10.2%	25.8%	11.8%
<i>Exports</i>	1990	23.6%	31.3%	23.1%	22.0%
	2000	35.3%	4.9%	38.9%	20.9%
	2007	11.2%	2.5%	65.0%	21.3%
<i>Imports</i>	1990	42.2%	7.8%	18.2%	31.8%
	2000	29.3%	29.2%	30.1%	11.4%
	2007	45.9%	16.3 %	31.8%	6.0%



3.1 Rapid increase of goods suitable for container

➤ Ratio of goods with high technology and high additional value keeps increasing

➤ Rapid development of machine, electrical appliance and finished product



3. Structure of handling cargo

Changes in Cargo Structure

	Year	Dry Bulk	Oil	Container	General Cargo
<i>Coastal Transport</i>	1990	62.1%	18.4%	8.1%	11.4%
	2000	50.7%	16.9%	21.6%	10.8%
	2007	52.2%	10.2%	25.8%	11.8%
<i>Exports</i>	1990	23.6%	31.3%	23.1%	22.0%
	2000	35.3%	4.9%	38.9%	20.9%
	2007	11.2%	2.5%	65.0%	21.3%
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	2007	45.9%	16.3 %	31.8%	6.0%



3.2 Oil transportation gives priority to import instead of export

➤ Most obvious feature resulted from adjustment of foreign trade structure



3. Structure of handling cargo

Changes in Cargo Structure

	Year	Dry Bulk	Oil	Container	General Cargo
<i>Coastal Transport</i>	1990	62.1%	18.4%	8.1%	11.4%
	2000	50.7%	16.9%	21.6%	10.8%
	2007	52.2%	10.2%	25.8%	11.8%
<i>Exports</i>	1990	23.6%	31.3%	23.1%	22.0%
	2000	35.3%	4.9%	38.9%	20.9%
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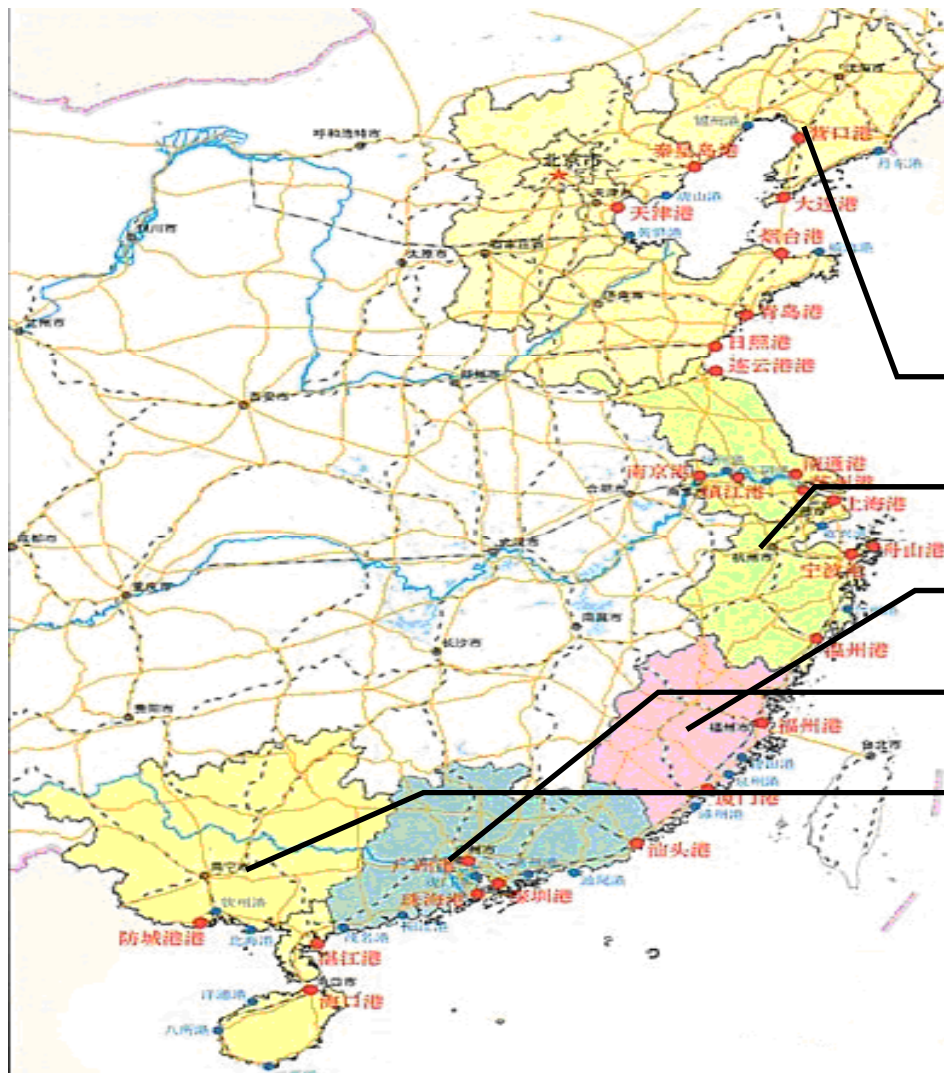
3.3 Bulk takes a great proportion of coastal handling volume

