Ultra-large ships: *how should the supply chain adapt?*

The port issue

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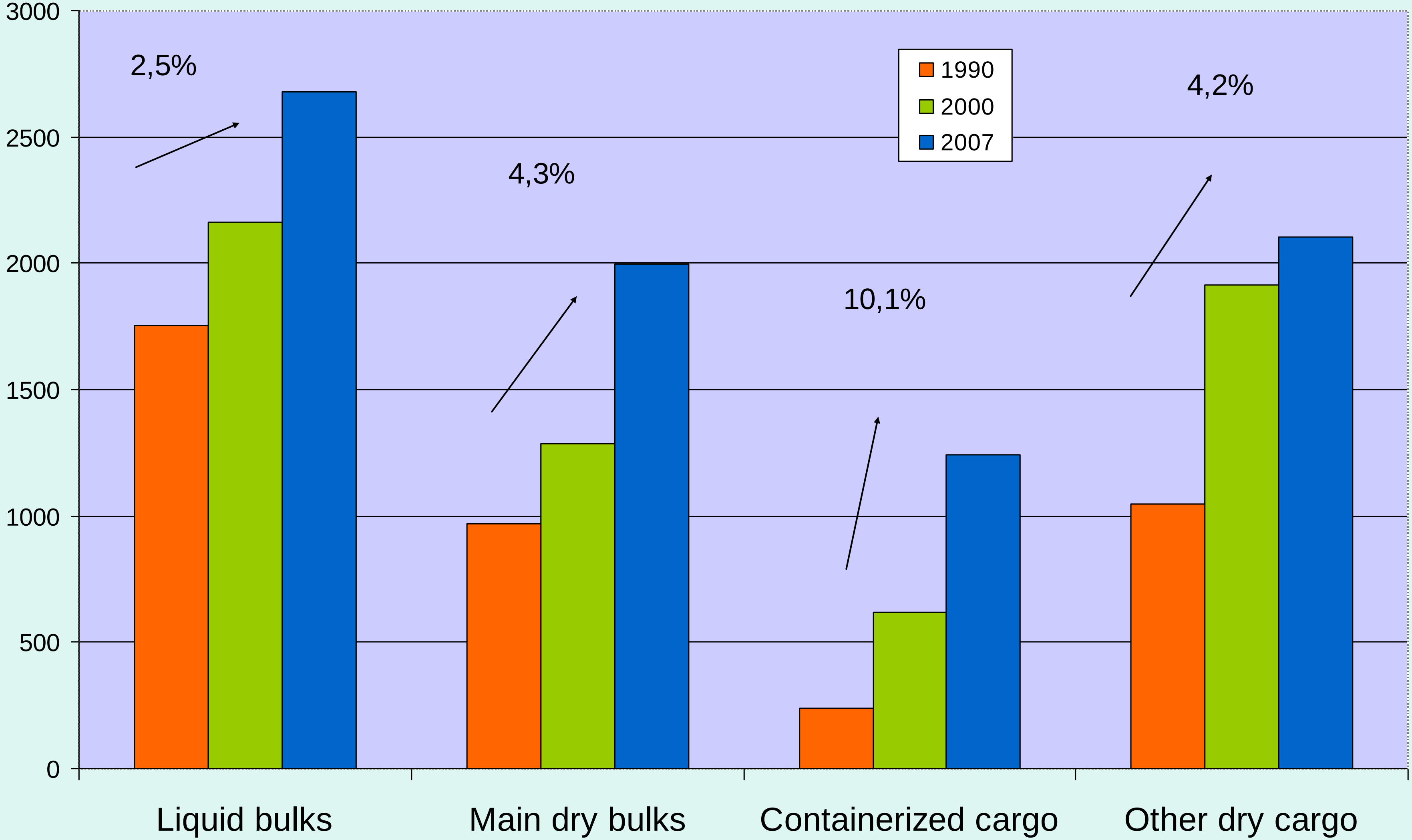
Global overview of the port industry

- Spectacular growth of the container traffic
- “Corporatisation” of port authorities and privatisation of cargo handling operations: the “landlord port” model
- Concentration of cargo handling operators
- The logistics issue
- Safety and security
- The ultra-large ships issue

