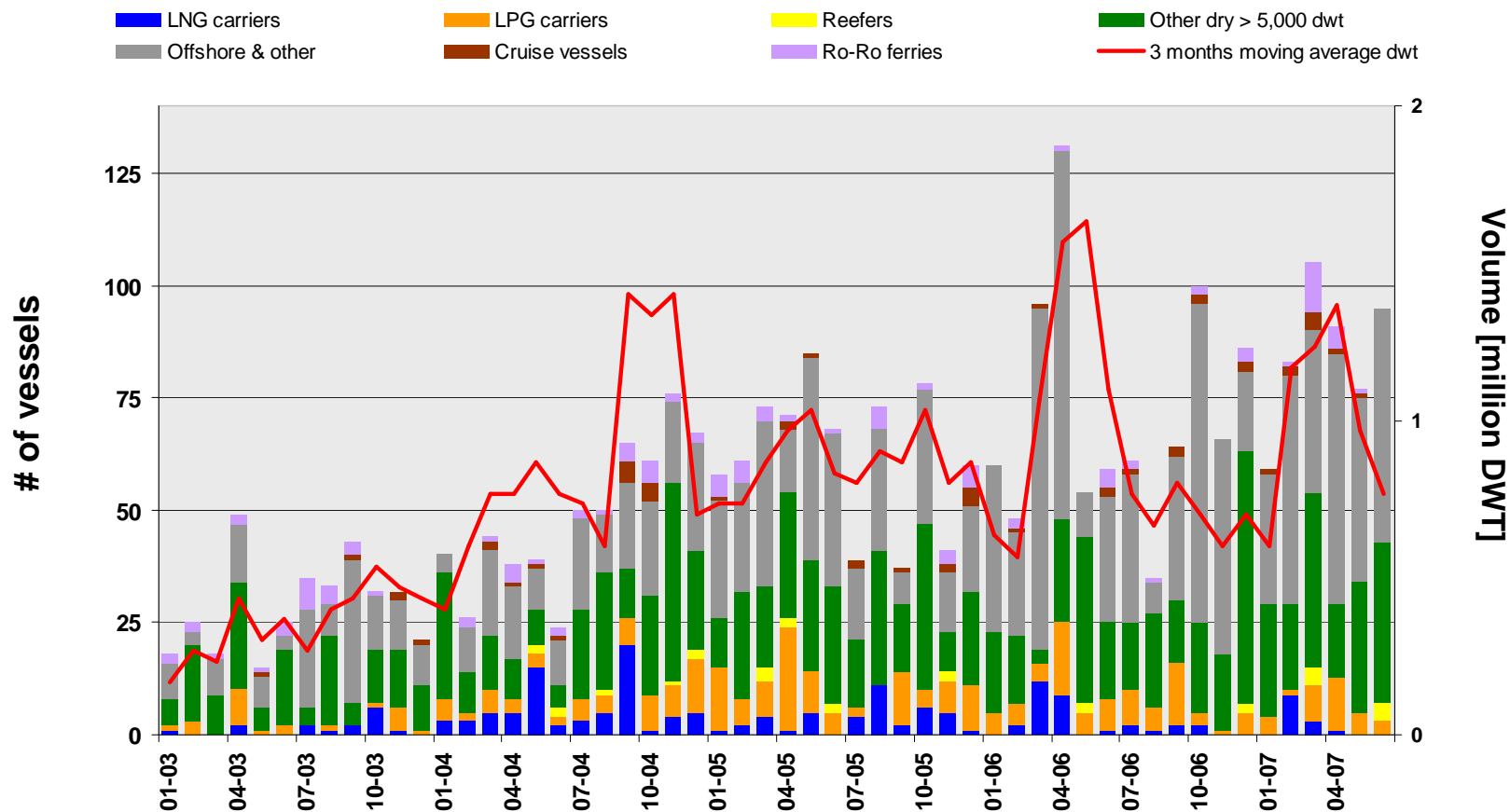


Market development - Ship Power

Vessel orders - other vessels

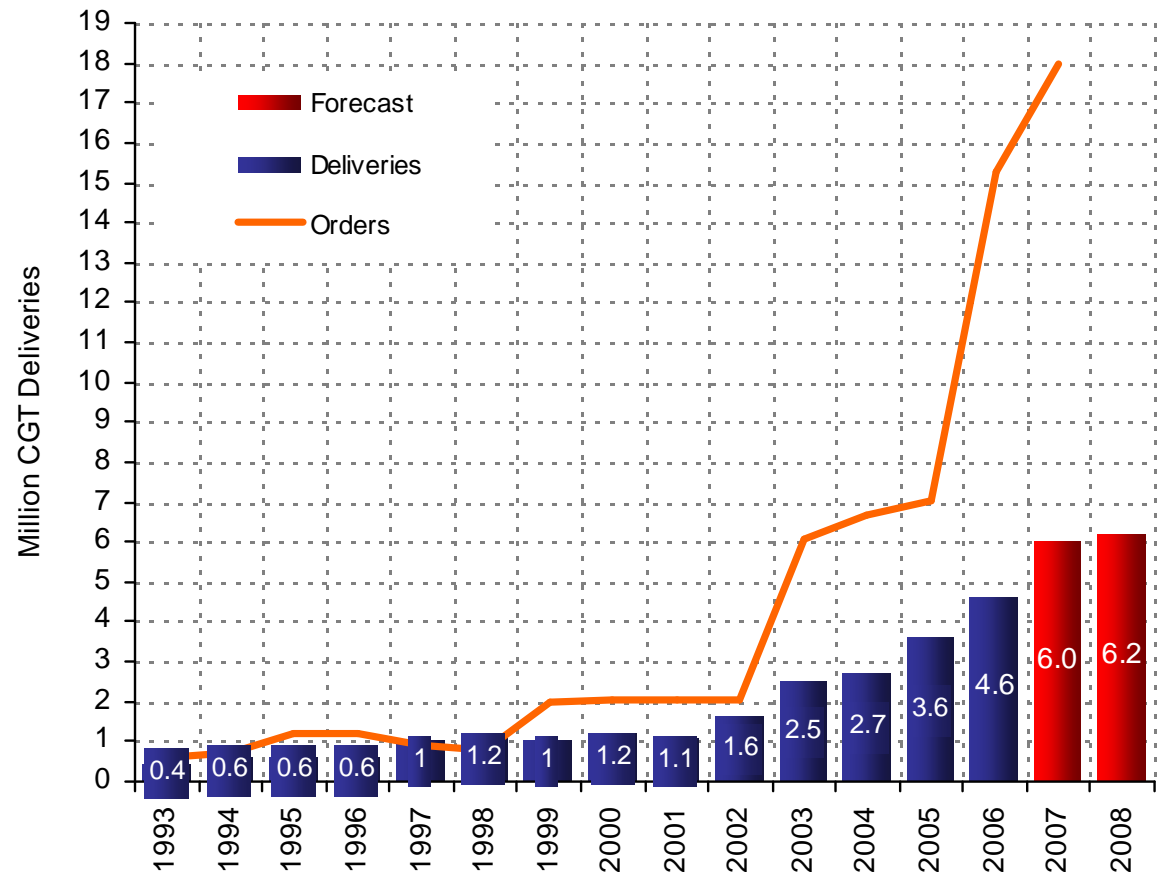


Source: Based on data from Clarkson Research Studies

China Shipbuilding Expanding

- In 1982 China shipbuilding output was only 0.14 million CGT
- In 1997 exceeded 0.77 million CGT
- In 2001 China produced 1.1 million CGT, about the same as total of previous four years
- In 2005 output reached 3.7 million CGT, orders 16.77 million CGT. Putting China in the Big League
- In 2006 output reached 4.64 million CGT, orders 26.61 million CGT.

China Orders & Deliveries



Source: China Shipbuilding

Expansion Plans

The State Council approved Mid-Long Term Shipbuilding Plan on 16.08.2006

Target for building capacity

- 2010 Overtakes Japan
- 2020 Overtakes South Korea

Shipbuilding bases

- CSSC: Waigaoqiao, Chang Xing, Long Xue
- CSIC: Haixingwan, Dalian, Bohai

Capacity

- 2006: 14,52 m dwt
- 2009: 40 m dwt
- Localization rate: 60% (2010), 80% (2015)
- Docks for VLCC: 22 (by 2010)
- Docks for 110,000 dwt tanker & above : 25 (by 2010)
- Tanker 30%, container 21%, Bulker 28% (China market share 2006)

(information from local resources)



Potential Risks

Exchange rate

- Over 83% export vessels rated in USD, RMB appreciation (1% rising makes loss of 2billion RMB)

Ship price rises for 4 years

- Most of the yards have full order book till 2010

Mid/small ship building enterprises may go bankrupt due to

- Exchange rate, tax, new regulations, material/labor cost, etc.

