

**OCEAN
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Enhancing Society Together


TRANSPORT EVENTS

Key challenges for terminal operators in the West Med and globally

Barcelona, 26th October 2017

5th MED Ports 2017

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Introduction

Current:

**OCEAN
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Past:



Introduction

Ocean Shipping Consultants (OSC) is the maritime economic consultancy group of Royal HaskoningDHV, and a leading brand in the maritime sector with more than 35-years of experience

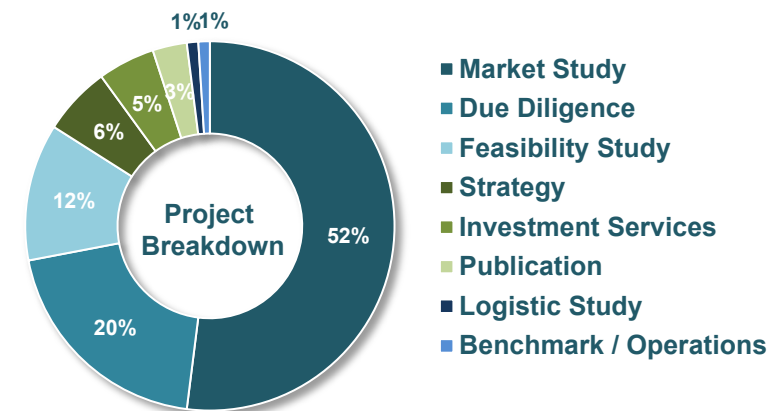
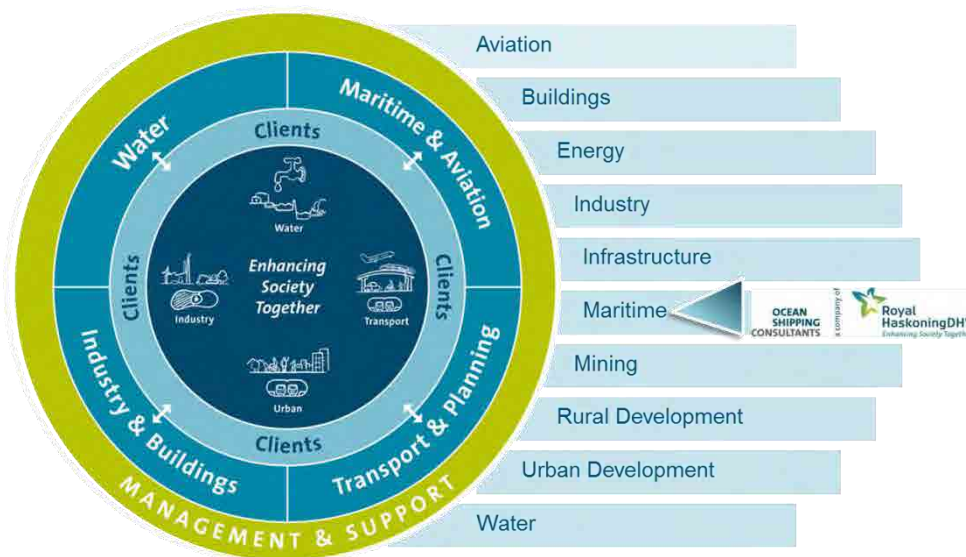
Key profile	Top International Design Firm	Resources
<ul style="list-style-type: none"> - Originally founded in 1881 - 135 years of experience - Turnover €600m (2016) 	Ranked 2 nd in Top International Design Firms – Marine & Ports by ENR (2016)	<ul style="list-style-type: none"> - 6,000 employees - 100 offices in 35 countries - 650 dedicated ports and maritime professionals

OCEAN SHIPPING CONSULTANTS

With over 350 projects in more than 65 countries successfully completed over the last 5 years, OSC provides global bespoke consultancy services from offices in London, Amsterdam, Dubai

and Singapore to more than 200 different clients, including port authorities, terminal operating companies, governments, shipping lines, logistics operators and the wider financial community.

These range of services are undertaken for all cargo types and sectors ensuring that clients are able to make appropriate, well informed decisions at all times.



Examples of OSC projects in Spain



Market Study Update for El Gorguel, 2014

OSC developed the long term container marketing study for the terminal of El Gorguel. This project defined the commercial market within which the asset terminal would be operating and developed a forecast of the volumes that would be secured. These traffic levels were then compared with the estimated planned capacity developments for the region to develop a robust supply/demand balance for competing terminals. The terminal is proposed as a transshipment facility and will be targeting the same market as TTIA.



Strategic Commercial Plan A Coruna, 2015

The port authority of Coruna has heavily invested in the outer port during the last five years. The economic downturn in Spain has significantly affected the traditional cargo segments handled at the port. As a result, the port authority is seeking to diversify their traffics and has engaged OSC to assist them in the search of business opportunities and business models from other European ports that can be emulated at Coruña.



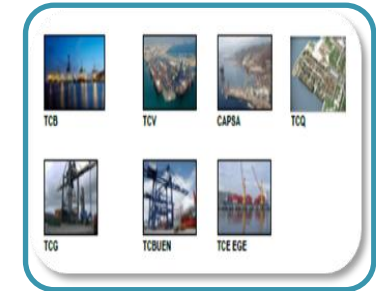
Algeciras Market Study, 2014

The main purpose of this study is to verify volume forecasts given the various changes to the Spanish economy and the changes in the container shipping world since 2009, when the previous report was commissioned. This is a re-assessment of TTIA's capacity and demand addressed to related parties or potential investors.



Valencia Productivity Levels, 2014

The primary purpose of this report is to assess the performance levels of container terminals within the Port of Valencia, specifically the performance of the Port of Valencia's facilities, which will have its recent performance bench-marked against a series of other container terminals in Spain, Portugal, Italy, Morocco, Germany and the Netherlands.



Commercial Due Diligence, 2015

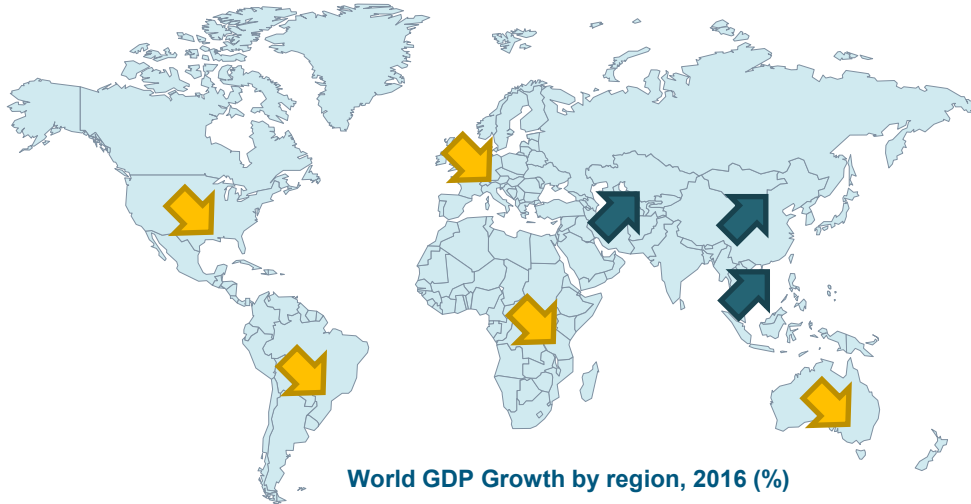
BNP Paribas has approached OSC to provide an independent analysis of the Spanish facilities owned by TCBGrup (Gijon, Barcelona, Valencia, Tenerife, la Palma). The purpose of this process is to enable TCBGrup to be able to refinance and upgrade the existing facilities by providing an independent view of the following key issues: Overview of the TCBGrup portfolio relating to these facilities; Independent Market Study; Pricing and Revenue Analysis; Review of TCBGrup Business Plan; Risk Assessment.