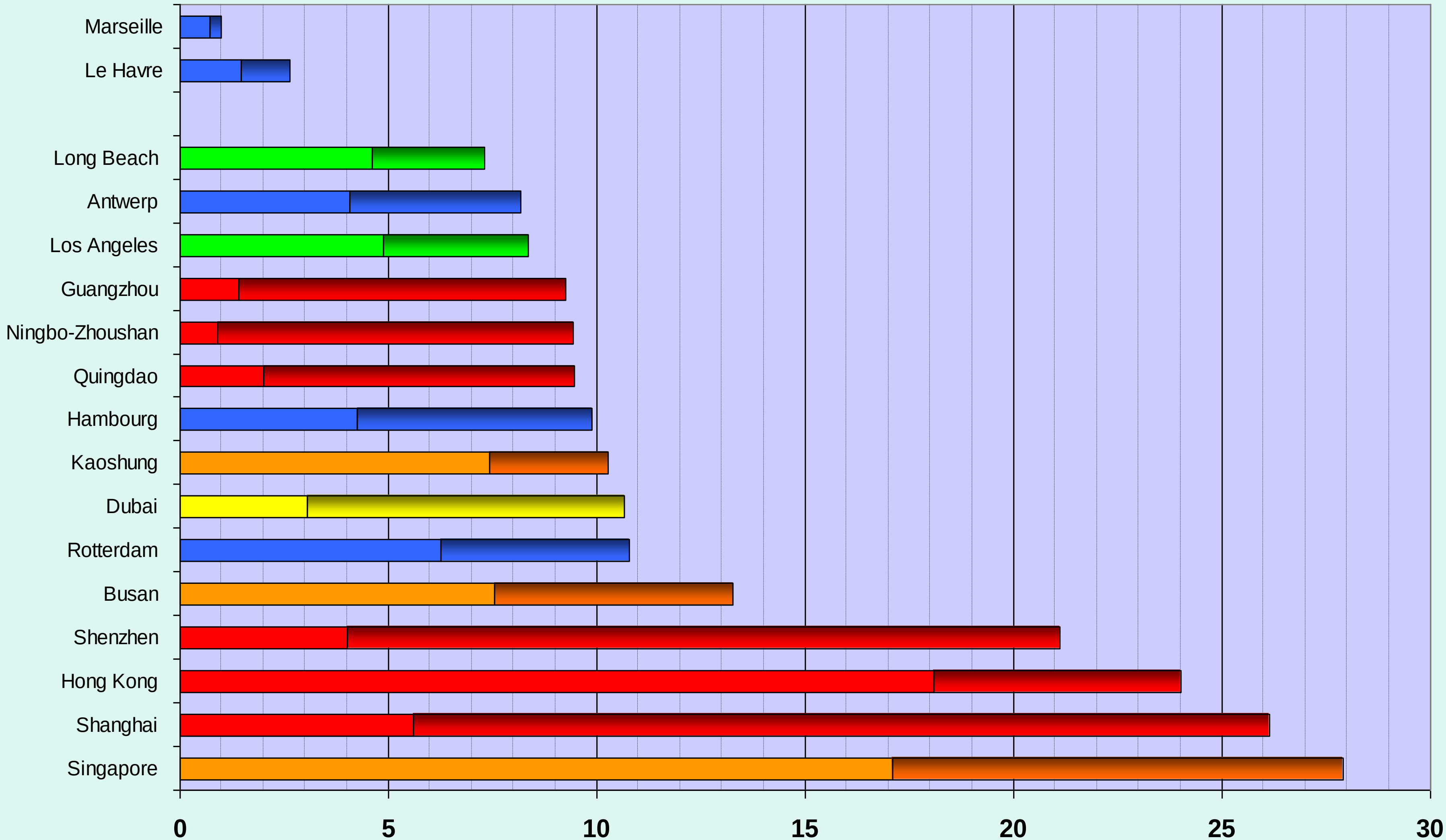
International seaborne trade

(Million tons loaded)

Source UNCTAD



TOP 15 Container ports
(millions TEU 2000 and 2007)



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Organisation and governance: landlord ports

- Managing bodies of ports are concentrating on their core business of port authorities:
  - master-planning,
  - provision and maintenance of infrastructures: fairways, breakwaters, locks, quays, roads, rail tracks…
  - management of the port real estate,
  - harbour master,
  - promotion of port facilities and services,
  - relations with local stakeholders.