➤ Imbalance of production and consumption makes coal the biggest cargo out of total throughput

➤ Great demand of steel increases the import of ore



4. Allocation of port resource



Five main port clusters

Ports surrounding Bo Sea

Ports in Yangtze River Delta

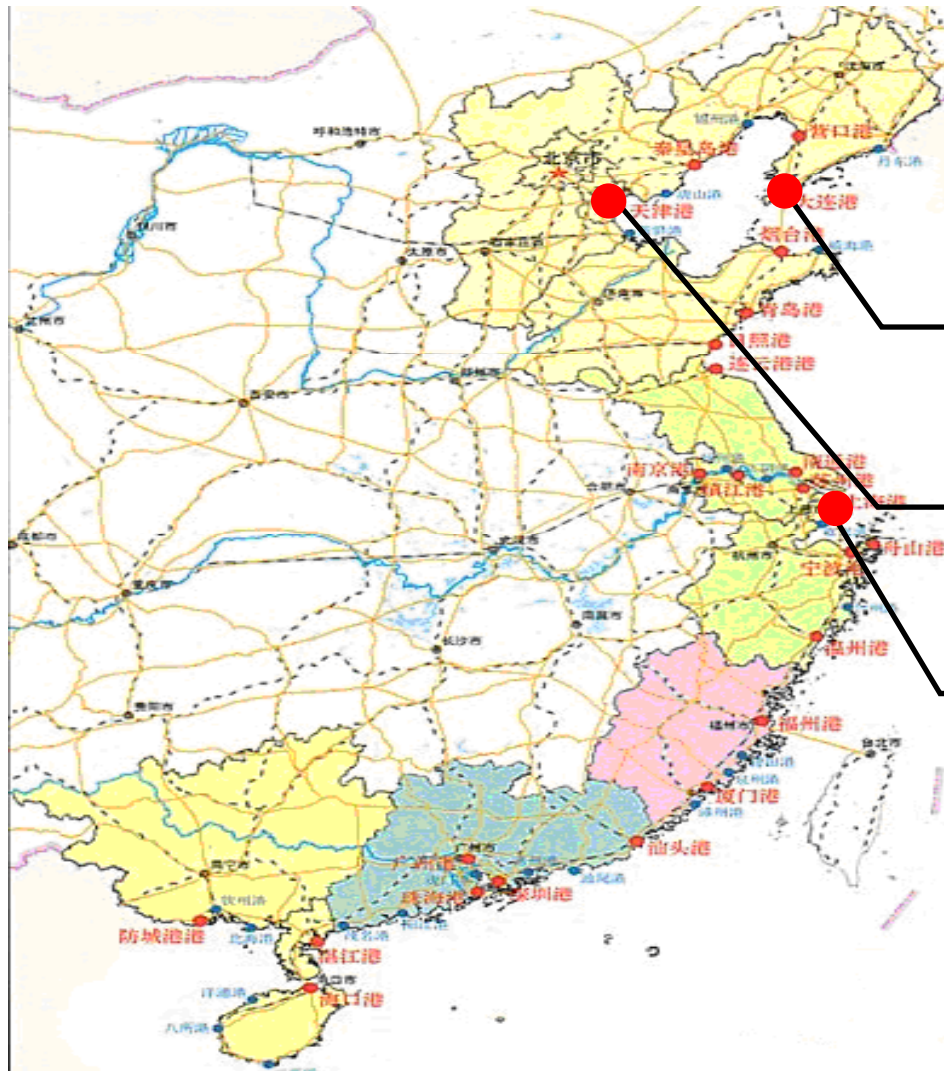
Southeastern coastal ports

Ports in Pearl River Delta

Southwestern coastal ports



4. Allocation of port resource



Three main shipping centers

Dalian: the regional international shipping center of Northeast Asia

Tianjin: the northern international shipping center

Shanghai: the international shipping center



5.Relevant policy of port industry

✓5.1Policies concerning infrastructure and layout

- Provisions for the Construction and Management of Ports
- Provisions for the Navigation Channel Construction and Management
- Layout Panning of National Coastal Ports
- Panning of National Inland River Navigation Channel and Ports Layout
- Planning of Ports Construction in Yangtze River Delta, Pearl River Delta and Bohai Bay