Surplus of building capacity

- Big dry docks overtake those of Japan+Korea by 2010
- By estimation of 2010, Korea 44 m dwt, China 40 m dwt, Japan 36 m dwt

High energy consumption

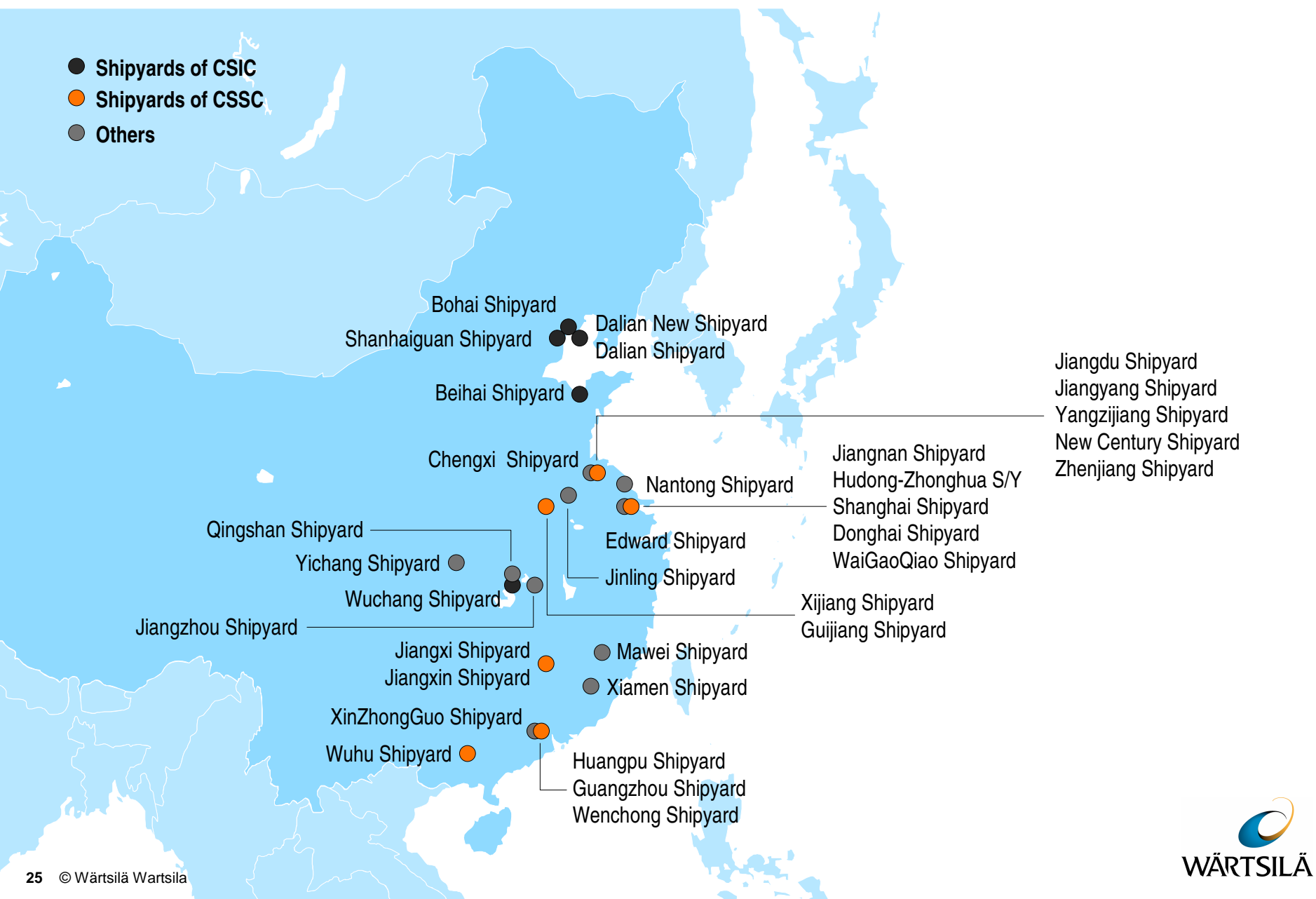
- Steel usage rate 85-88%, Japan/Korea 92-95%
- 2 stroke engine shortage 50-70%, big bore 4 stroke engine 95%