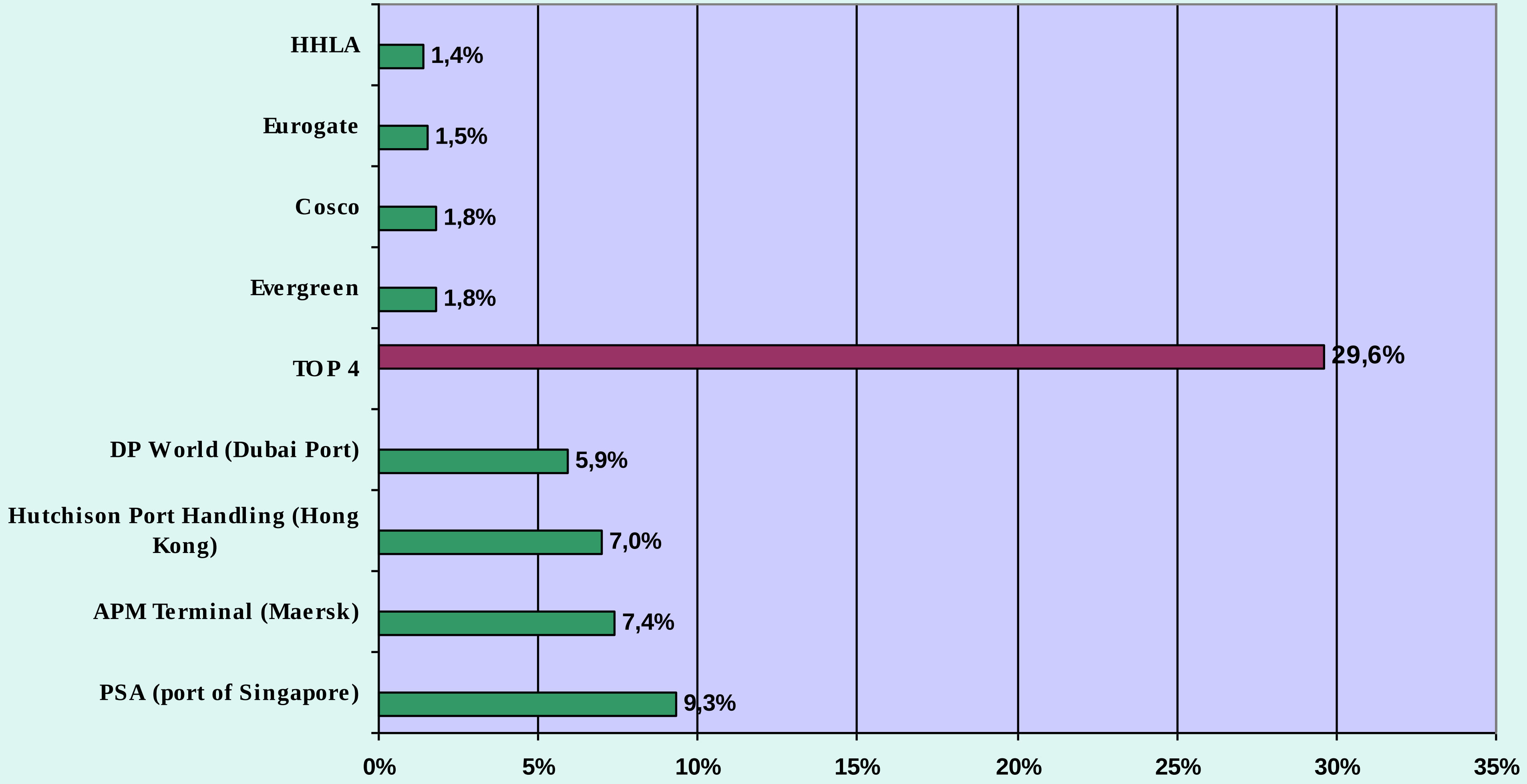
- Most of them are public bodies (100% belonging to public entities) but have become corporate bodies.

- Port services (cargo handling, nautical services…) are provided by private operators.

Organisation and governance: French port reform law (July 2008)

- Major French ports (autonomous ports) will become landlord ports.
- They have been corporate bodies since 1966 but they still operate most of the cranes and gantry cranes.
- Cranes have to be sold to cargo handling operators within two years, the work contracts of the crane drivers being transferred to these private companies.
- Private operators will have the full control of their equipments and workforce (dock-workers and crane drivers).
- The objective is to enhance port efficiency and allow French ports to come back into the very competitive market of containerized cargo.

Concentration of container terminal operators (2006 throughput) *source Drewry*



The logistics issue

- Cost of land transport represents a large share of the total transport cost; specially as operation of ultra-large container-ships reduces significantly the unit cost of the maritime link.

- Consolidation of freight and mass transport by rail or inland barges are strategic for ports.

- The same applies to partnership with inland ports or “dry ports”.

Safety and security

- Security has become a major issue for ports since 2001:

- implementation of ISPS code
- strengthened by EU legislation

- Some degree of uncertainty: the implementation by 2012 of "100% scanning" of containers shipped to US in the ports of departure as stipulated by US law.

Ports have to face many problems to accommodate ultra-large ships

- Draft and width of the fairways, diameter of the turning basins,
- Draft and length of the berths
- Mechanical resistance of dolphins, bollards and ropes to the wind pressure on the ship
- Throughput of the handling equipments
- Capacity of the stacking areas…

This trend towards ultra-large ships is specially problematic for containers

- Ultra-large bulk carriers are usually designed for specific maritime routes (300 000 dwt “Malacca max” ships for iron ore shipment between Brazil and Japan) taking into account the maximum vessel dimensions for ports on both sides

- Cruise ships can anchor on roads

- Ports have to adapt to new generation container-ships if they want to be or remain hub ports of the most competitive market for ports

But many ports could cope with even larger container-ships

- Fairways in many major ports have been designed to accommodate ultra large crude carriers.

- The draft available allows a significant increase in the size of container-ships.

- Furthermore, optimization of the tide windows improves the draft even if it leads to schedule constraints for the shipping lines.

But many ports could cope with even larger container-ships

- Several major ports are drawing master plans or building new facilities for containers with a depth alongside quay of 17,5 - 18 m (Le Havre, Marseille-Fos, Dunkerque, Colombo, Tanjung Pelapas…) or even 20 m (Maasvlakte II in Rotterdam) to be compared with a draft of about 15,2 m for the largest container-ships in operation or under construction.

- The draft and width of the of the main navigation channels could become the restrictive factor:
  - the new locks on the Panama canal will enhance from 12 m to 15,2 the maximum draft (32 m to 49 for the beam) of ships passing through the canal ("Panamax"),
  - draft of ships passing through Malacca Strait is limited to 21 m ("Malacca-max").

Thank you for your attention

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