

# WELCOME TO WÄRTSILÄ CHINA

# Wärtsilä China today

- 20+ years history in China
- Strong manufacturing footprint through JVs, fully owned companies and 2-stroke engine licensing



- In marine market, some leading Chinese ship owners and shipyards are not only Wärtsilä customers, but also JV partners
- Wärtsilä Services provides service and maintenance for its customers in China through eight locations



# Major milestones of Wärtsilä in China

1978

Signing of licensee agreement between Sulzer with CSSC

1986

Establishing Wärtsilä Diesel (China) Ltd., Hong Kong as Joint Venture with Kemklen Hong Kong

1982

Developing agent relationship with Kemklen Industrial Suppliers Ltd., Hong Kong

1991

Wärtsilä Diesel (China) Ltd., Hong Kong became a wholly owned company under Wärtsilä Diesel Finland Oy, Helsinki

1994

Establishing Shanghai Representative Office, Beijing Representative Office, Wärtsilä Diesel Panyu Service Station (Joint Venture)

1995

Setting up Hong Kong Service Station

1996

First Investment in Taicang Electric Power Co., Ltd. (partial ownership)

1997

Merging with New Sulzer Diesel Hong Kong Ltd.

1998

Establishing Dalian Representative Office

1999

Upgrading Shanghai Representative Office to Wärtsilä NSD Engine (Shanghai) Ltd. with business scope of trading and servicing  
Setting up Waigaoqiao Workshop in Shanghai

# Major milestones of Wärtsilä in China

2002

Integration of John Crane-Lips operation in Shanghai following global acquisition in April 2002

2004

Wärtsilä-CME Zhenjiang Propeller Co. Ltd. founded in June. In the JV Wärtsilä has 55% and CME has 45% ownership

2005

Wärtsilä acquired Deutz medium and high speed engine marine service business and started to handle the business from April.

Inauguration of Wärtsilä Propulsion (Wuxi) Co. Ltd. (wholly owned) in June

2006

Inauguration of Wärtsilä Qiyao Diesel (Shanghai) (a 50/50 JV with CSIC SMDERI to manufacture marine auxiliary engines) in June 2006

2008

The top management of Wärtsilä Ship Power moved to China

2007

Inauguration of Tangzhen Service Station in March

2010

Wärtsilä China Engineering Center set up

2009

Inauguration of Qingdao Qiyao Wärtsilä MHI Linshan Marine Diesel Co Ltd (QMD) in April. (CSIC 50%, Wärtsilä 27% and Mitsubishi 23%)  
Inauguration of Wärtsilä Ship Design (Shanghai) Co. in June  
Zhoushan Services Station set up in Sept  
Signing of Strategic Cooperation Framework Agreement with CSSC in Nov

2012

Wärtsilä (Suzhou) Marine Equipment Co., Ltd became a wholly-owned Wärtsilä company through the global acquisition of Hamworthy

2011

Inauguration of CPP production at Wärtsilä-CME Zhenjiang Propeller Co., Ltd. in June



# Wärtsilä footprint in China

- Wärtsilä Ventures
- 2-Stroke Engine Licensees
- Joint Ventures

WCN Shanhaiguan Shipyard Service Station  
WCN, Beijing Rep. Office

WCN, Dalian Rep. Office

Dalian Marine Diesel Works

Qingdao Qiyao Wärtsilä MHI Linshan  
Marine Diesel Co Ltd  
Low-speed engines

Wärtsilä CME Zhenjiang Propeller Co Ltd  
FPPs, CPPs, shaft lines, blades and hubs

Zhenjiang CME Co Ltd

Cosco-Shipyard Total Automation Co Ltd

Hefei Rong'an Power  
Machinery Co Ltd

CSSC-MES Diesel Co Ltd

Wärtsilä Services (Shanghai) Co Ltd

Wärtsilä Ship Design (Shanghai) Co Ltd

Wärtsilä HRDD Services Station

Wärtsilä Zhoushan IMC-YY Services Station

Hudong Heavy Machinery Co Ltd

Yichang Marine Diesel Engine Co Ltd

Wärtsilä Qiyao Diesel Shanghai Co Ltd  
Wärtsilä Auxpac 20 and 26 gensets

Wärtsilä (Suzhou) Ltd.  
Formal name is Hamworthy (Suzhou) Ltd.  
Sewage Water Treatment Plant, Inert Gas  
System, Control Panel

Wärtsilä Propulsion (Wuxi) Co Ltd  
TTs, LCTs, seals & bearings and components

CSSC Guangzhou Marine Diesel Engine Co Ltd

Wärtsilä Services (Shanghai) Co Ltd, Nansha Office

WCN Longxue Shipbuilding Service Station

WCN Yulian (Shekou) Dockyards Service Station

Wärtsilä China Ltd. (H.K)

Yuchai Marine Power Co Ltd



- 4 JVs, 2 fully-owned factories, 8 licensees for 2-stroke, and 8 service centers
- 2000+ employees