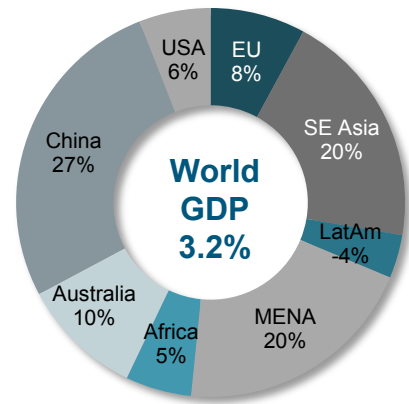
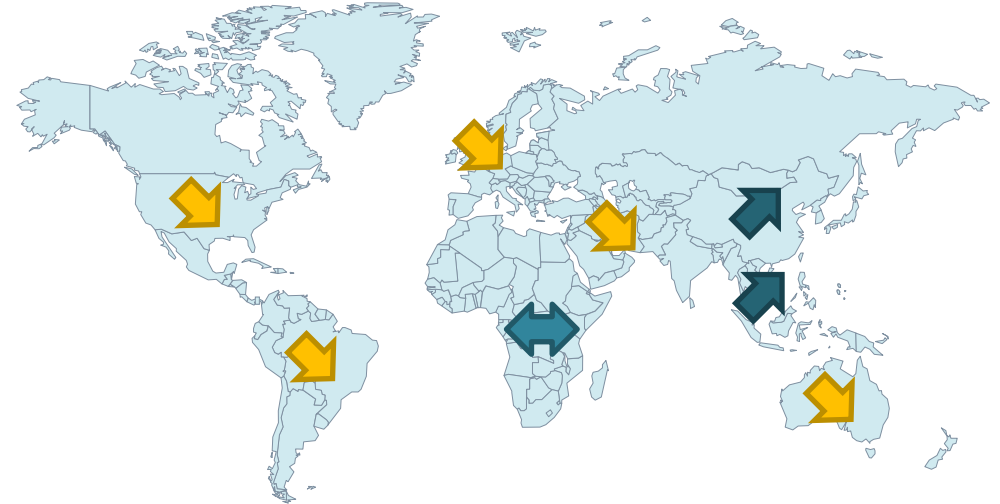
Global Economic Outlook & the Container Shipping Sector

SE Asia and China are expected to out perform other regional economies in the near future.

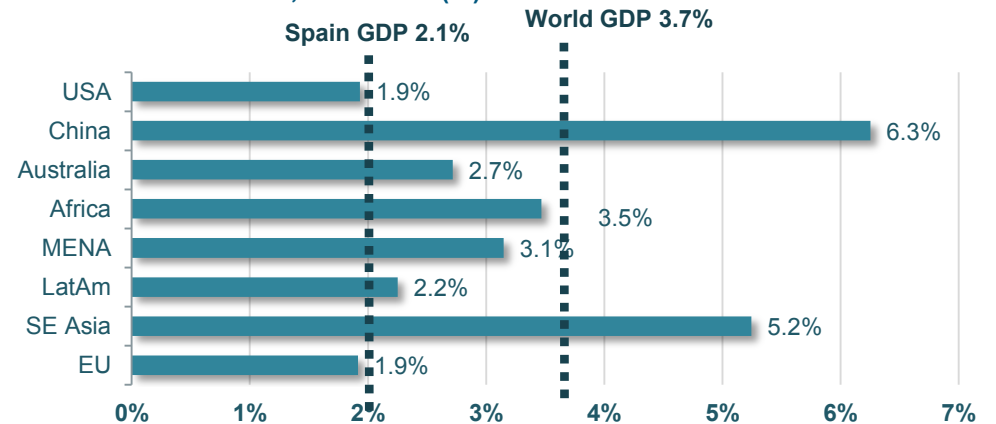
Current GDP Performance* by Region (2016)



Future GDP Performance* Outlook by Region



GDP forecast CAGR, 2016-2022 (%)



