



**OCEAN
SHIPPING
CONSULTANTS**

a company of



Capitalising on growth opportunities in linking the Med region to the world

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7th Mediterranean Ports & Shipping 2019

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Introduction

Current:

**OCEAN
SHIPPING
CONSULTANTS**

a company of



Past:

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ARUP



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

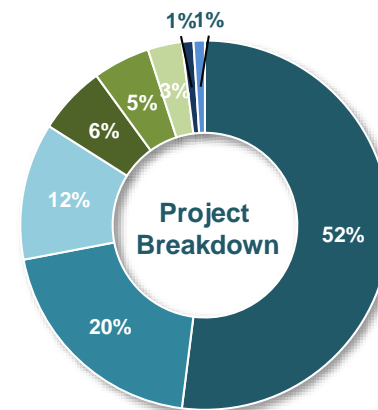
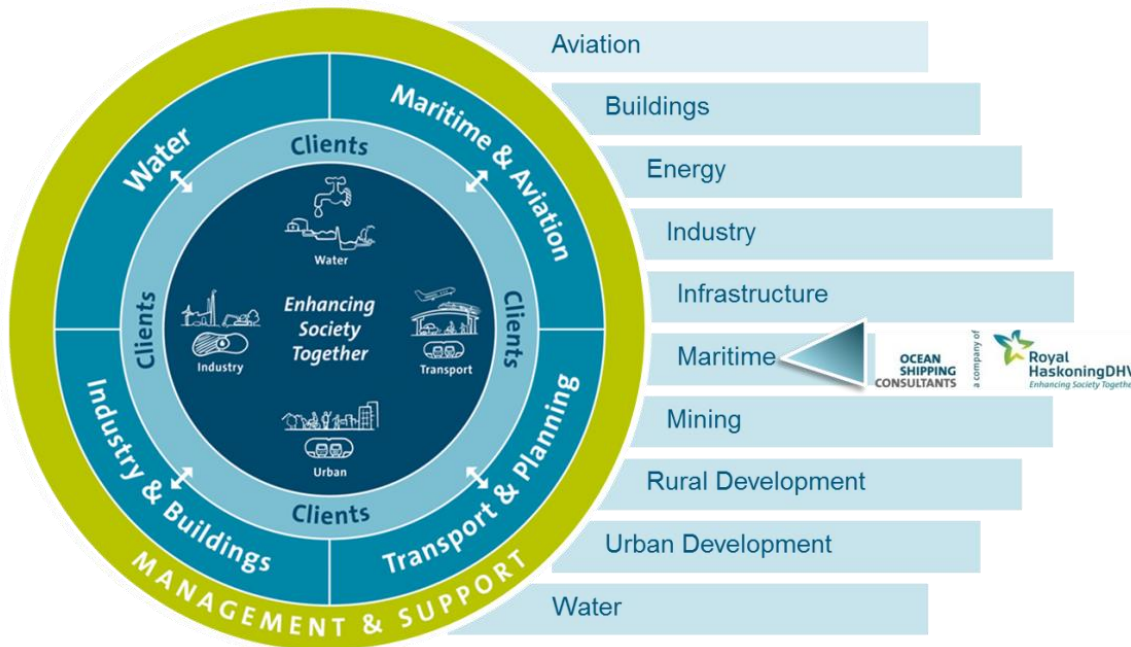
Key profile	Top International Design Firm	Resources
<ul style="list-style-type: none"> - Originally founded in 1881 - 138 years of experience - Turnover €607m (2017) 	<p>Ranked 4th in Top International Design Firms – Marine & Ports by ENR (2018)</p>	<ul style="list-style-type: none"> - 5,700 employees - 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, the Netherlands and

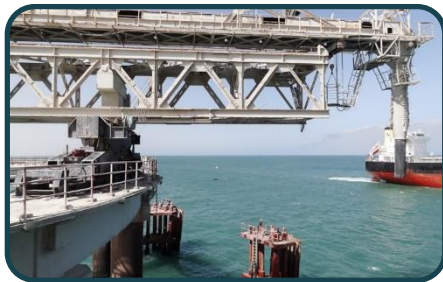
Singapore to more than 200 different clients, including port authorities, terminal operating companies, governments, shipping lines, logistics operators and the wider financial community.

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.



- Market Study
- Due Diligence
- Feasibility Study
- Strategy
- Investment Services
- Publication
- Logistic Study
- Benchmark / Operations

Examples of recent projects in Morocco



Design of a New Dry Bulk Terminal at Laayoune, Morocco, 2013-18

The client operates a port in southern Morocco that is exposed to waves and therefore suffers from a high downtime. As a result, the client decided to construct a new protected port to improve their operations. Royal HaskoningDHV was employed to do the master planning and design of the new port as well as the Environmental and Social Impact Assessment (ESIA).

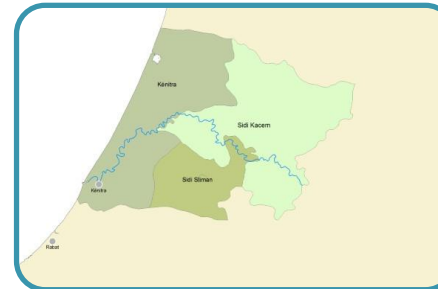


Due diligence Port of Safi, 2015-16

The client, a financial institution, requested RHDHV to perform a technical due diligence on the planned investments for new quays and material handling facilities at the port of Safi, on the Atlantic coast of Morocco.