We provide total and 24/7 services

WÄRTSILÄ **Engine Services**

WÄRTSILÄ **Propulsion System**

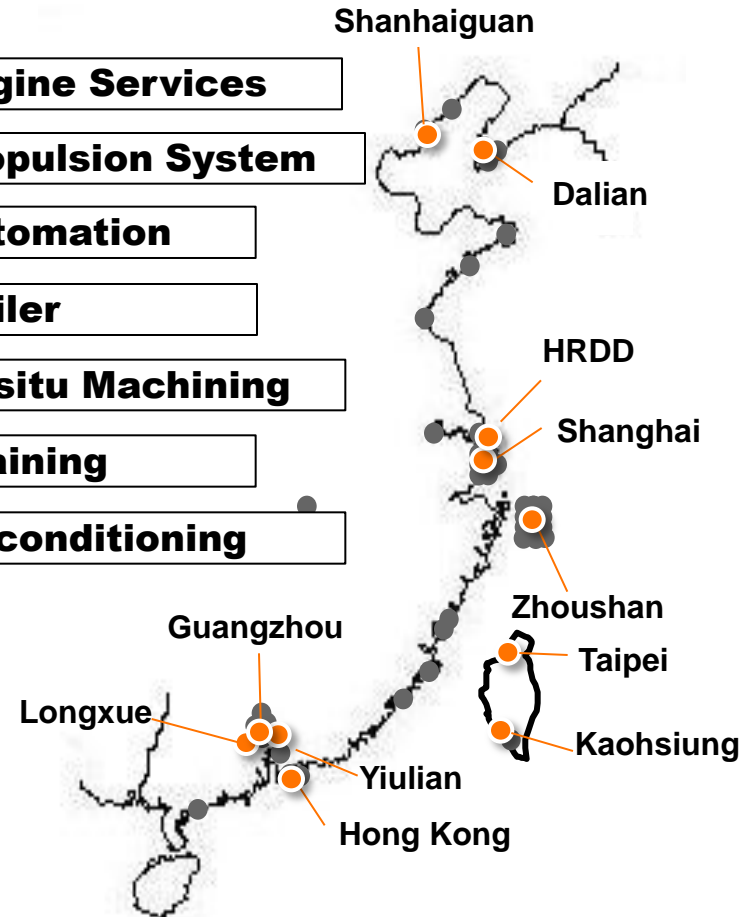
WÄRTSILÄ **Automation**

WÄRTSILÄ **Boiler**

WÄRTSILÄ **In-situ Machining**

WÄRTSILÄ **Training**

WÄRTSILÄ **Reconditioning**



- 50 largest Repair Yards in China that dock foreign ships
- Wärtsilä presence

# Major Wärtsilä Services workshops in China



## Shanghai

- Established: 1999
- Location: Tangzhen Shanghai
- Main activities:
  - Reconditioning
  - External Field Services
  - In-situ and Afloat repair
  - Automation
  - Commissioning and Start-ups

## Guangzhou

- Established : 1994
- Location: Nansha, Guangzhou
- Field service covering southern China
- Specialized in servicing Woodward governors and ABB/Napier Turbo Chargers
- Workshop reconditioning of entire gensets

## Hong Kong

- Established: 1991
- Located in Hong Kong United Dockyards (HUD)
- Supporting visiting vessels, Hong Kong ship owners and ship management companies



# Service cooperation with Chinese shipyards



**Shanhaiguan  
2008**



**Shanghai  
2010**



**Guangzhou  
2010**



**Zhoushan  
2011**



**Shenzhen  
2011**

**In order to serve customers better, Wärtsilä China entered a cooperation with major shipyards in China.**

**A team of Wärtsilä experts is permanently stationed there and jointly provide a full range of field services.**



# Wärtsilä China manufacturing facilities



We provide market leading products

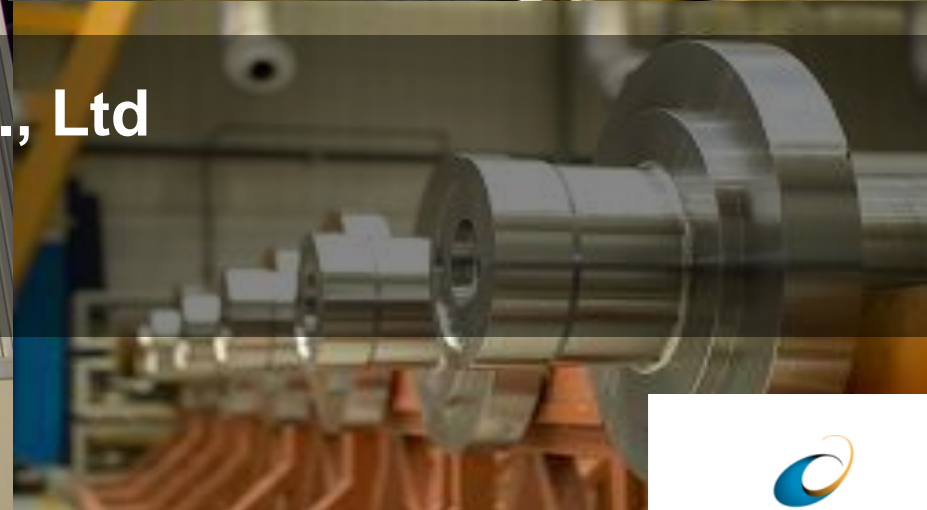
# Delivery Centre – Thrusters, Seals, Bearings / Wuxi



## Wärtsilä Propulsion (Wuxi) Co., Ltd

Inauguration phase 2 November 2007

Employees: 161 (April 2013)





# Delivery Centre – CPP & FPP / Zhenjiang



## Wärtsilä CME Zhenjiang Propeller Co., Ltd

Founded in 2004 and new CPP factory inauguration in June 2011

Employees: 407 (April 2013)

Joint Venture (Wärtsilä 55%, CSSC<sup>1</sup> 45%)

Note: CSSC<sup>1</sup> = China State Shipbuilding Corporation



# Delivery Centre - Auxpac 20 & 26 / Shanghai



## Wärtsilä Qiyao Diesel Company Ltd. (Shanghai)

Inaugurated in 2006

Employees: 141 (April 2013)

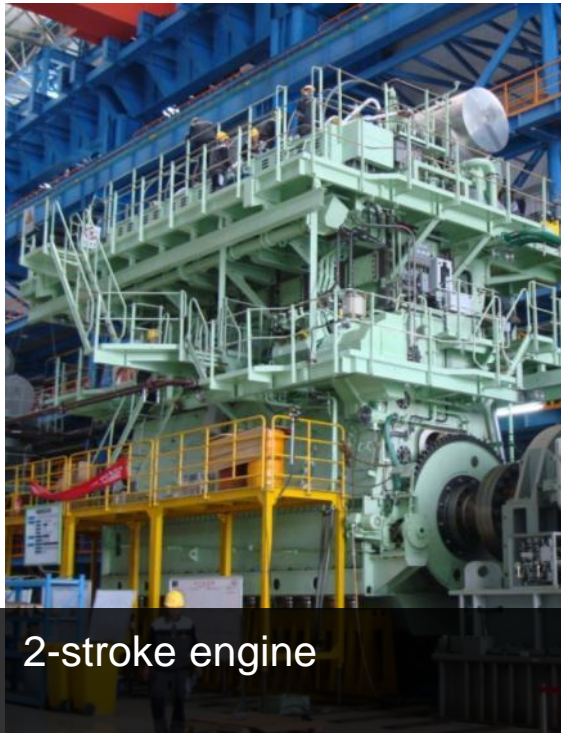
Joint Venture (Wärtsilä 50%, CSIC<sup>1</sup> 50%)



Note: CSIC<sup>1</sup> = China Shipbuilding Industry Corporation



# Delivery Centre - 2-stroke engines / Qingdao



2-stroke engine



QMD doers



One million horsepower produced

## Qingdao Qiyao Wärtsilä MHI Linshan Marine Diesel Co., Ltd

Inauguration April 2009

Employees: 490 (April 2013)