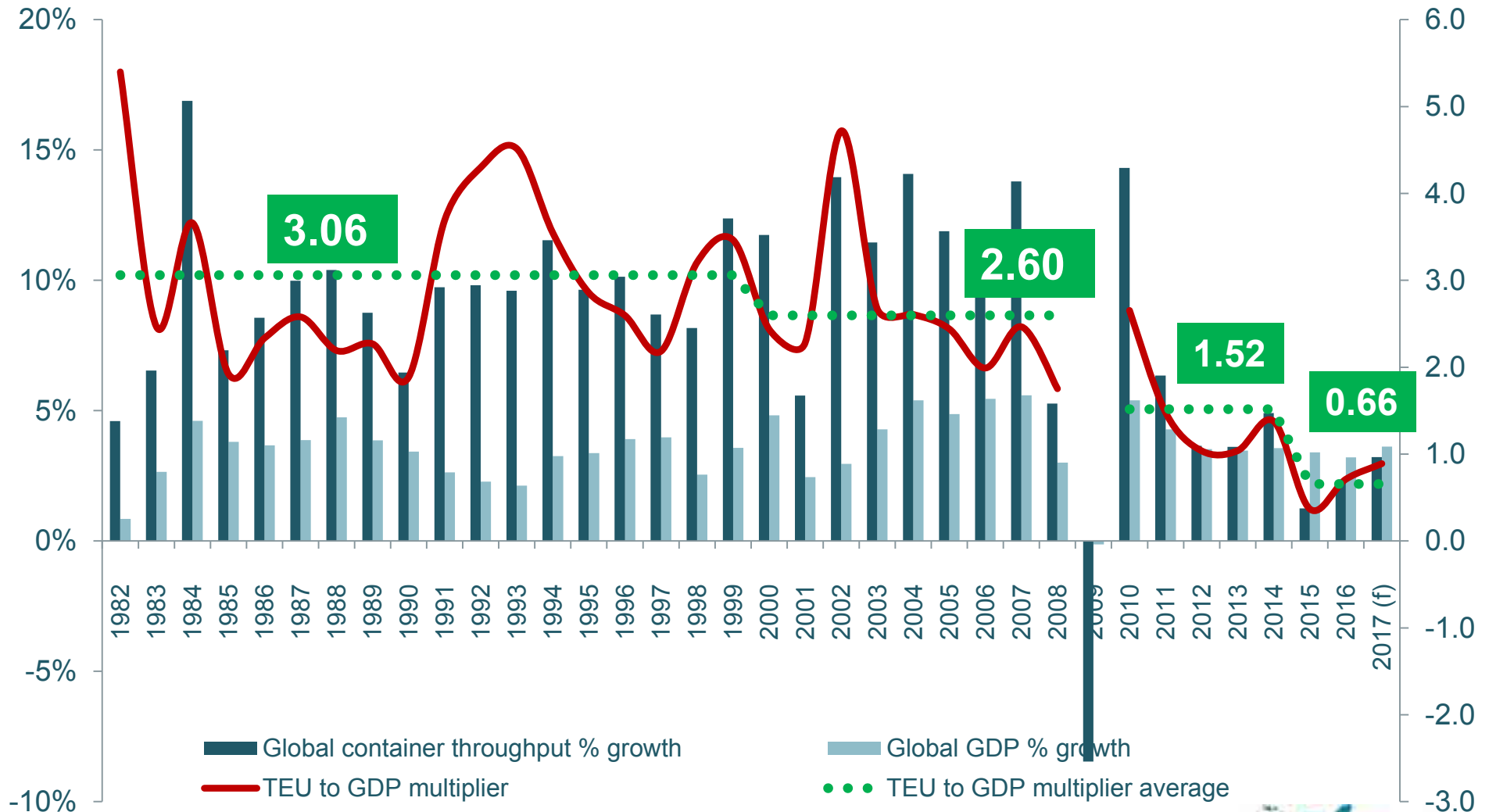
Source: OSC / IMF

*Performance as compared to Average World GDP Growth

Source: OSC / IMF

Over-Performing World Avg. Growth
 Performing to World Avg. Growth
 Under-Performing World Avg. Growth

The declines in the container volume growth is putting pressure on Shipping Lines and Terminal Operators.



The declining TEU/GDP multiplier is driven by underlying changes in the market. For shipping lines and ports, this means lower TEU demand than in past years.

Less offshoring, more reshoring:

- Offshoring to lower-cost countries is a onetime effect
- Increased reshoring

Plateauing in the levels of containerization:

- Most commodities suitable for containerized transportation have already been migrated to containers
- Increasing trend toward miniaturization of manufactured goods









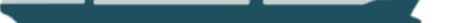
Improvement of port facilities:

- More ports can be part of direct main line services
- More TS with large vessels deployment on main routes by less TS volume – as a result of vessel cascading

Unfavourable trade-growth dynamics:

- Chinese economy shifts toward domestic consumption

Driven by market share & economies of scale, the ship size revolution has continued, but savings are decreasing

Container Ship Size Evolution		
Early Containerships (1956) 500-800 TEU		LOA (m) : 137 Beam (m): 17 Draft (m): 9
Fully Cellular (1970) 1000-2500 TEU		LOA (m) : 215 Beam (m): 20 Draft (m): 10
Panamax (1980) 3,000-4,000 TEU		LOA (m) : 250 Beam (m): 32 Draft (m): 12.5
Panamax Max (1985) 3,400-4,500 TEU		LOA (m) : 290 Beam (m): 32 Draft (m): 12.5
Post Panamax (1988) 4,000-5,000 TEU		LOA (m) : 285 Beam (m): 40 Draft (m): 13
Post Panamax Plus (2000) 6,000-8,000TEU		LOA (m) : 300 Beam (m): 43 Draft (m): 14.5
New Panamax (2014) 12,500 TEU		LOA (m) : 366 Beam (m): 49 Draft (m): 15.2
Post New Panamax (2006) 15,000 TEU & Triple E Class (2013) 18,000 TEU		LOA (m) : 400 Beam (m): 59 Draft (m): 15.5
New Generation 22,000 TEU`		LOA (m) : 430 Beam (m): 59 Draft (m): 15.5

Source: OSC, Alphaliner

Effect of Container Shipping Market

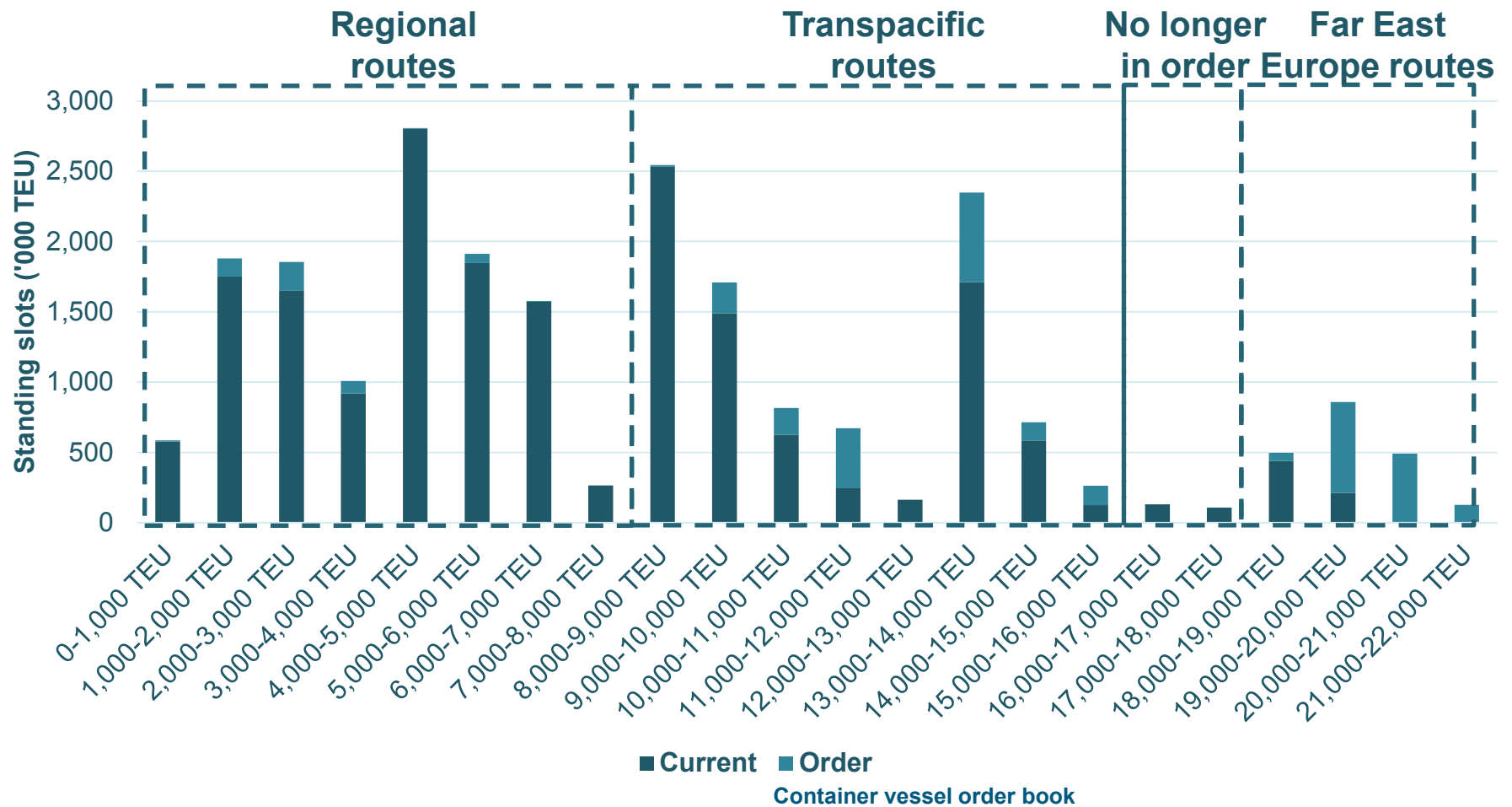
- Larger container volume exchanges resulted in the port call frequency to drop.
- Replaced vessels are downsized to other Secondary and Tertiary trade lanes.
- Formation of fewer, larger alliances in an effort to maximise vessel utilisation.