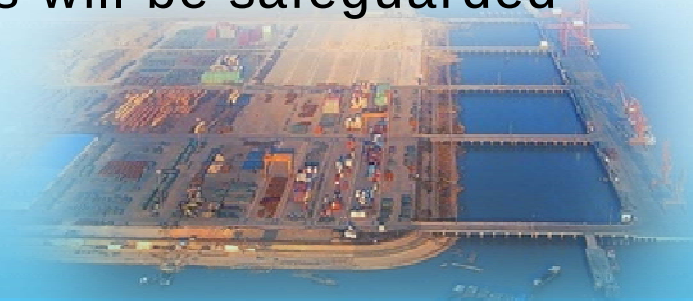


5.Relevant policy of port industry

- ✓5.1Policies concerning infrastructure and layout
- ✓5.2Policies concerning investment financing

Law of Port specifies that

- government at all levels should guarantee the public infrastructure construction fund
- and the country encourage home and abroad economic organization and individuals to construct, manage the ports according to law
- the legitimate rights and interests will be safeguarded meanwhile.





6. Major achievement of port reform and open up policy

- ✓ Governments function transformed through reform of port management system
- ✓ Investment main body diversified
- ✓ Port supervision, tallying and piloting system reformation carried out systematically



Comprehensively considering....

- the coordinating relationship between port development and economic growth
- adjustment of economic structure
- influence of energy structure and allocation of strategic storage
- port developing factors in the past 50 years



Ports development in China will be characterized as follows:





1. Port industry will face low-speed growth

- ✓ Foreign trade decrease owing to financial crisis
- ✓ Credit crunch and negative wealth effects decrease domestic consumption demand



1. Port industry will face low-speed growth

Container throughput of major ports in 2009

Unit: 10000 TEU

Port	Jan	Feb	Mar	Apr	May	Percentage of last year (%)
Shanghai	195	148	218	195	208	87.2
Shenzhen	158.68	100.36	133.57	72.55	146.68	82
Ningbo-Zhoushan	79.8	59.39	83.56	129.37	80.59	99.5
Tianjin	62.83	56.80	73.0	75.65	76.5	100
Dalian	38.8	25.60	34.1	34.1	37.7	108.6



1. Port industry will face low-speed growth

Handling volume of major ports in 2009

Unit: 10000 ton

Port	Jan	Feb	Mar	Apr	May	Percentage of last year (%)
Shanghai	3360	3040	3900	3949	4285	84.8
Shenzhen	1502	1039	1533	1488	1639	<i>79.1</i>
Ningbo-Zhoushan	3590	3166	4432	4290	5050	88.8
Tianjin	2828	2485	3190	3225	3359	<i>102.9</i>
Dalian	2123	1886	2144	2168	2195	97.7



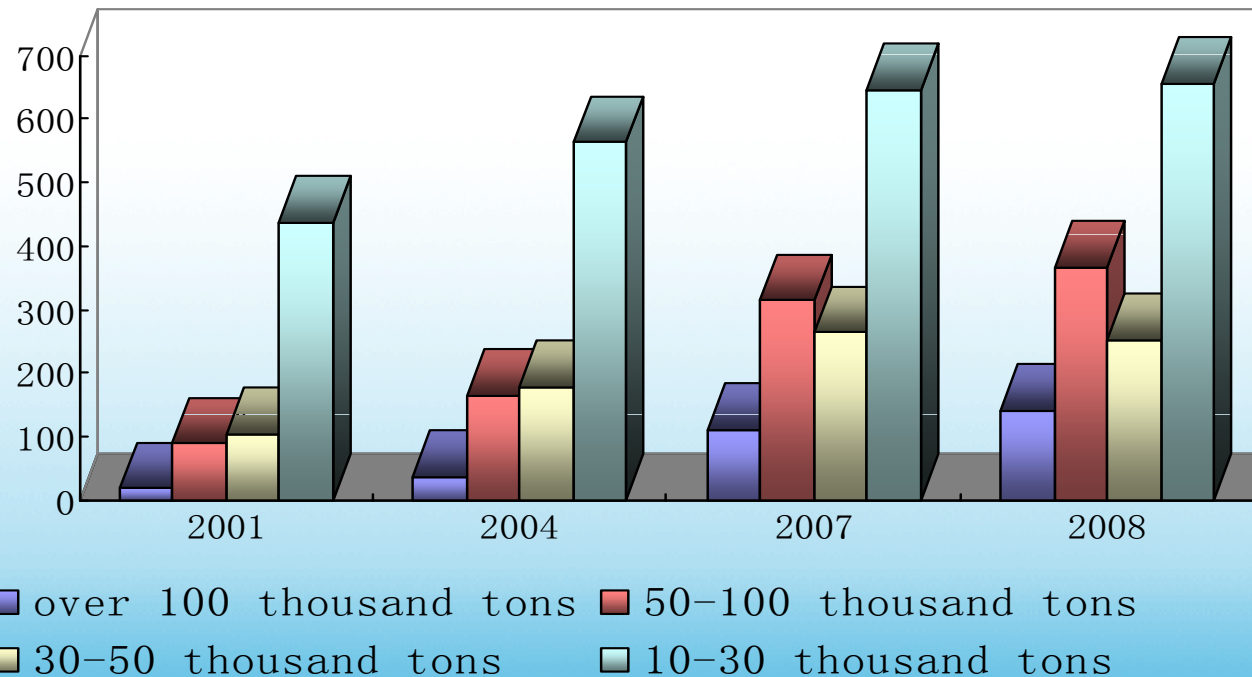
2. Construction of large-scale and specialized terminals with deep draft will be continuously promoted