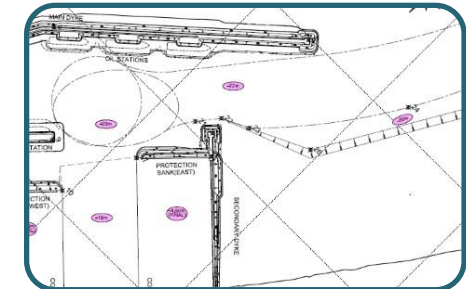
As part of the assignment, RHDHV accomplished the following tasks:

- Verify the adequacy of the planned infrastructure for the local conditions and commercial forecast
- Check the level of investment for said infrastructure
- Identify risks and propose mitigations



Port masterplanning services for Kenitra Port, 2016

A global agri-business requested Royal HaskoningDHV to investigate the business potential and required port facilities for the Gharb region in Morocco. A market study and agronomic study were undertaken to investigate the potential future port demand. A desk study and interviews were undertaken. This analysis formed the input for a port masterplan at high level.



Nador West Med Tender Review, 2015-16

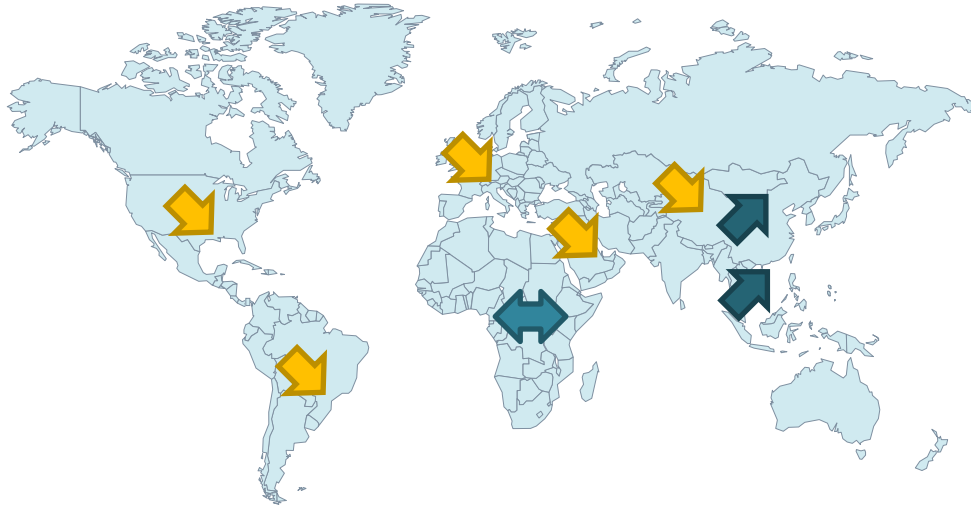
The Nador West Med Port is a 10 billion Dirham plus, greenfield mixed port development identified for construction between 2016 and 2020. Samsung C&T engaged Royal HaskoningDHV for design review services to support their Design & Construct tender proposal development and submission. The Samsung C&T proposal included the use of many forms of construction including diaphragm wall, caisson and rubble mound breakwaters.



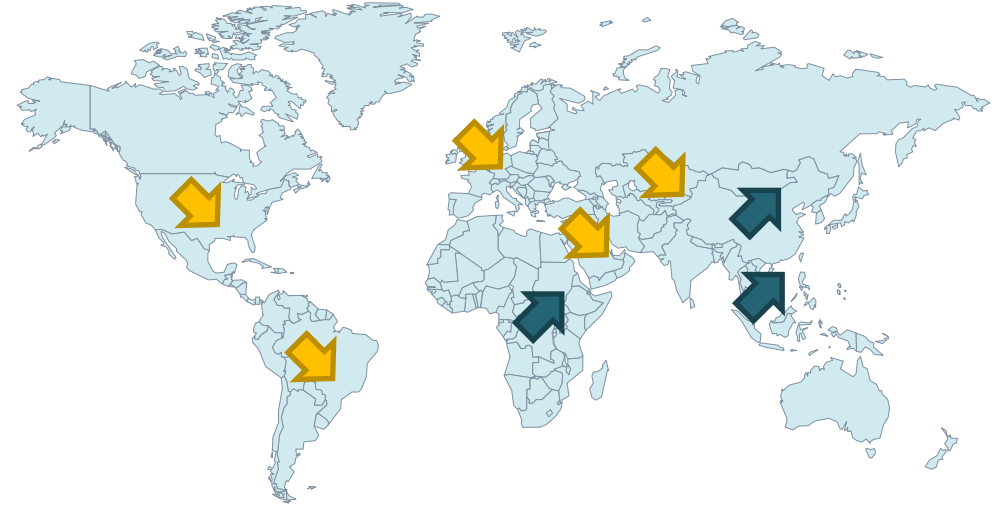
Global Economic Outlook & the Container Shipping Sector

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

Current GDP Performance* by Region (2018)