Ship sizes: Container vessel capacity has increased while dimensions (400m by 59m) remain largely unchanged.

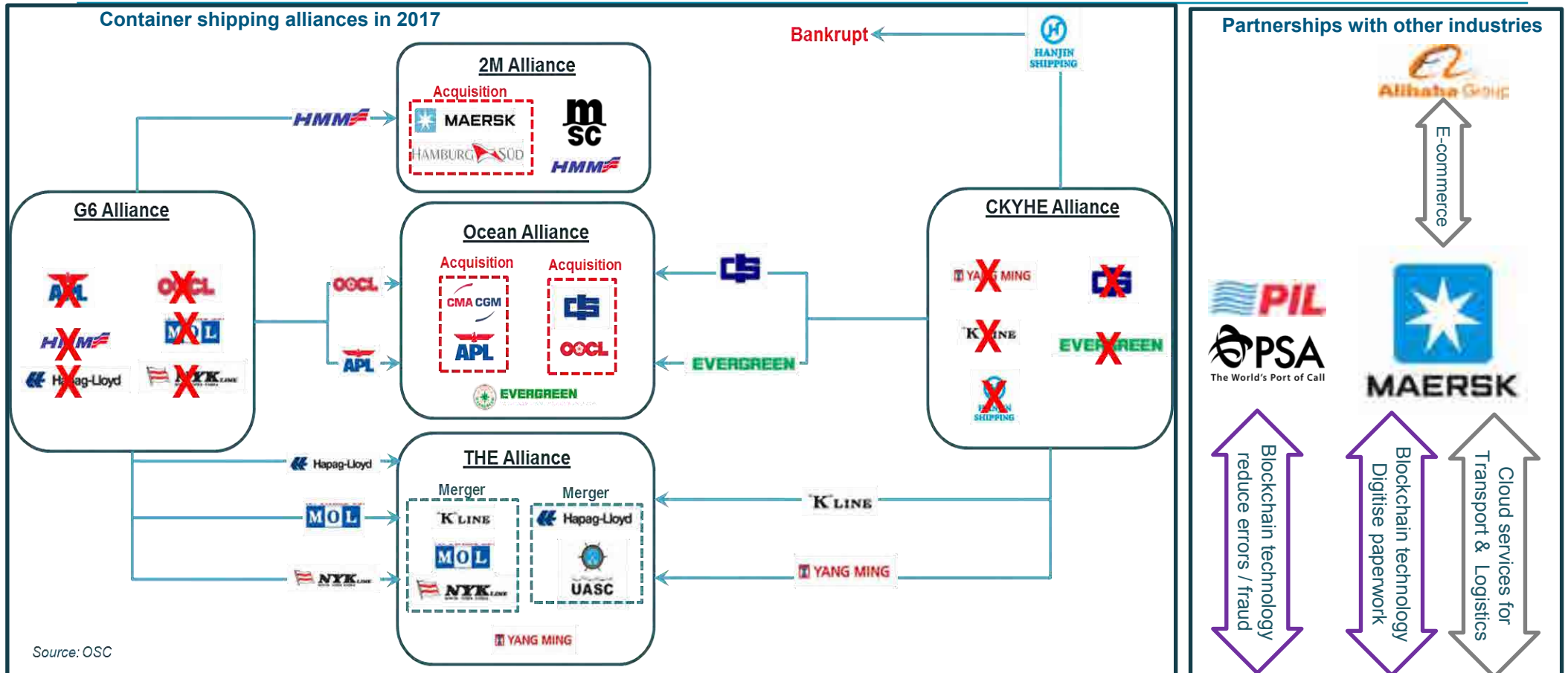
<p>2006 - E-Class Maersk 14,770 TEU, 397m long, 56m beam (22 rows)</p>	<p>2013 – Triple E-Class Maersk 18,000 TEU, 400m long, 59m beam (23 rows)</p>	<p>2017 - Madrid Maersk 20,568 TEU, 400m long, 59m beam (23 rows)</p>	<p>2019 - CMA-CGM & MSC Order 20x 22,000 TEU ships 400m long, 59m beam (23 rows)</p>
			
<ul style="list-style-type: none"> •Ports around the world were sized to accommodate the E class Maersk by providing 16m of draft. •Cranes were upgraded to 22 rows 	<ul style="list-style-type: none"> •Cranes were extended to 23 rows •No change required for berth or channel drafts 	<ul style="list-style-type: none"> •Only possible with deepening of hull. •MOL Triumph (20,105 TEU) stacked 8 high on deck •OOCL 21,100 TEU pending 	<ul style="list-style-type: none"> •No detail given as to the length and beam of the ships. •Delivery expected in 2019. •Reported operating cost savings of US\$500 per TEU compared to E-Class Maersk

Obsolescence of recent mega vessels

Container vessel order book



Complete reshape of shipping alliances and acquisitions in 2017.