Joint Venture (Wärtsilä 34%, CSIC<sup>1</sup> 50%, MHI<sup>2</sup> 16%)

Note: 1 CSIC = China Shipbuilding Industry Corporation, 2 Mitsubishi Heavy Industries

# Delivery Centre- Environment & Safety Product / Suzhou

- Inauguration in 1998 (former Hamworthy Suzhou)
- Employee: 103 (April 2013)
- Products: sewage water treatment plants, inert gas systems, control panels





# Sourcing in China

- Supports both local needs in China (cost and short lead times) and export to Europe (cost)
- Increasing part of our purchase volume will be sourced in China.
- Significant part of our strategic sourcing organisation located in China –one critical factor for success
- Other critical factors for success: local engineering, focus on quality, multi functional task, local production

Supporting Wärtsilä's growth strategy in China

# New JV for Wärtsilä medium speed engines in China

Wärtsilä -Yuchai Engine Ltd. Co.

Location: Zhuhai, China

Products: W20, W26, W32

Operations planned to start in 2014



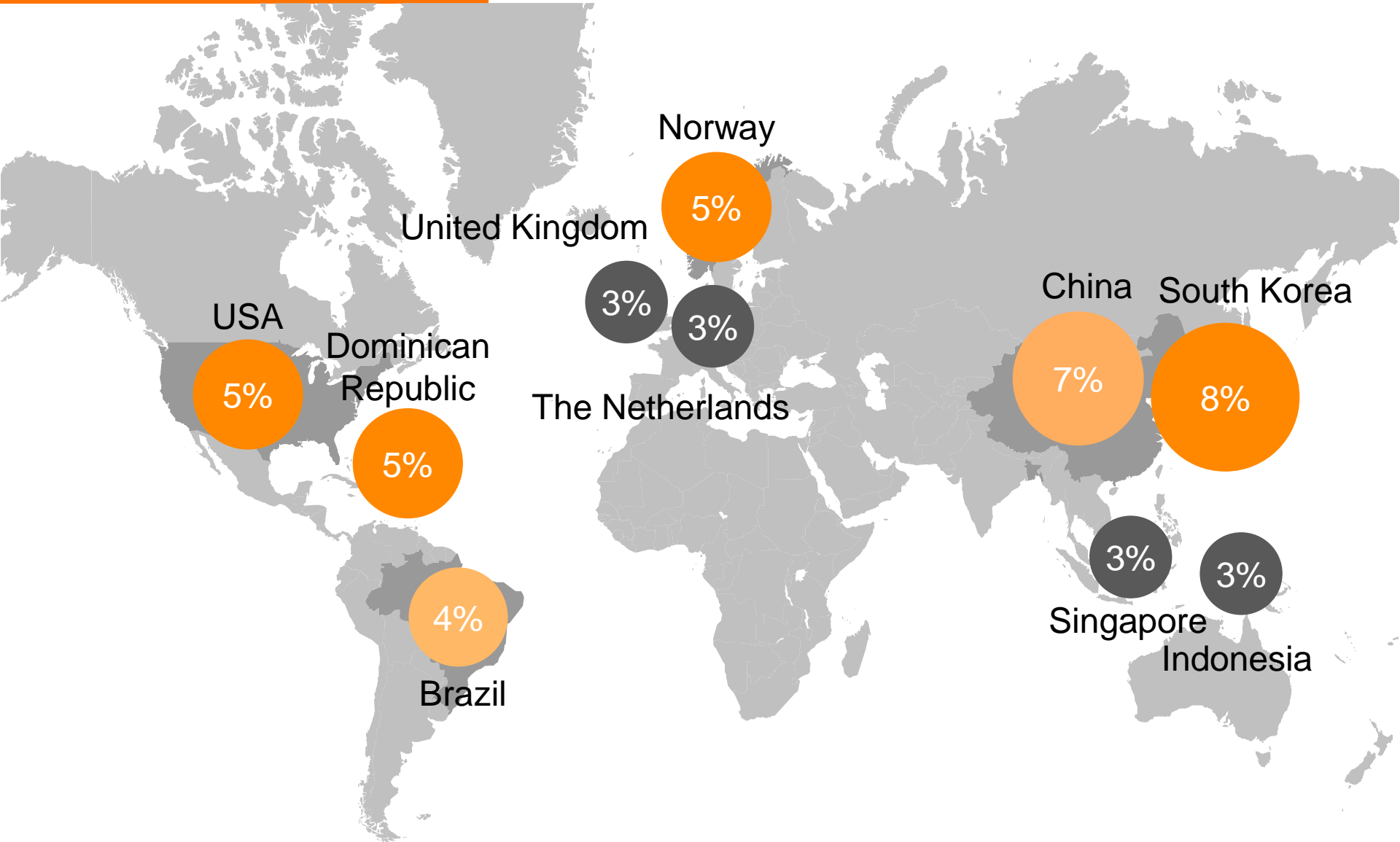


# Key success factors for doing business in China

- Strong brand with leading technologies
- Product portfolio meeting growing market demands and regulatory changes
- Forging strategic local partnerships with strong market players
- Localization of manufacturing / supply chain / innovation capability
- Extensive market coverage through own sales and service network
- Strong local business creation capability
- High customer satisfaction rate
- Local talent and organizational development