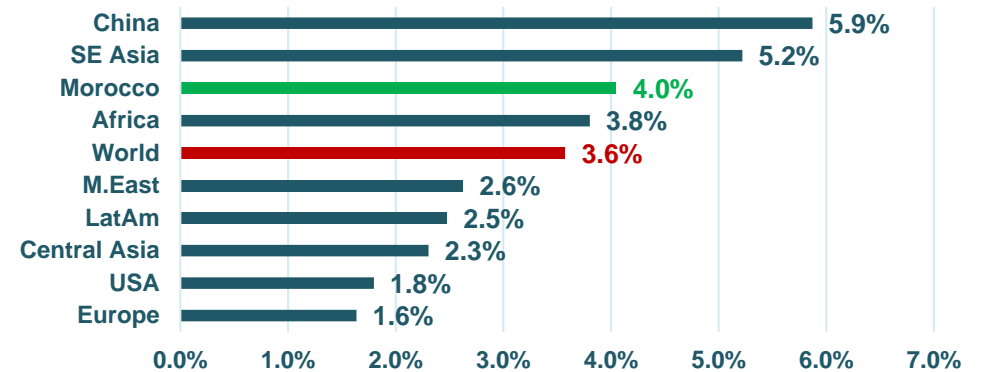


Future GDP Performance* Outlook by Region (2018-2024)



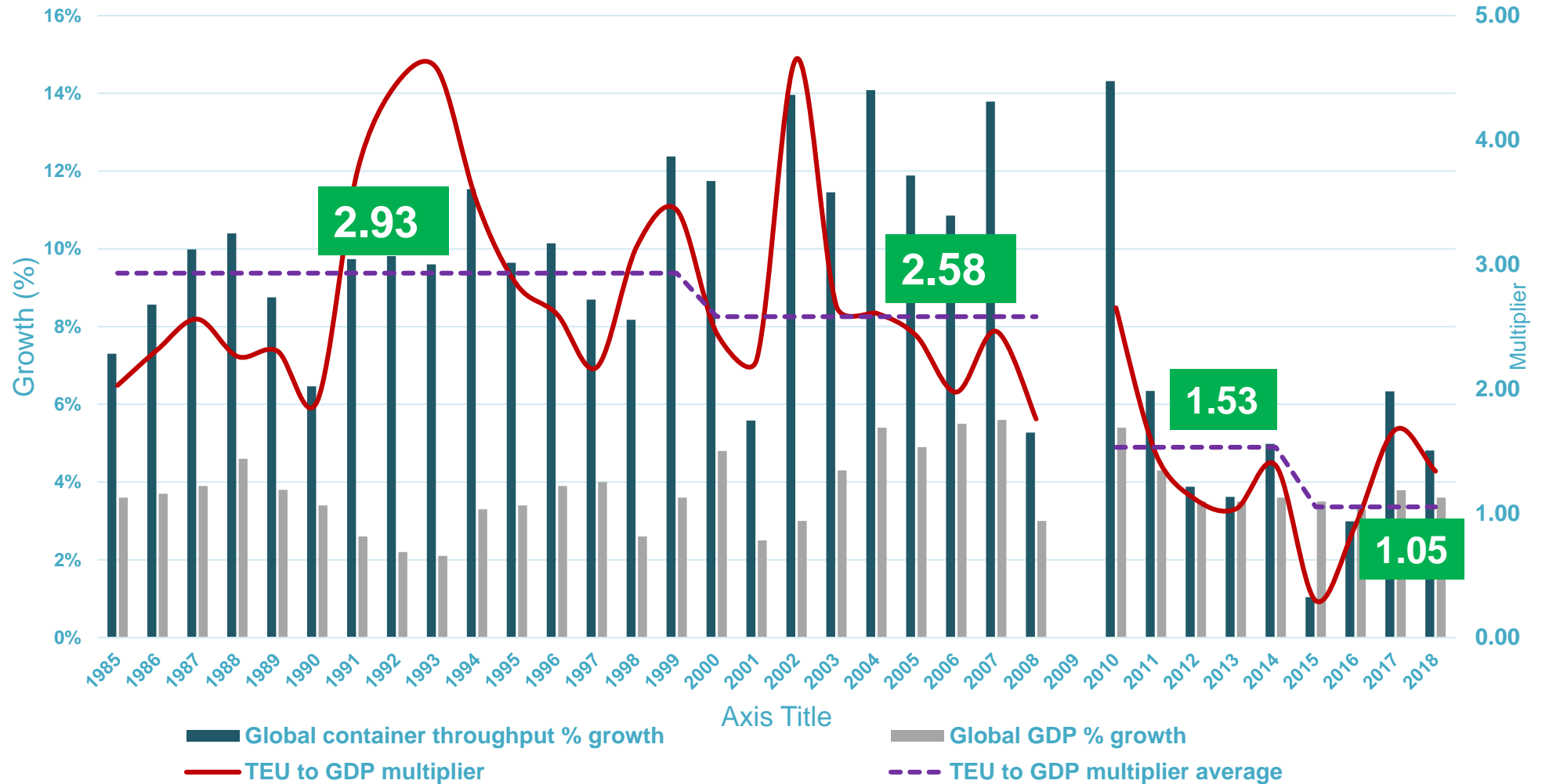
Source: OSC / IMF
 *Performance as compared to Average World GDP Growth

GDP forecast CAGR, 2018-2024 (%)



Source: OSC / IMF

The declines in the container volume growth is putting pressure on Shipping Lines and Terminal Operators and means lower TEU demand than in past years.



Source: OSC / Clarkson

The declining TEU/GDP multiplier is driven by underlying changes in the market.