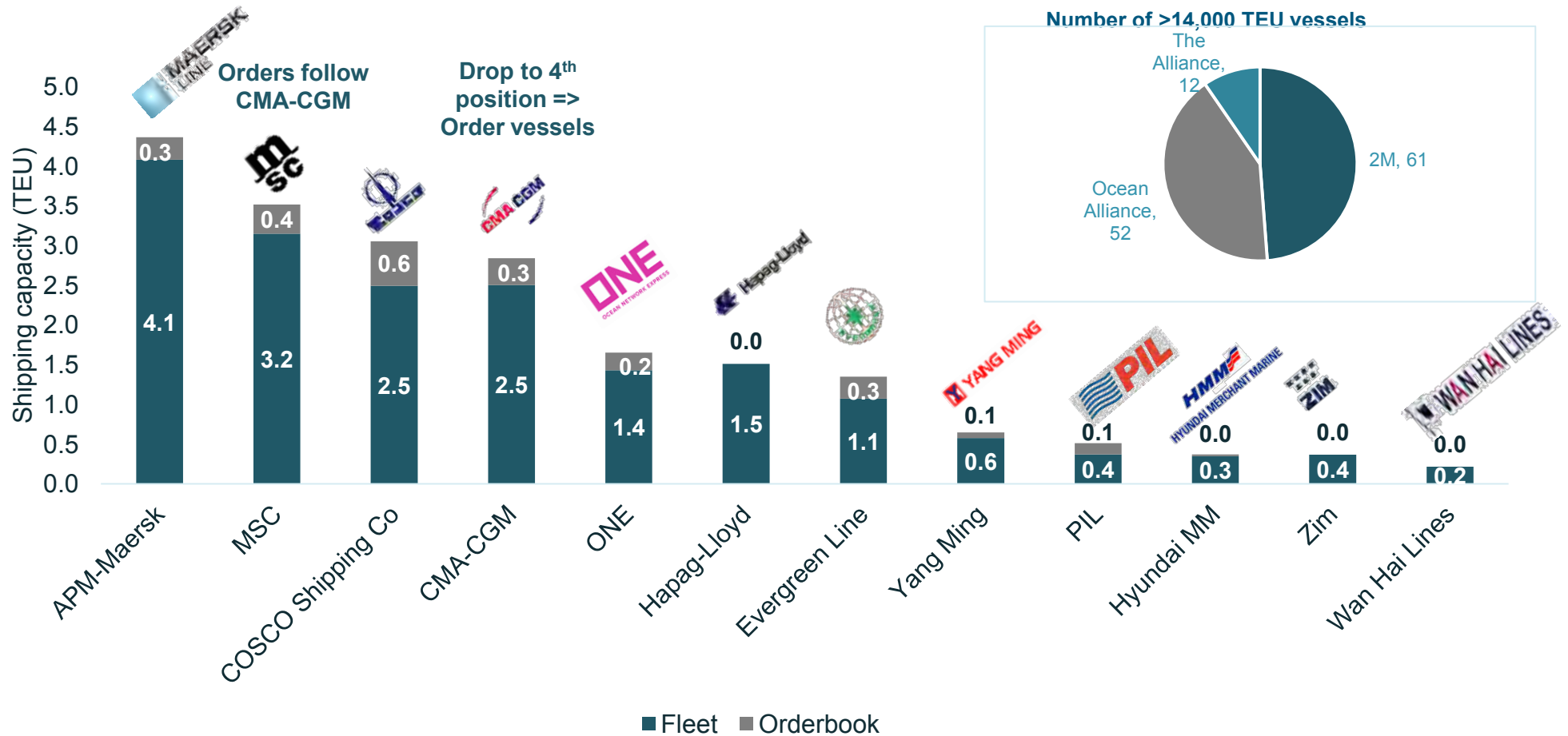


Source: OSC

Top 15 lines outside major alliances

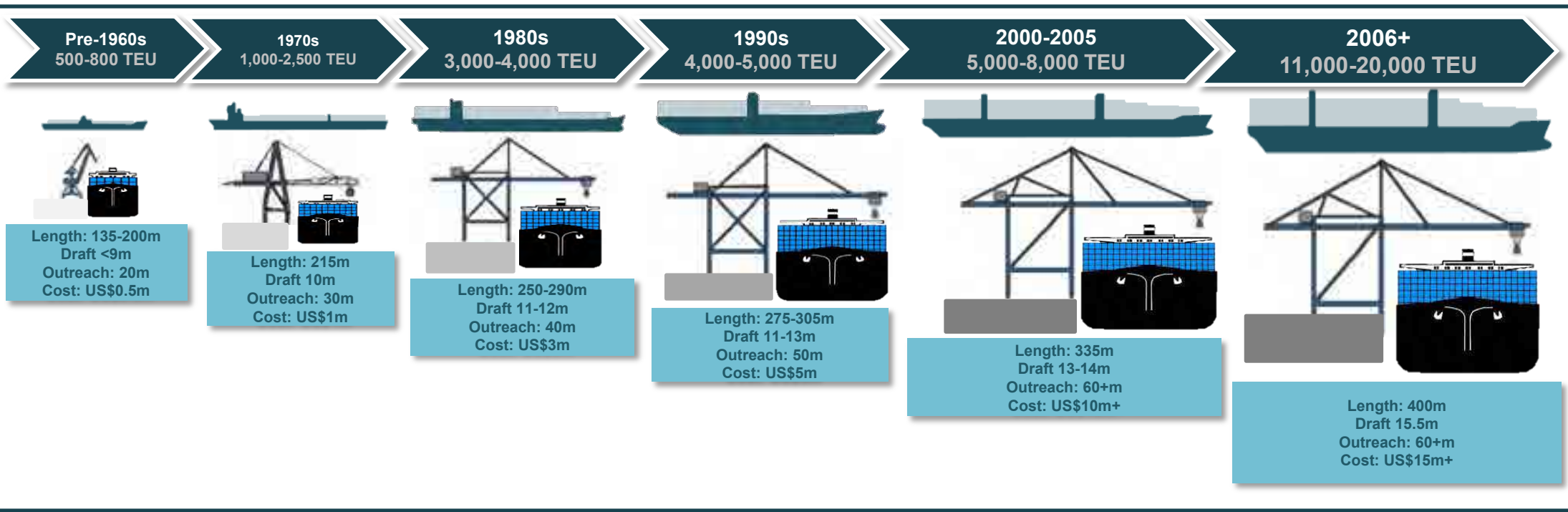
1. Container shipping industry

Orders placed after the consolidation to maintain market position.

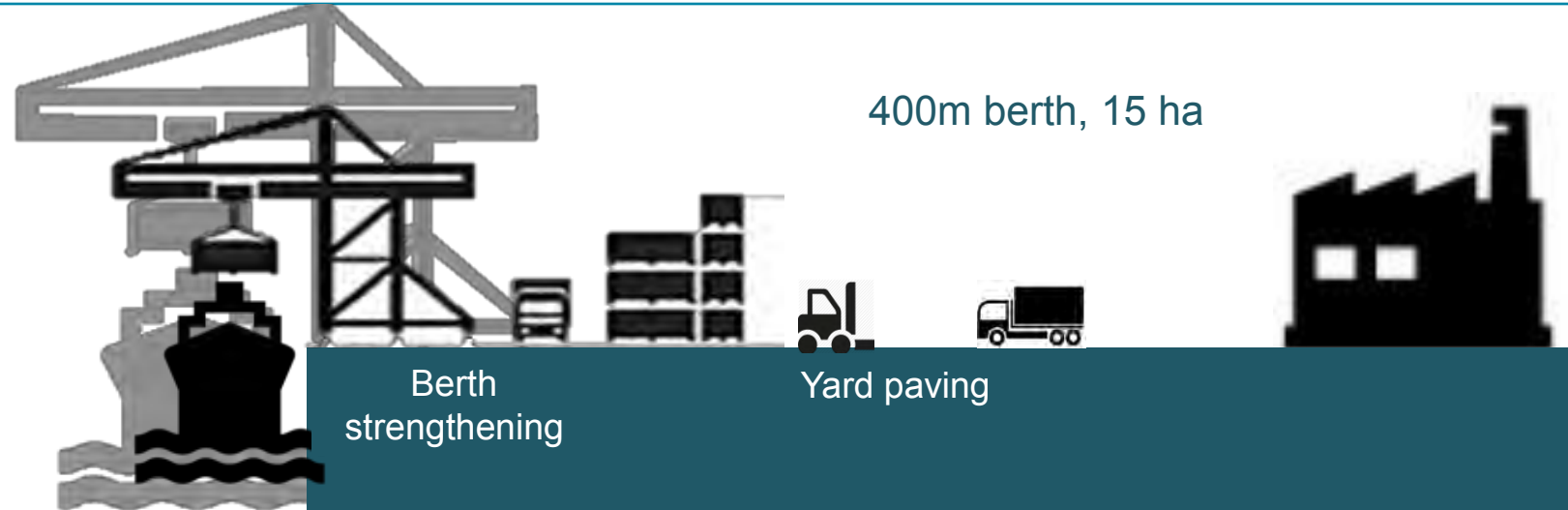


Costs are rapidly increasing for terminals due to larger ships, less frequent calls and larger alliances.

Larger Ships	Less frequent calls	Larger Alliances
<ul style="list-style-type: none"> Larger cranes Additional dredging Other upgrading Quay wall strength, locks, bridges, etc Increased insurance cost 	<ul style="list-style-type: none"> Larger container exchanges Higher peak capacity & productivity required throughout the terminal More flexible labour needed Increased impact when losing a client 	<ul style="list-style-type: none"> Increased bargaining power of Alliances Lower number of port calls consolidated in fewer ports Some ports are bound to lose customers with port selection dictated by strongest alliance member



The increase in vessel sizes has resulted in port authorities and terminal operators incurring capital expenditure to upgrade their facilities.