# Top 10 countries



% of 2012 net sales



# Marine market trends and drivers in China

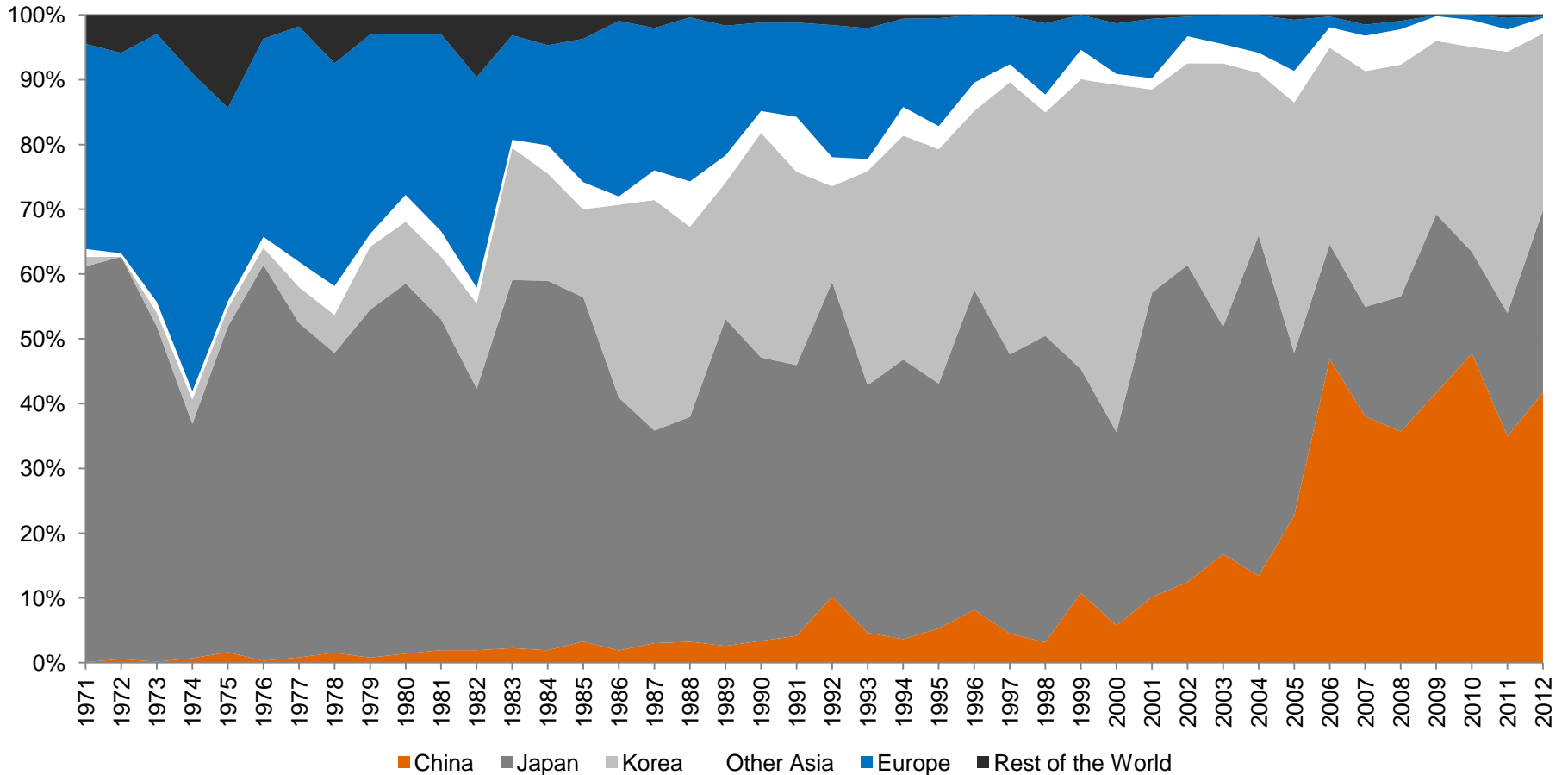
- Chinese shipbuilding is moving from low-cost merchant ships towards more complex high value vessels
- Shipbuilding overcapacity will drive consolidation with government plans to support top shipyards
- Growing intra-Asian trade and drive towards securing raw material imports and energy supply will enable growth of Chinese ship owners



Improved local footprint and leading system integration capabilities enables Wärtsilä to be the most valued partner to our customers

# China has a good market share in merchant vessels...

## Merchant vessels: contracting volumes (DWT), share by region

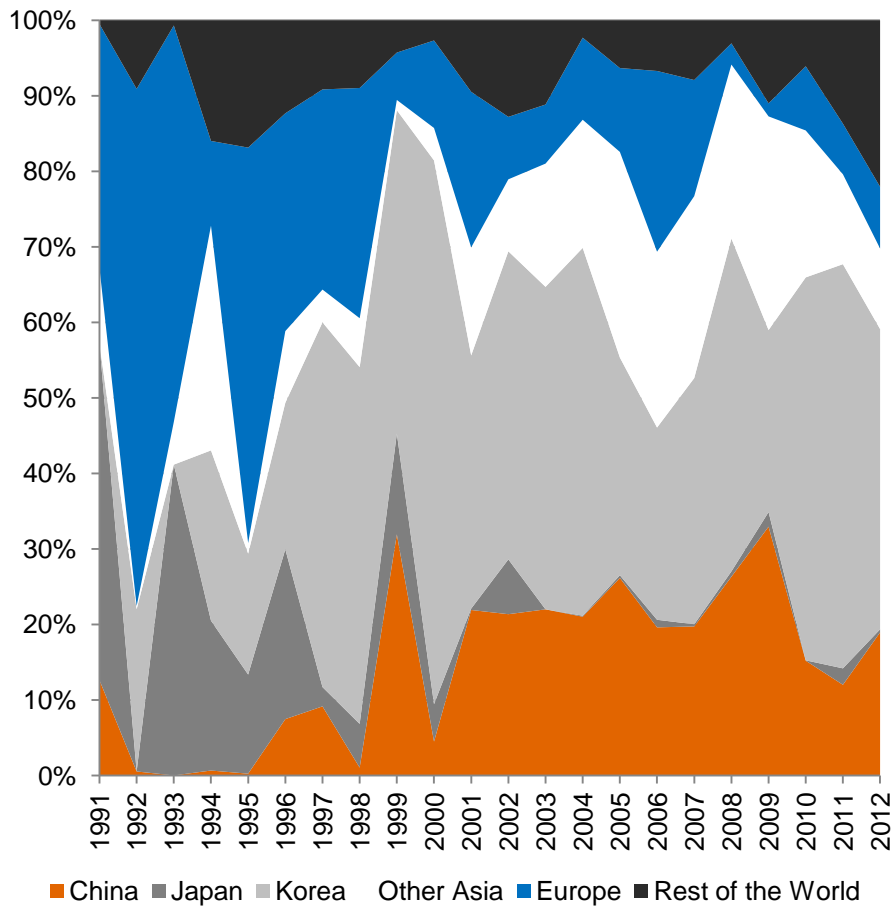


Source: Wärtsilä's Marine Market Database (MMDB)