Less offshoring, more reshoring:

- Offshoring to lower-cost countries is a onetime effect
- Increased reshoring (e.g. US)
- Chinese economy shifts toward domestic consumption / regional sourcing

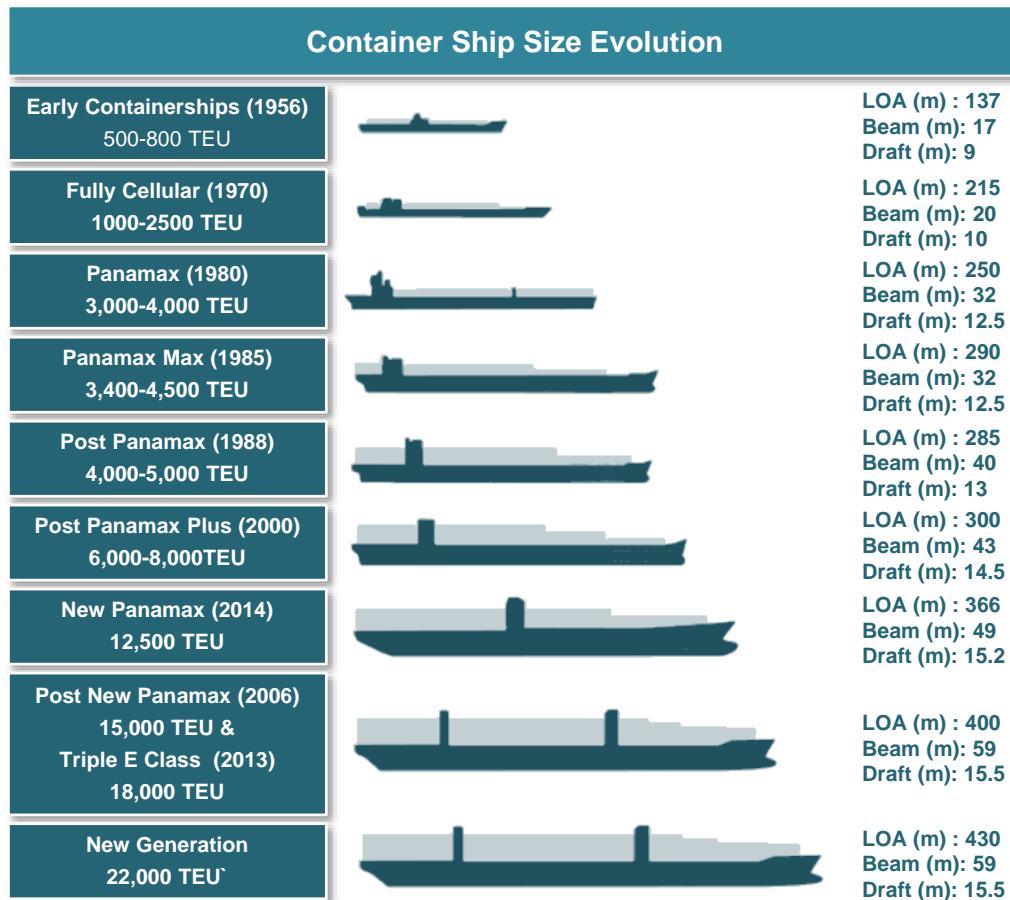
Plateauing in the levels of containerization:

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

Improvement of port facilities to accommodate larger ships:

- More ports can be part of direct main line services
- Cascading of vessels means larger ships deployed on secondary routes
- Reduced need for transshipment

Driven by market share & economies of scale, the ship size revolution has continued