Channel dredging Berth deepening

Area	Current	New	Estimated cost (US\$ millions)
Channel depth & width	1 km, 242m wide, 15m	295 wide, 16m	4
Berth depth	400m, 15.0m	16.0m	2
Equipment upgrades	4 cranes with 18 rows	4 cranes with 23 rows	40
Yard	15 ha	20ha	30
Total			76

Will the lines pay for these extra costs?

Port operators have responded by slowing or canceling greenfield terminal projects, forming alliances, partnering with shipping lines, or acquiring/merging with competitors.

Slowing or canceling greenfield terminal projects

- Total number of greenfield terminal projects has fallen by almost half compared to 10 years ago

Alliance & Partnerships

- Conference agreement between Port of Miami Terminal Operating Company (Pomtoc) and South Florida Container Terminal (SFCT)
- Co-management Agreement Between COSCO Shipping Ports and Hutchison Port Holdings of several terminal in Hong-Kong

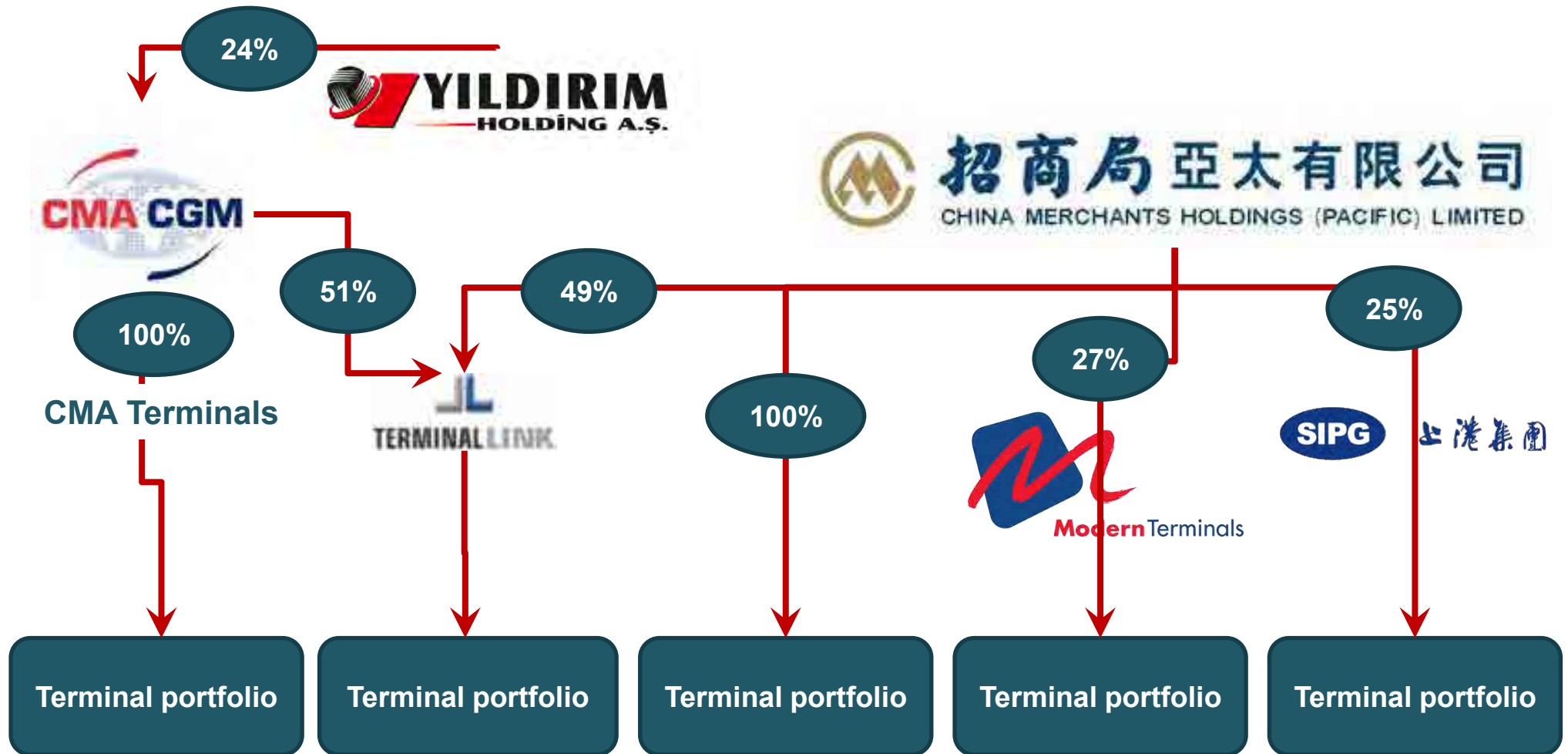
Mergers & Acquisitions

- APM Terminals acquired Grup TCB
- COSCO SHIPPING Ports acquire 40% interest in the Vado Terminals in Italy
- COSCO SHIPPING Ports acquire 35% interest in Euromax Terminal in Rotterdam
- COSCO SHIPPING Ports increase its stake in Qingdao Port International (QPI) to 18.41%
- DP World acquired an additional 23.94% stake in Pusan Newport Company (PNC) in South Korea
- DP World creating an investment fund with Caisse de dépôt et placement du Québec (55/45) to jointly invest in ports and terminals

Joint venture deals with shipping lines

- CMA CGM and PSA create a container terminal joint venture in Singapore
- COSCO Shipping and PSA create a container terminal joint venture in Singapore
- MSC and PSA create container terminal in Antwerp