- ✓ To satisfy the requirement of large vessels with deep draft *technically* and *economically*



2. Construction of large-scale and specialized terminals with deep draft will be continuously promoted

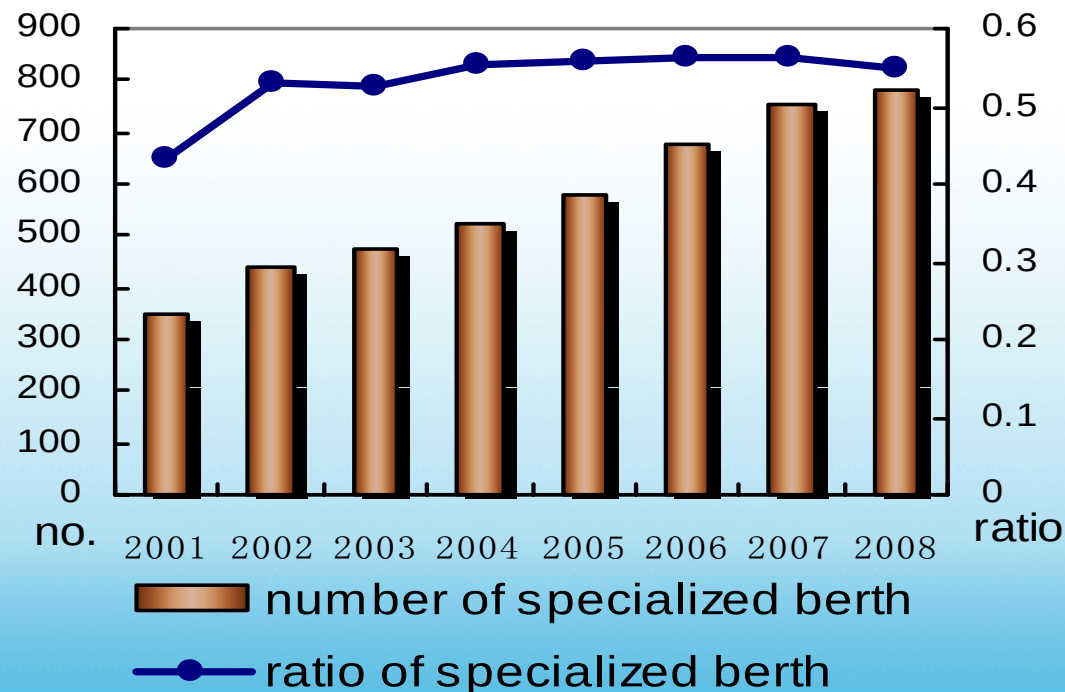
✓ A trend towards large-scale terminals





2. Construction of large-scale and specialized terminals with deep draft will be continuously promoted

✓ A trend towards specialized terminals





3. Scale of port will be under control with integrated planning and coordination

- ✓ Scale of ports will be under the control **compulsorily**
- ✓ Allocation and functions of ports will follow integrated planning **continually**



4. Integrated developing pattern of ports and cities will carry on

- ✓ Ports drive inland economic development while inland economy supports and guarantees port development
- ✓ The integrated developing pattern of ports and cities is the significant trend of port development in China