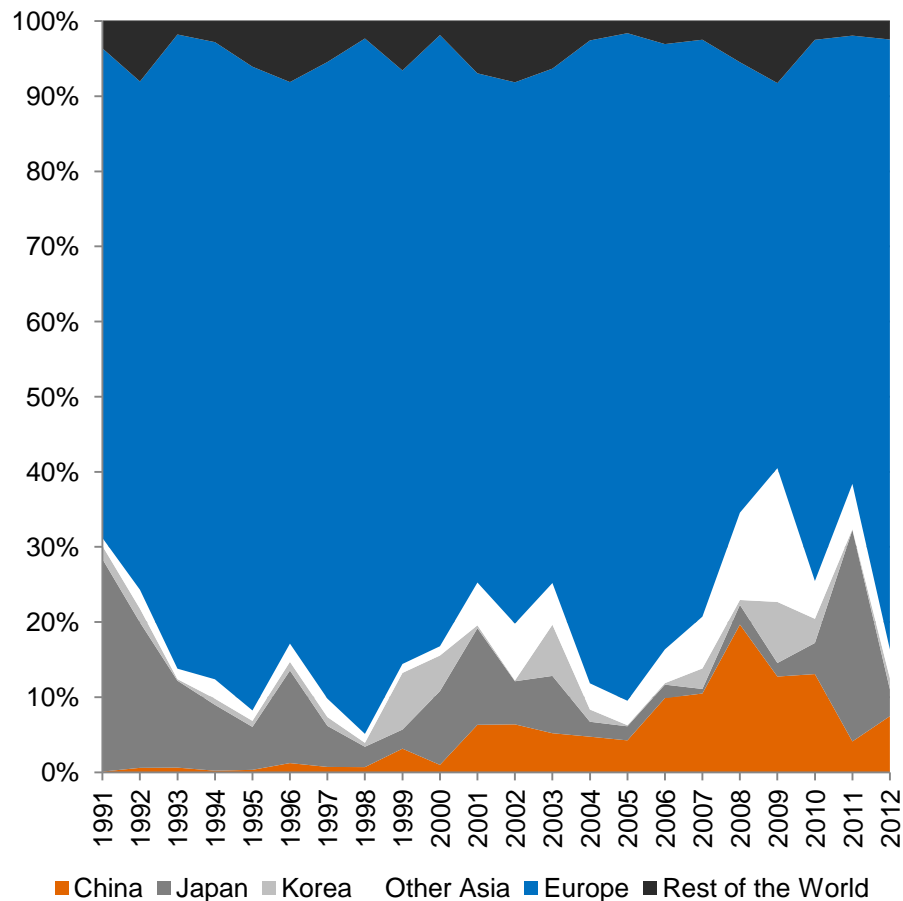


# ...but now moving towards more complex & high value ships

## Offshore vessels: contracting volumes (GT), share by region

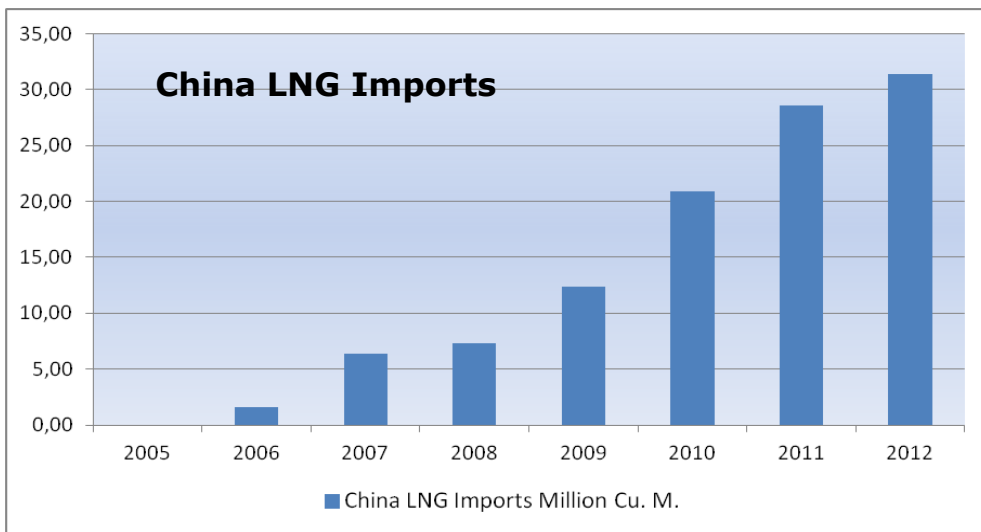


## Special\* vessels: contracting volume (GT), share by region

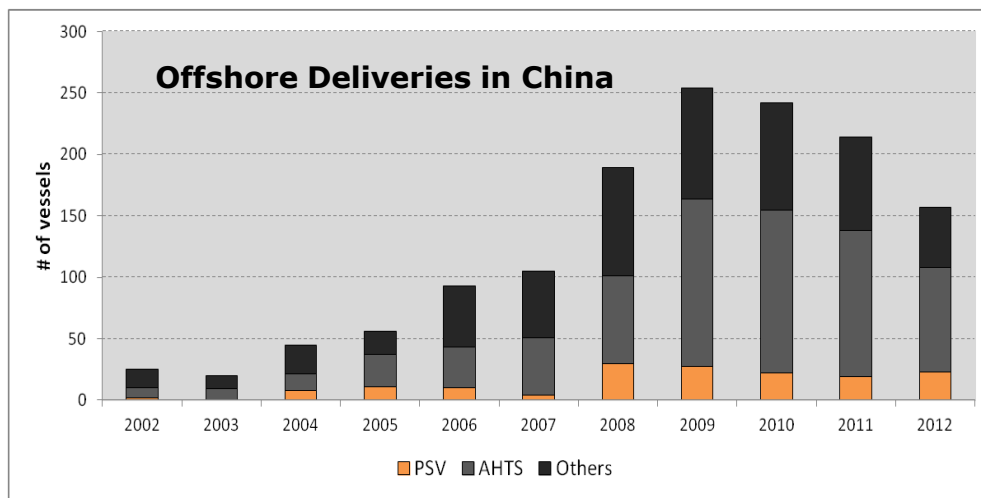


\* Special includes: cruise, ferries (ropax and pax only), dredgers, and tugs  
 Source: Wärtsilä's Marine Market Database (MMDB)

# China is quickly moving towards more complex and high value ships both for energy security and shipbuilding competitiveness