Low innovation of shipbuilding technology

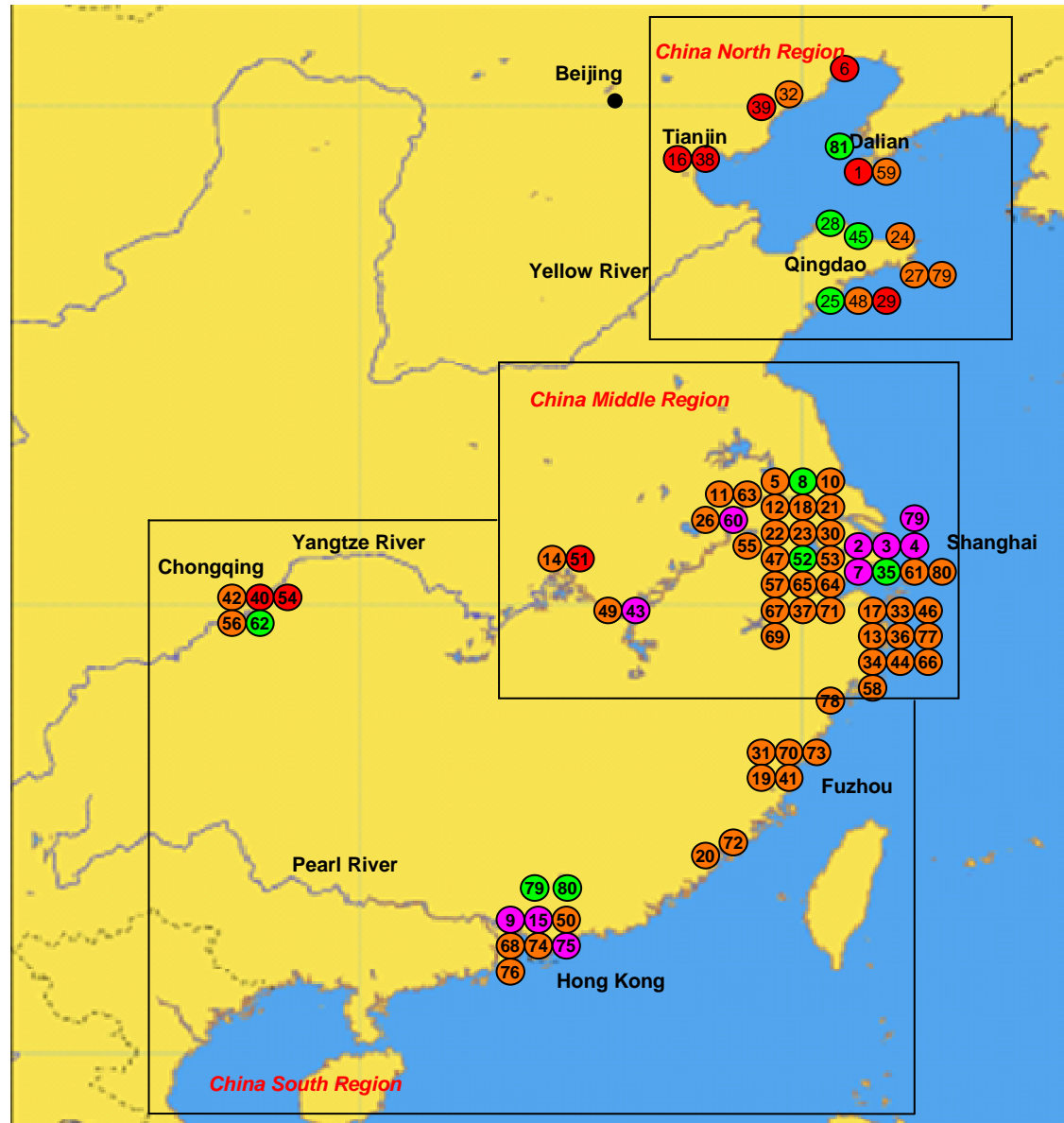
Four Goals From CN Shipbuilding In 5-10 Years

- Total output and economic volume are on world front
- Overall technology and innovation are world advanced, competitiveness for major types of ships are world No.1
- Set up Chinese shipbuilding module to raise efficiency close to world advanced level
- Increase management and localization level, reduce consumption of energy and other resources

The Main Shipyards in China



China Shipyards by Groups



Green = JV (13)
Red = CSIC (9)
Purple = CSSC (10)
Orange = Local (86)

- Over 100 “export” yards. 20 yards for vessels > 100,000 dwt. We have contact details for a further 110 yards but there are several hundred more
- Local Yards are significant and have grown strongly over the past 10 years
- Local yards being “privatised”
- The Joint Venture yards are the most productive, e.g. NACKS

Main Ship Owners in China