Source: OSC, Alphaliner

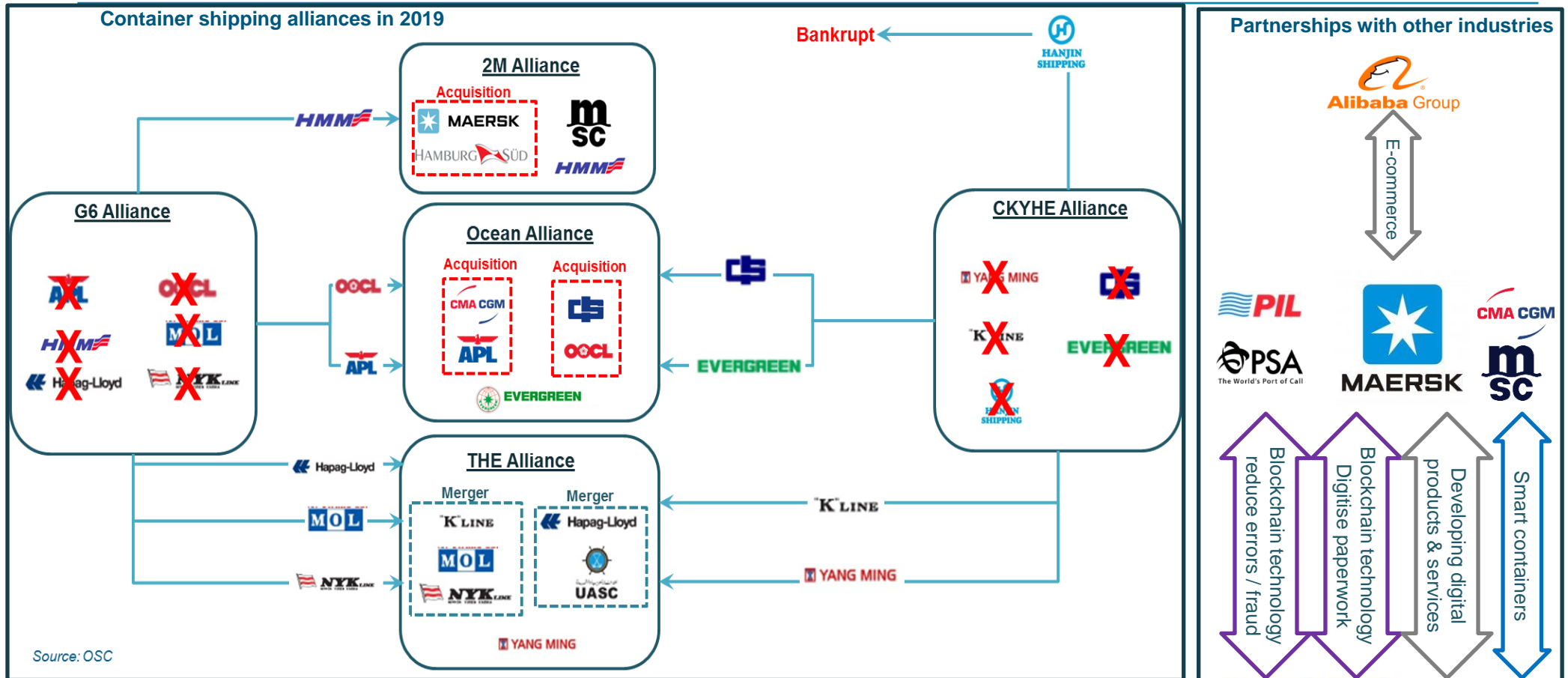
Effect of Container Shipping Market

- Larger container volume exchanges on primary trade routes, but with a lower port call frequency
- Cascading of vessels as replaced ships are moved 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 until recently.



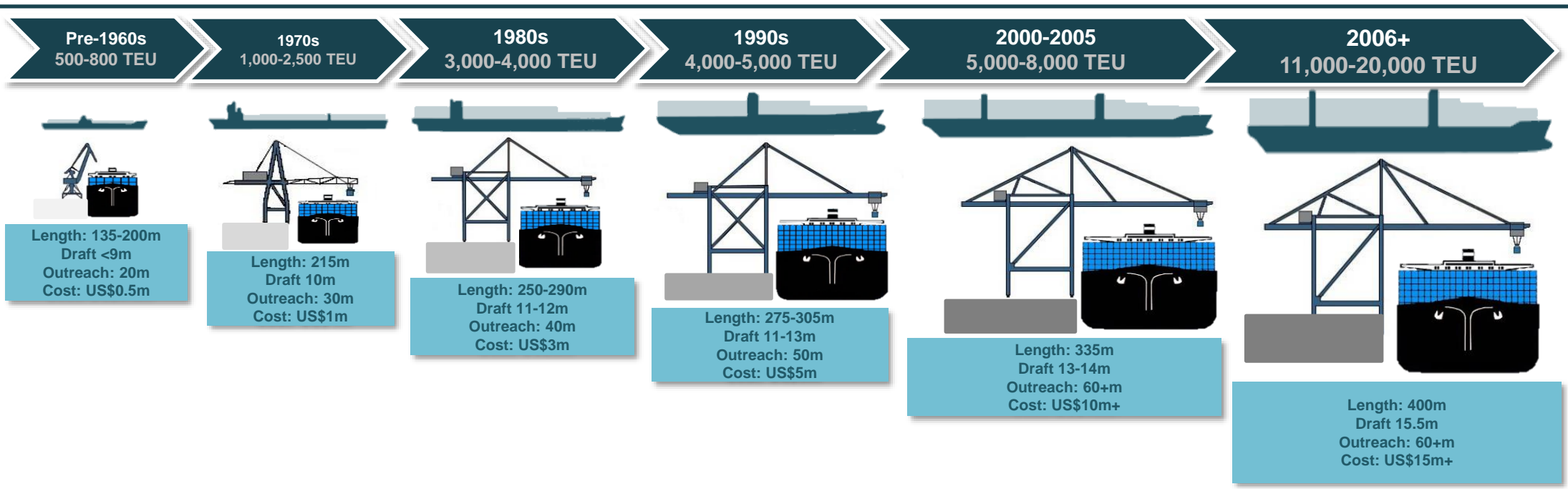
Complete reshape of shipping alliances and acquisitions since 2017.