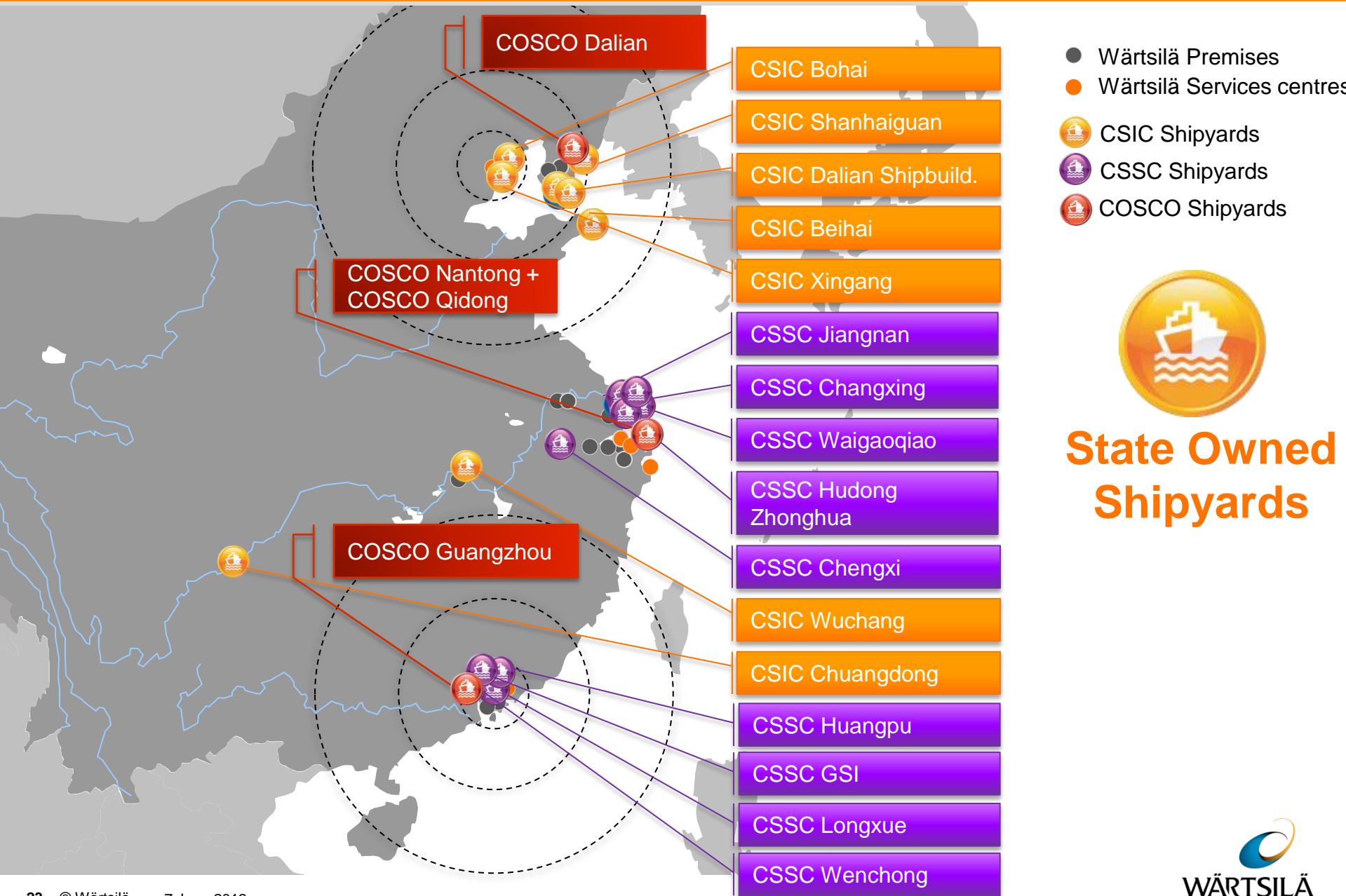
- China has a strong strategic ambition to secure it's energy import
- There has been tremendous growth in LNG imports to China but LNG still represents only about 4% of the energy mix in China vs. a global average of 24%
- This will in turn increase opportunity for more and more LNG carriers owned and built in China



- Shipbuilding in the offshore segment is witnessing huge growth in China
- Many international ship-owners are still wary of Chinese shipyards capability to build such complex vessels
- Wärtsilä can form strategic partnerships with internal owners as well as local shipyards to provide complete solution to such vessels while the yards build the vessels "around" it