5. Coastal ports will be more information-based and intelligent

- ✓ To satisfy the requirement of multimodal transport and door-to-door transportation

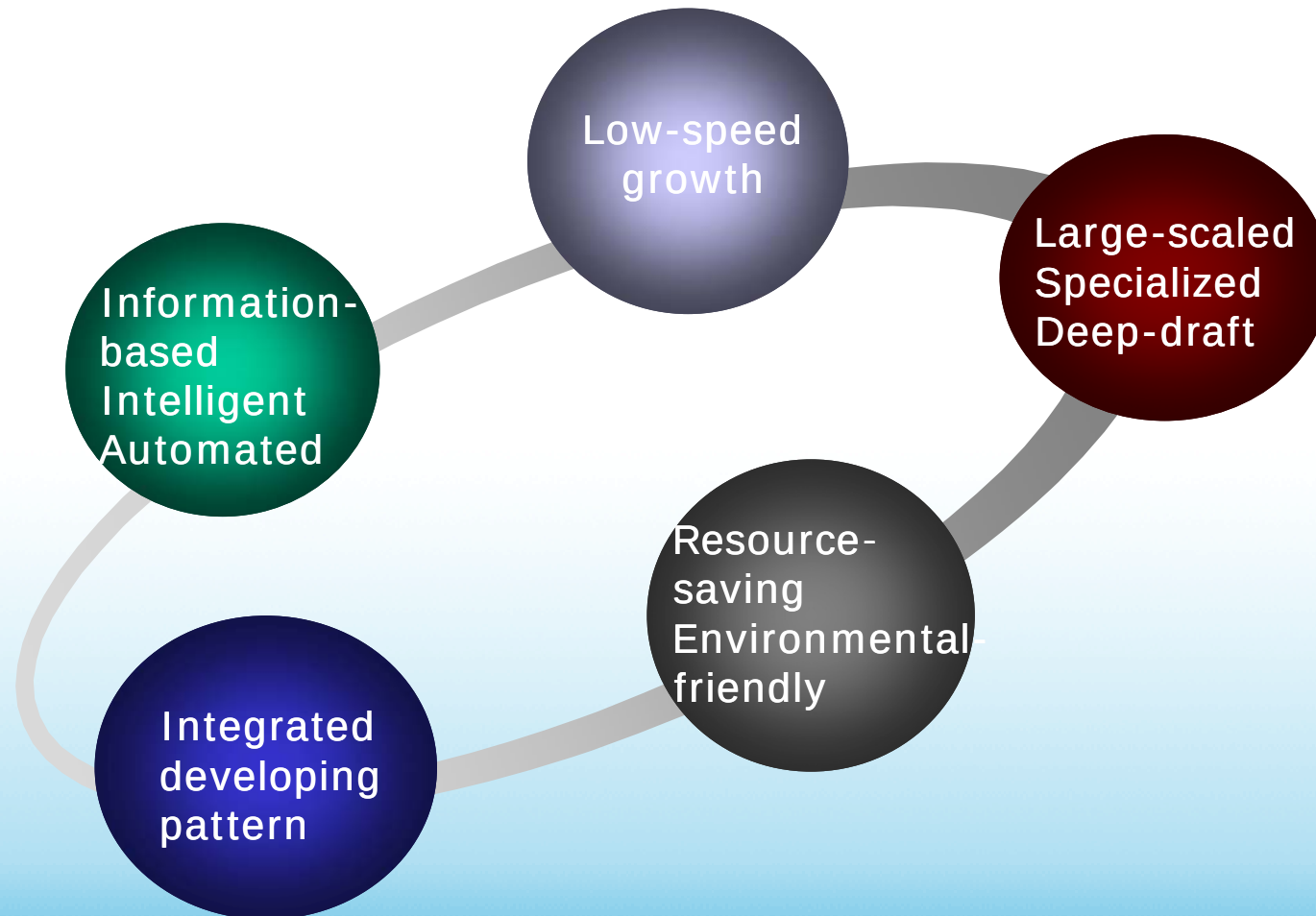


6. Resource-saving and environmental-friendly port will be a new trend

- ✓ Guarantee of ports' sustainable development
- ✓ Qingdao's energy consumption decreases by 4.2% every year, while production increases by 20%



Key words for Chinese ports in future.....





Port development in North-east Asia

All the ports developed rapidly

The competition for hub-ports is

Structure adjustment is needed to enhance the integrated power and competitiveness and promote the coordinated development



Port development in China

Modern port industry with integral

Encounter a low-speed growth owing

Urgently needs sustainable planning

Automated, information-based and
resource-saving ports will be a trend





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Thanks For Your Attention!