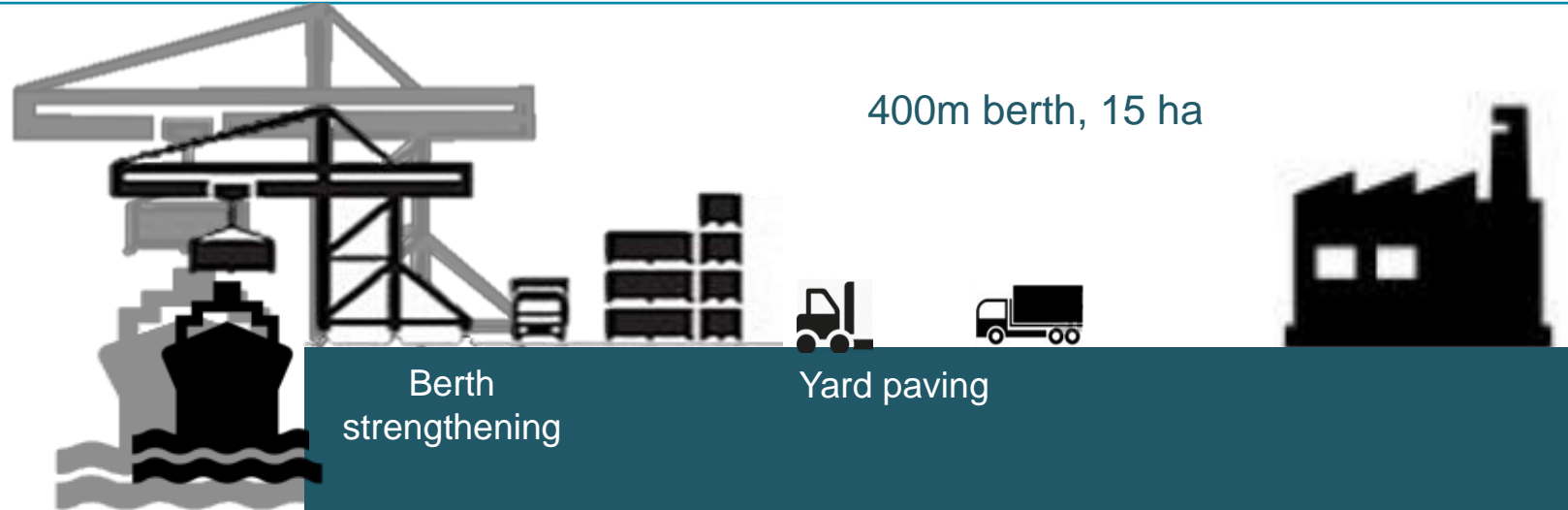
Top 12 lines outside major alliances

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.