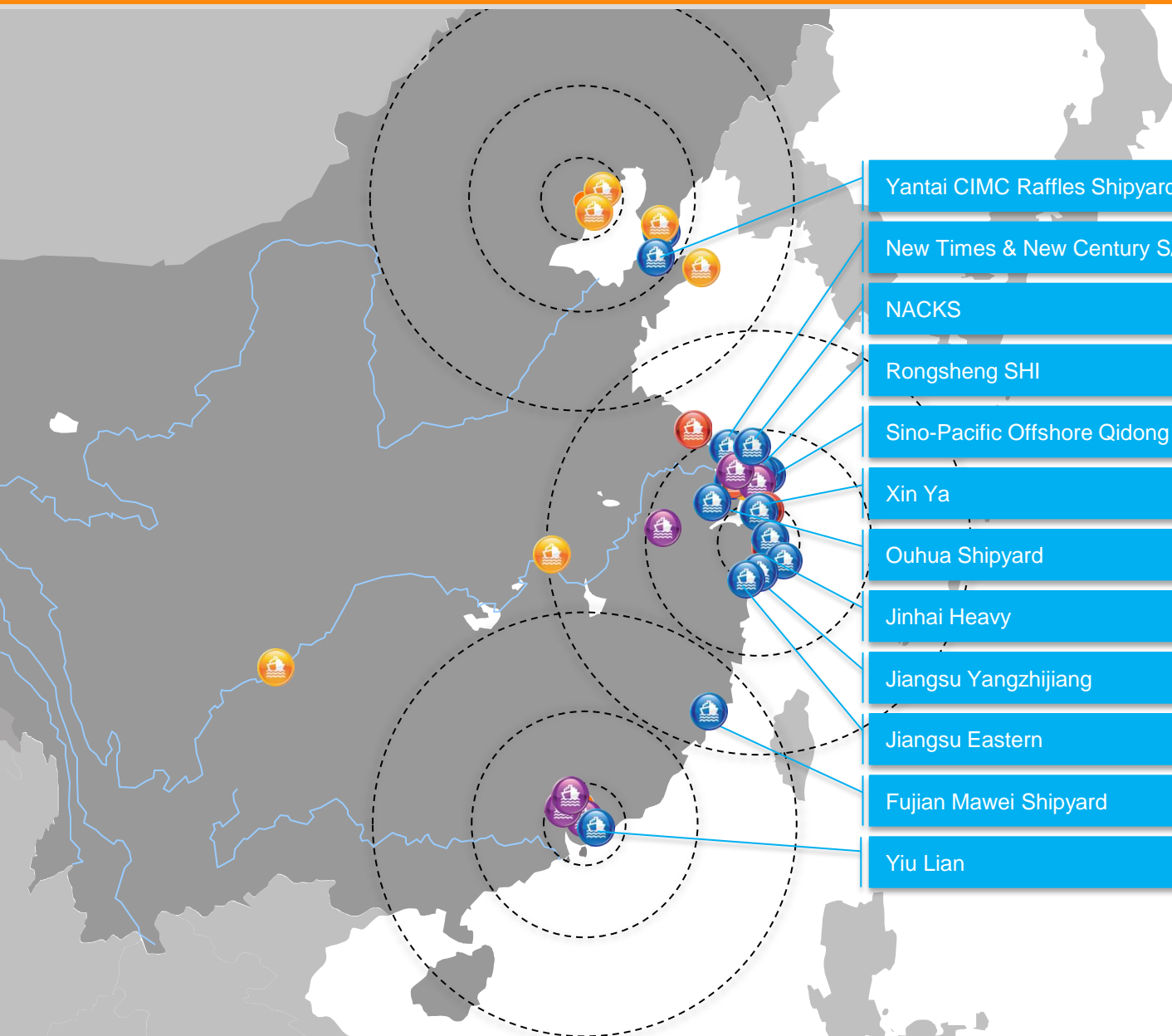


# Main state-owned shipyards – CSSC, CSIC & COSCO



**State Owned Shipyards**

# Some of the main private / JV shipyards in China



- Wärtsilä Premises
- Wärtsilä Services centres
- CSIC Shipyards
- CSSC Shipyards
- COSCO Shipyards
- Private / JV Shipyards



**Private/JV  
Shipyards**

Yantai CIMC Raffles Shipyard

New Times & New Century S/Ys

NACKS

Rongsheng SHI

Sino-Pacific Offshore Qidong

Xin Ya

Ouhua Shipyard

Jinhai Heavy

Jiangsu Yangzhijiang

Jiangsu Eastern

Fujian Mawei Shipyard

Yiu Lian



# Opportunities for power industry in China



Ambitious national target being set to slash the carbon emission level in 2020 to 40% ~45% of 2005 level



Policy maker is shifting to support low carbon economy with clean energy from Gas, Nuclear, Wind, and Solar



Power generating capacity to grow to ~ 1,500 GW by 2020 with gas to reach ~ 100 GW, or 6% of total capacity



Wind power has been developed at brisk pace with total installed capacity of 45 GW in 2010, and expected to exceed 5% of grid load in 5 years

# Wärtsilä Power Plants history in China

- 1990's to early 2000** when availability of electricity from grid could not meet increasing demand, Wärtsilä focuses on captive power plants for industrial parks.
- 2000 – 2005** China ramped up the construction of large coal fired power plants. Wärtsilä targets the market for black start units for large power stations.
- 2006 – 2009** China mining and construction companies started to expand overseas. Wärtsilä supplies power plants to Chinese EPC contractors for overseas projects in remote areas.
- 2010 – Present** China is putting focus on renewable energy, smart grid concept and power system energy efficiency, providing opportunities for Wärtsilä's solutions





# Potential NGDE projects in China by 2020

## By 2015

- Complete the main CHP/CCHP equipments development through demonstration projects
- To have independent local CHP/CCHP equipment manufacturing capability equal to 60% of localized equipments