Terminal Operator ownership complexity



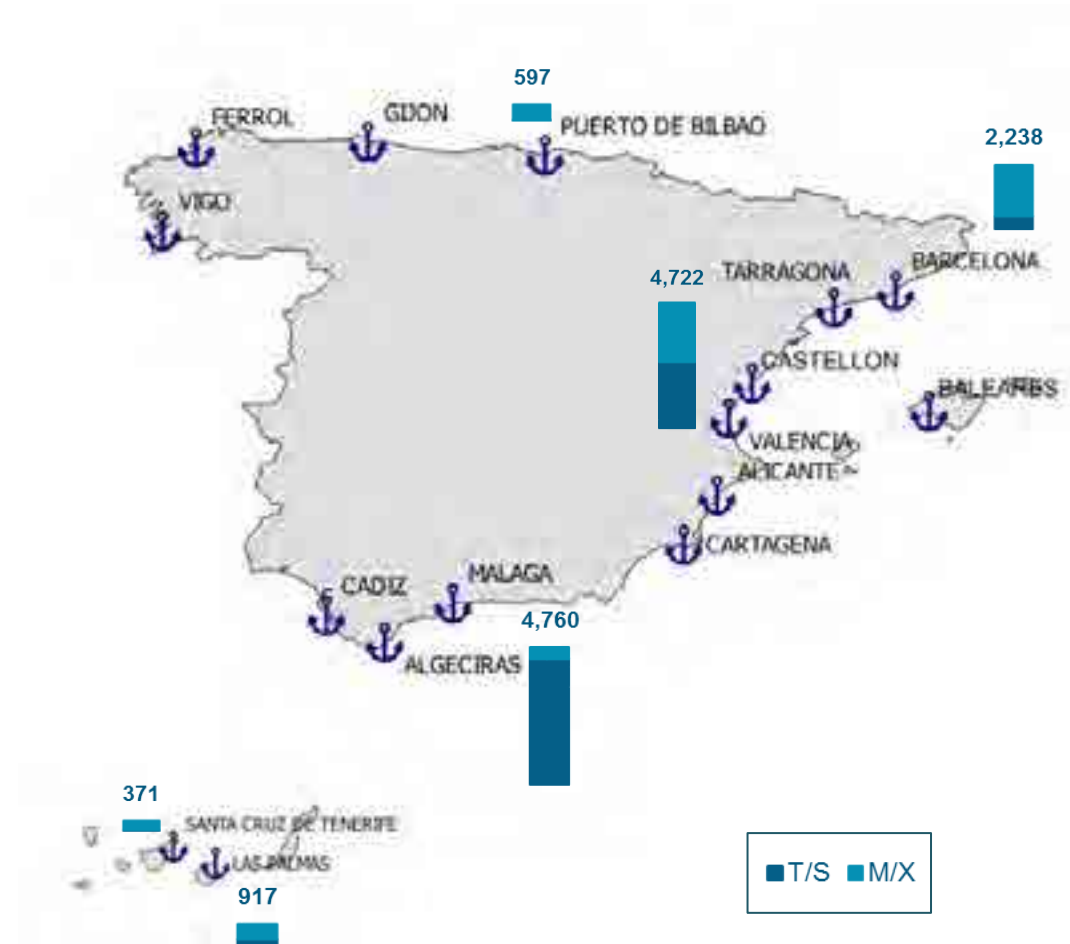
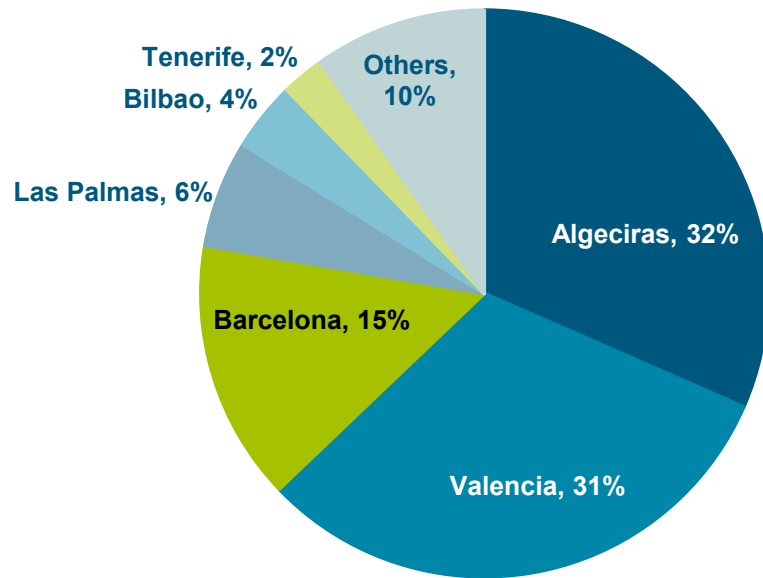


Spain Container Market & Port Investment Opportunities

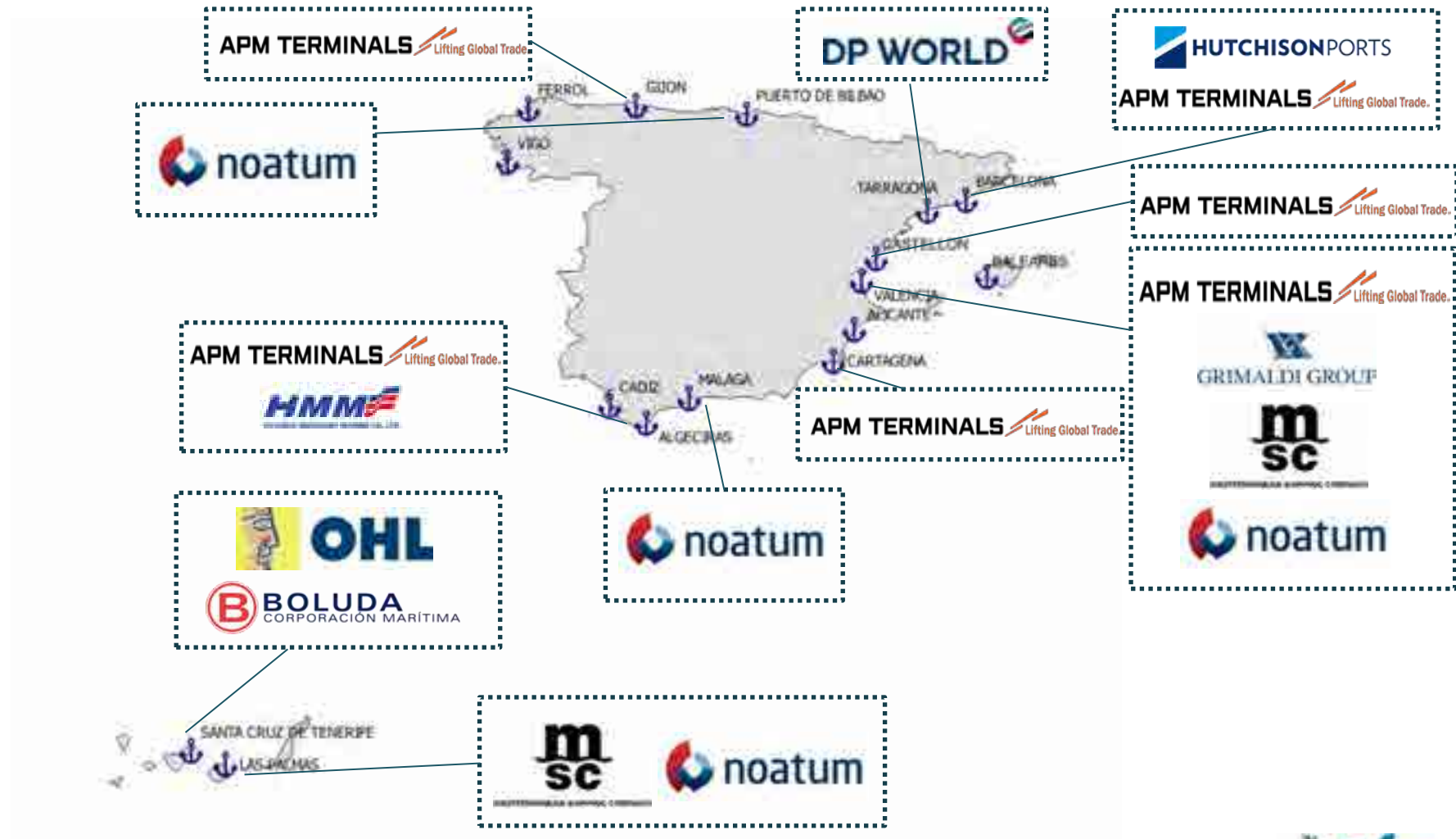
Spain Container Market & Port Investment Opportunities

Container Throughput ('000 TEU) in 2016:

Port Market Share



Map of port operators/owners



Recent Developments

Valencia port expansion:

- Major investment plan as part of port authority's business plan to 2020
- Dredging works to allow for draft of -18m at existing berths
- Improvements in road and rail access

COSCO acquires majority stake of Noatum:

- COSCO purchase of 51% of Noatum
- \$228mn transaction
- TPIH Iberia will hold the remaining 49%

Barcelona port logistics zone expansion:

- Expansion of ZAL Port (logistics zone of Barcelona port)
- Increase in warehousing capacity by approximately 1 square km
- Project timeline of 2 years
- EUR 75mn EIB loan

Liberalisation of port services

- European Union requirement - reform of port system and especially deregulation of stevedoring
- Several parties have left the ANESCO (stevedoring association)
- Individual (port level) labour agreements have been formulated (e.g. in the Hutchison and APMT terminals in Barcelona)

Tender for new container terminal in Algeciras

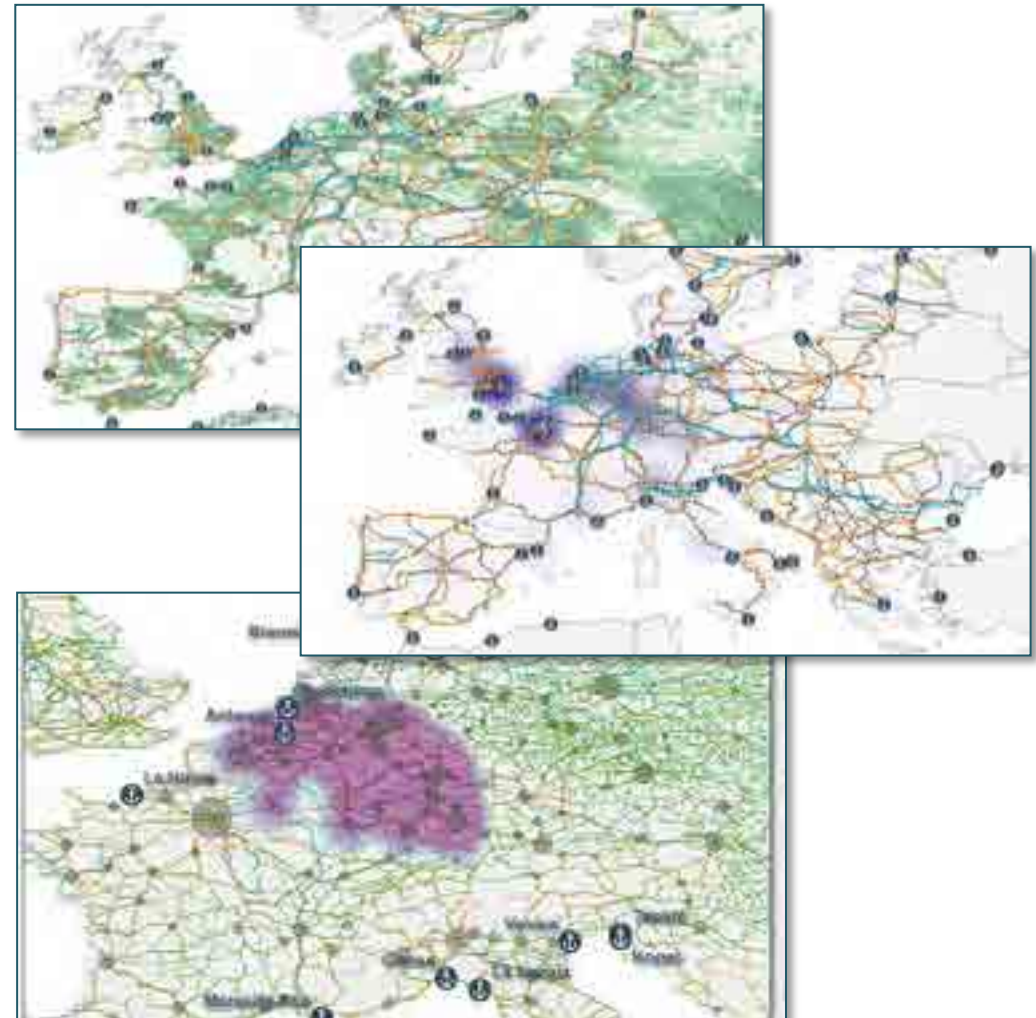
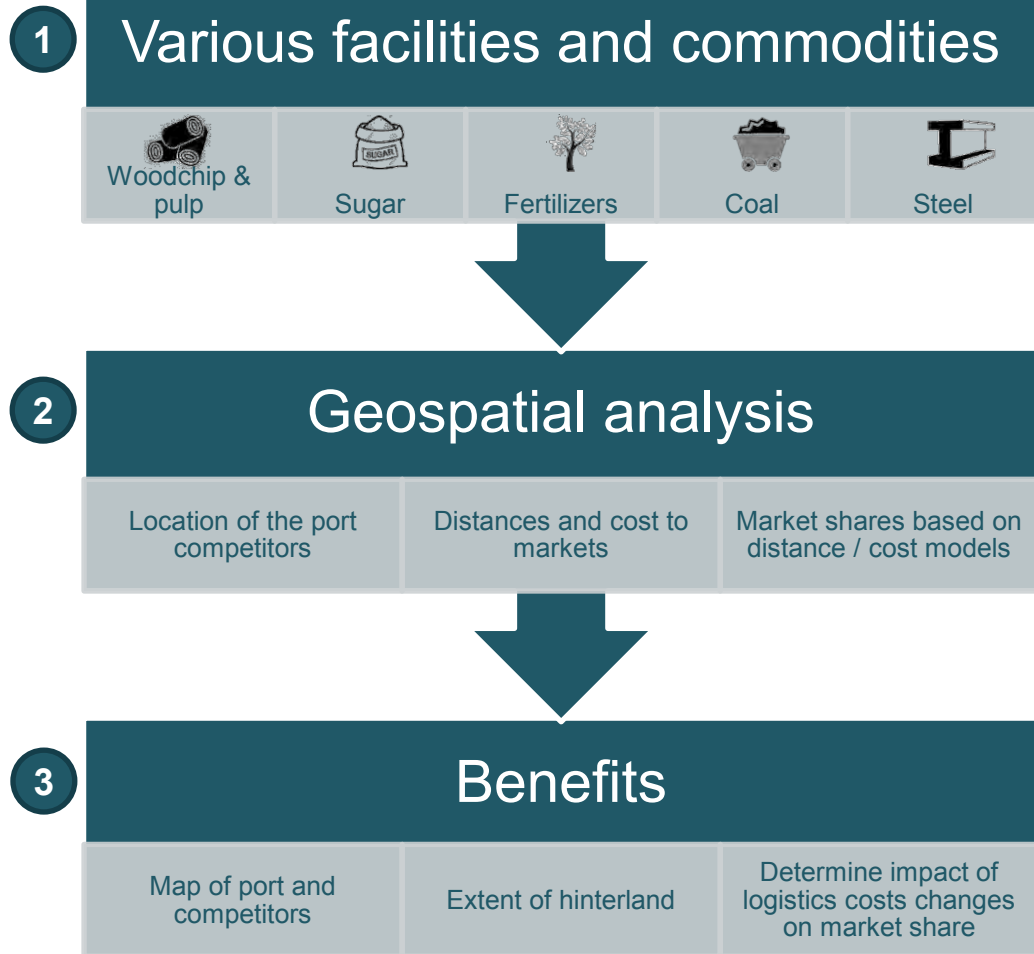
- International tender for a third container terminal in the port of Algeciras
- Deadline is 31st October 2017
- Licensing term of 50 years
- The bid to include automated solutions



RHDHV's unique Geospatial Tool

RHDHV's unique Geospatial Tool

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Contact

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