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

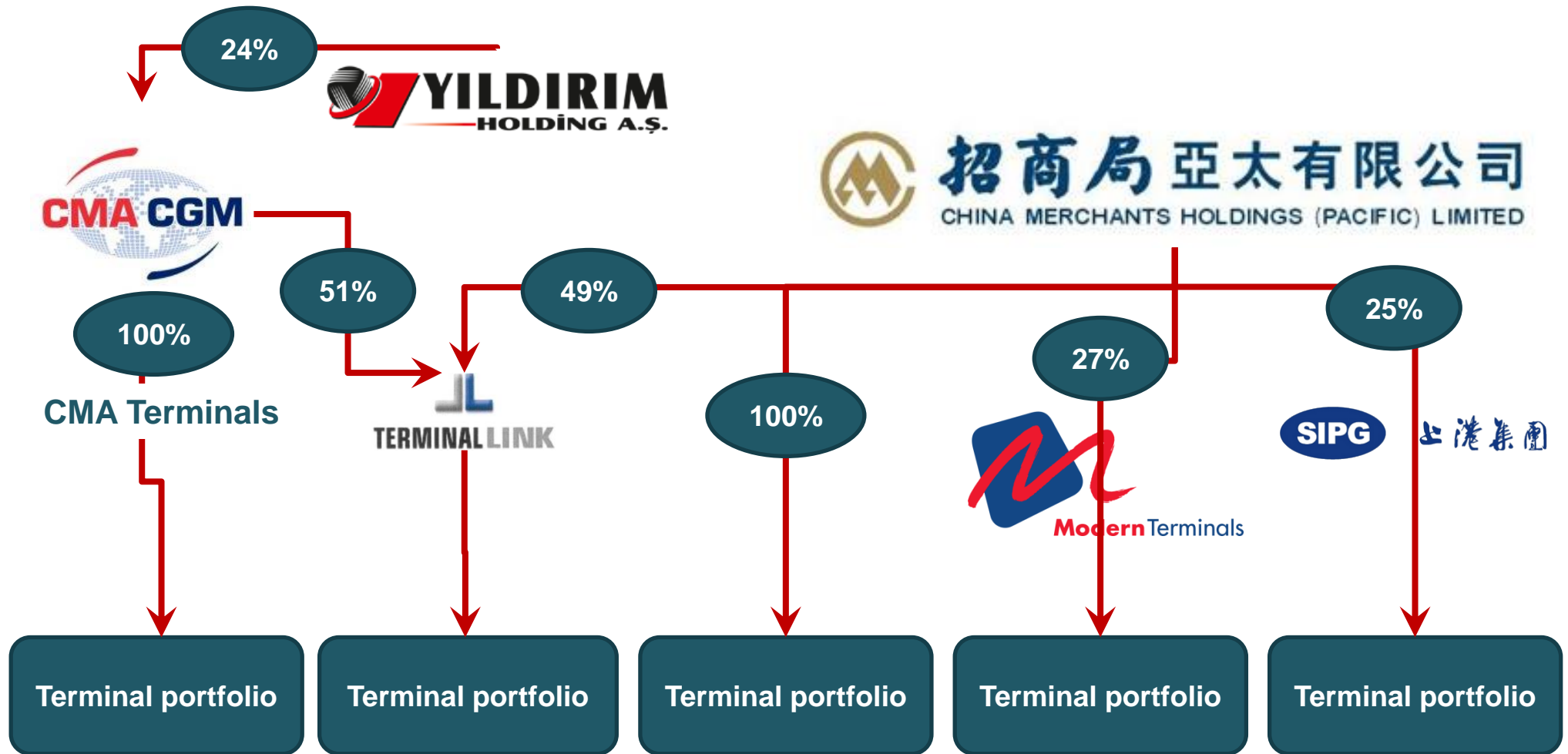
Mergers & Acquisitions

- 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

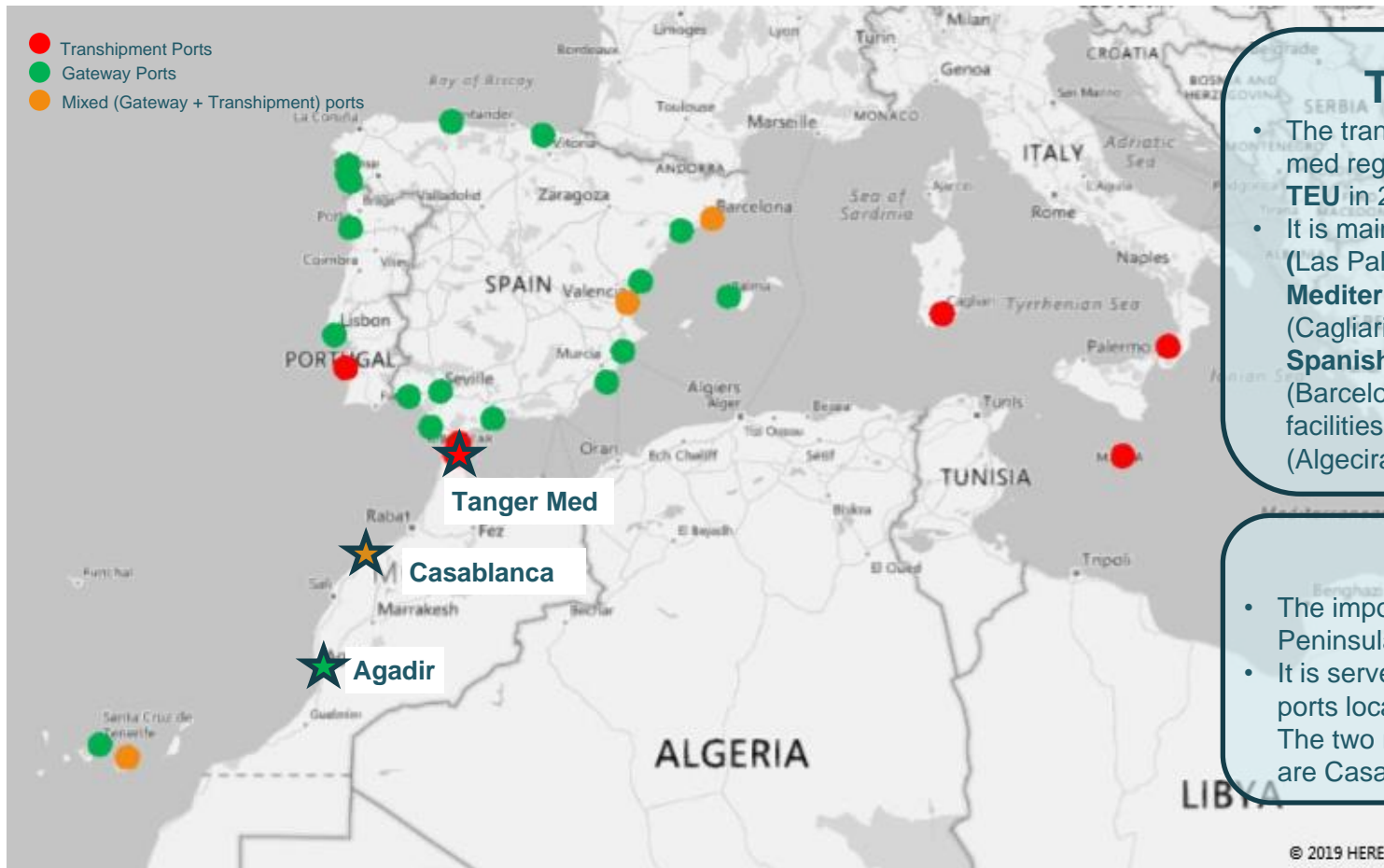




Regional Container Shipping Market

Regional Container Shipping Market

Main ports in Morocco and the Iberian Peninsula, including regional transshipment hub.



Excludes ports with a throughput less than 30,000 TEU/year

Transshipment

- The transshipment market in the West-med region accounted for **19.2 million TEU** in 2018.
- It is mainly served by **Atlantic Ports** (Las Palmas and Sines), **Central Mediterranean transshipment hubs** (Cagliari, Gioia Tauro and Marsaxlokk), **Spanish Mediterranean Ports** (Barcelona and Valencia) and the facilities in the **Gibraltar Straits** (Algeciras and Tanger-Med)

Gateway

- The import/export Market of the Iberian Peninsula accounts for **8.2 million TEU**
- It is served by Spanish and Portuguese ports located in the Iberian peninsula. The two main gateway ports in Morocco are Casablanca and Agadir.

Regional Container Shipping Market

Opened in 2007, Tanger Med I comprises of two similarly-sized terminals and an adjacent Logistic Free Zone. With TC1 controlled at 90% by APMT and TC2 40% by CMA-CGM, both 2M alliance and Ocean Alliance have a significant presence in the port.