5 GW Installed

Localization will reach 60%

10 GW installed

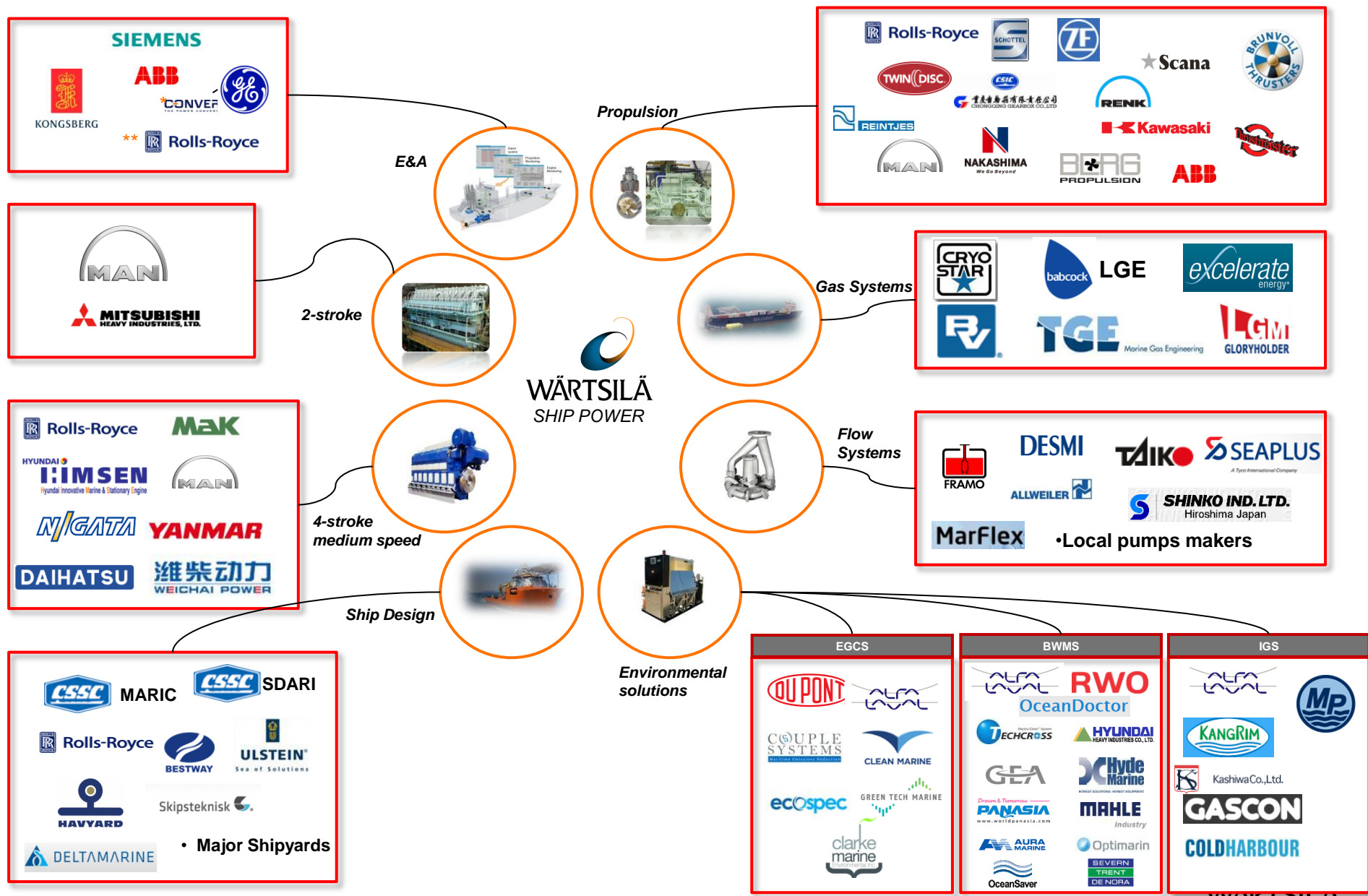
Localization will reach 90%

## By 2020

- CHP/CCHP widely used in Chinese cities
- 50 GW installed (3.5% total installed capacity)

SOURCE: NDRC 9-10-2011 internal bulletin

# The competition is tough but outside engines it is more fragmented



# The very competitive market demands multiple offerings in terms of products, solutions, pricing and services to differentiate

	Wärtsilä	MAN	Caterpillar	Rolls-Royce	Himsen (Hyundai)	Local Chinese brands	Japanese Import
Established Global Engine Brand	✓	✓	✓	✓	✓		✓
Strong focus on Gas	✓	✓		✓	✓		✓
Extensive Marine portfolio including Environmental Products	✓			✓			
System Integration including Ship Design and E&A	✓			✓			
Worldwide Service network	✓	✓	✓	✓			✓
Extensive manufacturing footprint in China	✓	✓	✓			✓	
Top-side/Cargo handling equipments (Oil/LPG/LNG )	✓						
Partnerships with local Chinese companies / customers(e.g. JV)	✓		✓			✓	✓
Currency advantage of imported products (at present)							✓



# Growth drivers in China

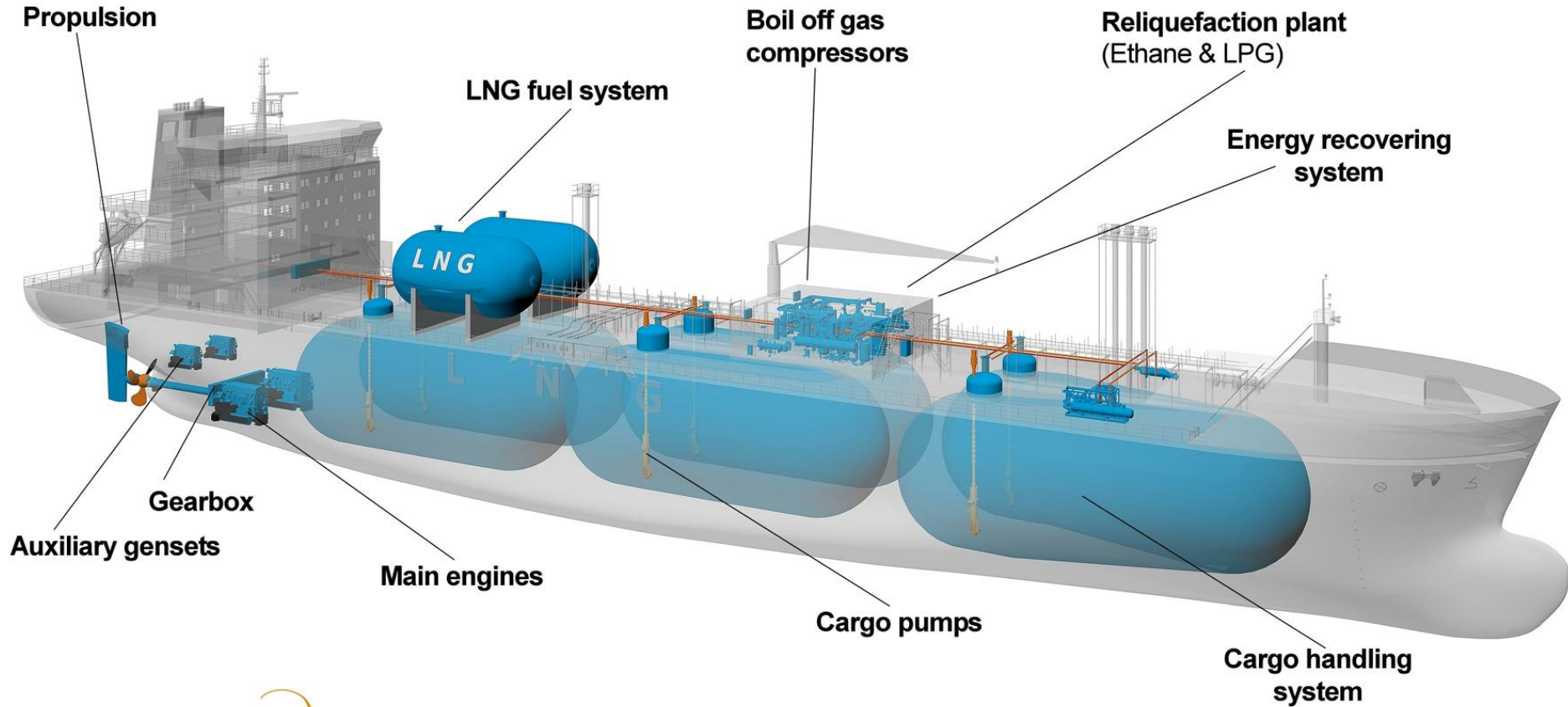
- World second largest economy and biggest trading nation
- Sustained GDP growth expected to continue
- 2015 and beyond: starting to rival US in economic scale
- One fifth of world population with rapidly rising middle class population and urbanization
- Domestic consumption provides a huge market for the world
- Target to remain one of the largest shipbuilding countries
- Shifting policy to clean energy and low carbon economy



# Wärtsilä China Future Strategy

- Launch key initiatives (e.g. 4-stroke engine JV) to support long term growth
- Strengthen high level customer contacts and external relationships (government, JV partners, etc) to ensure business success.
- Simplify operating model with entrepreneurial driven organization to be more agile and react faster
- Create a strong China organization by introducing best practices, professionalism and high performance culture
- Attract develop and retain the best talents to create highly motivated workforce

# Wärtsilä can offer integrated solution & support local Chinese yards in technically complex vessels to address ship-owner's concerns





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