TC1

- Ownership: APM Terminals (90%), Akwa (10%)
- Opened July 2007, 30 year concession
- Using a manned operating system based on RTGs, the terminal employs a workforce of nearly 800 workers.
- The first million TEU was reached by APMT Tanger Med in January 2009.
- TC 1 is now operating at full capacity and APM Terminals is developing the new TC4, together with Akwa.

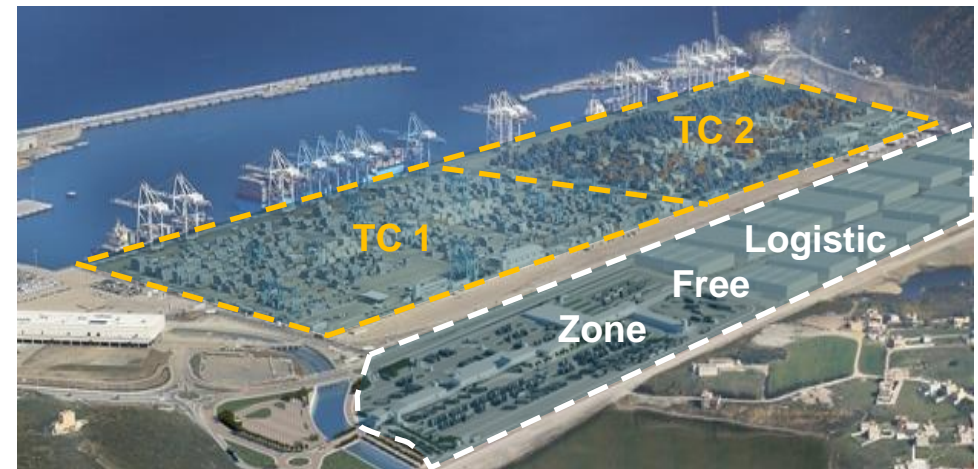
TC2

- Ownership: Eurogate (20%), Contship Italia (20%), MSC (20%), Terminal Link/CMA CGM (40%)
- Opened in 2008, 30 year concession
- The 38Ha container terminal has 812m of quay at 18m depth. With a nominal capacity of 1.6m TEU/year, the terminal is mainly focused on transhipment.
- TC 2 is now operating at full capacity.

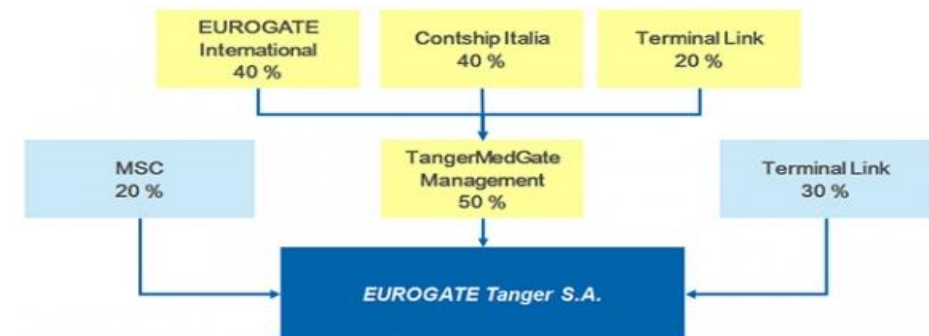
Tanger Med I infrastructure characteristics

Terminal	Area (ha)	Quay (m)	Max. draft (m)	Capacity (TEU)	Cranes
TC 1	40	800	18	1,800,000	10SPP
TC 2	40	812	18	1,600,000	8SPP

Tanger Med I overview



Tanger Med TC2 ownership structure



Regional Container Shipping Market

Tanger Med II is an ambitious project which will triple the capacity at the port to 9.7m TEU/year. The TC4 is planned to be the most highly automated terminal in the region, including remote control STS cranes.

TC3

- Ownership: Marsa Maroc (100%)
- Start of operations: 2020, 30-year concession
- The concession was originally awarded to a consortium led by PSA International (50%) in partnership with Marsa Maroc (a company formed in 2006 to run the country's privatised cargo handling operations) and SNI (Société National d' Investissement). However, Marsa Maroc was the only member to sign the concession contract.
- Work started in 2009. The original start-up date was at the end of 2012, but has been regularly pushed back. Current target date for the start of operations is 2020. The original project has been scaled down, from a capacity of 2m TEU/year (1,200m quay, 54ha) to 1.3m TEU/year (800m, 34ha).

TC4

- Ownership: APM Terminals, Akwa
- Start of operations: 2019, 30-year concession
- Originally scheduled to open at the end of 2011 to provide a further 76Ha dedicated facility for Maersk, APMT suspended its development when global trade volumes fell. Its opening is now scheduled for 2019, with an initial capacity of 3.3m TEU, and a quay length of 1,200 m (extendable to 2,000m).
- TC4 is planned to be the most highly automated terminal in the region, with 12 remote-control STS cranes.

Tanger Med II aerial impression



Tanger Med II progress (August 2018)



Tanger Med II Planned Terminal Facility Specifications

Terminal	Area (ha)	Quay (m)	Max. draft (m)	Capacity (TEU)	Cranes
TC 3	34	800	18	1,300,000	N/A
TC 4	76	2,000	18	5,000,000*	12 RC STS

* Quay length and capacity at the last stage of development

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