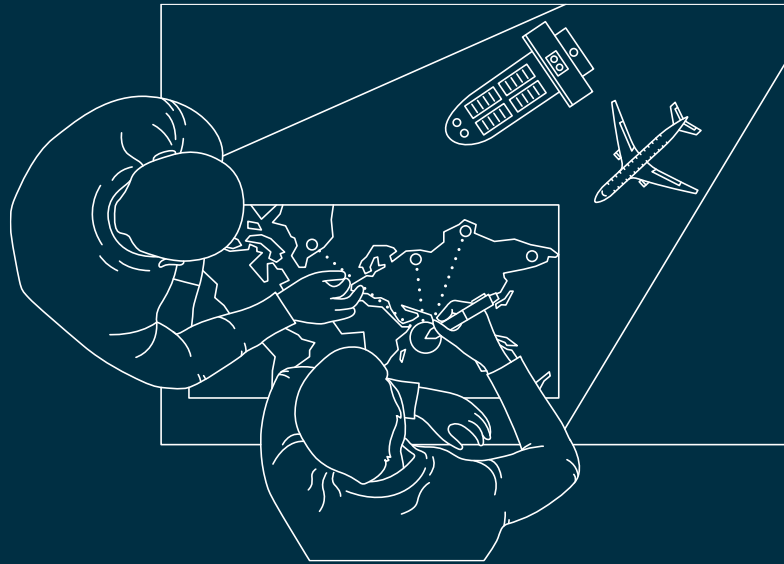


infrata



Shipping Lines: '22 Recap and '23 Outlook

10th Mediterranean Ports & Shipping
Athens, Greece
March 29th 2023



About Infrata.

Infrata is a global team of advisors, dedicated to helping both **public and private investors** unlock the potential of their assets.

We provide **technical, traffic and ESG advice to lenders, investors and sponsors**, for infrastructure and project finance transactions globally.

Infrata's expertise covers all sub sectors of the infrastructure market including **transport, power and energy, and social infrastructure**.

Our company draws upon the breadth and depth of expertise available and its industry **leading specialists**, that allows us to engage local support in many parts of the world, if required.



Technical Advisory

Our technical advisory services underpin all the work that we do. Our advisors are with you every step of the way, from the stage of evaluating investment opportunities and risks, to value creation and divestment.

Strategic & Commercial Advisory

Infrata brings a track record of developing bespoke solutions to meet the specific needs of its individual clients, from O&M Advisory Support role at bid stage to Asset Management services post-transaction. This creative approach is essential to our success, and that of our clients.

Demand & Traffic Advisory

We believe that accurate traffic forecast analysis is crucial to making a shrewd investment in infrastructure. Market analysis and sector insight help us evaluate revenue potential with our clients.

Environmental, Social & Governance Advisory

The infrastructure landscape is changing. Increasingly, Environmental, Social, and Governance (ESG) are playing a key role in investment decisions. We are able to support you in this key transition.

Selection of Teams Ports Experience

North America

Prince Rupert, Canada
 Port of Halifax, Canada
 Port of Vancouver, Canada
 Port of Albany, USA
 Port of NY/NJ, USA
 Saint John, New Brunswick
 Long Beach, USA
 Philadelphia Regional Port, USA
 USWC, USA

LATAM

Lazaro Cardenas Port Tuxpan Port, Mexico
 Puerto Quetzal, Guatemala
 Guayaquil Dredging Project Esmeraldas Port, Ecuador
 Manzanillo International Terminal, Panama
 Panama Container Terminal, Panama
 Caucedo Container Port, Dominican Republic
 Puerto Brighton, Trinidad and Tobago
 Exolgan Container Terminal, Argentina
 Naval Ports Redevelopment, Uruguay
 Timber Exports Terminal, Uruguay
 Embraport, Brasil
 Itajai Offshore Supply Base, Brasil
 Puerto Bolivar, Ecuador

Europe

Forth Ports, UK	Isle of Grain, UK	Thamesport, UK	Novorossiysk Port, Russia
Rye Harbour, UK	Spanish Port Sector, Spain	London Gateway Port, UK	Euroports, Europe
Galway Harbour, Ireland	Newhaven Port, UK	Pacific Coast Port, Russia	Baltic Container Terminal, Ust-
Teesport Container Terminal, UK	Royal Portbury Dock, UK	Associated British Ports, UK	Luga Port, Russia
London Gateway Oil Berth, UK	Project Mourinho, Portugal	Newhaven Port, UK	DCT Gdansk, Poland
Multi-Purpose Terminal, Black Sea	St Helier Port, Jersey	Seine-North Europe Canal, France	National Ports Study, Greece
Dibden Terminal, UK	Chichester Yacht Harbour, UK	Dibden Container Terminal, UK	Cumbria Ports, UK
Royal Portbury Dock, UK	Odessa, Yuzhny And Illichivsk Ports, Ukraine	King George V Lock, UK	Ramsgate, UK
Project Maria, Italy	Royal Portbury Dock, UK	Constanta Oil Terminal, Romania	
London Gateway Port, UK	Newhaven Port, UK		
	Le Havre & Marseille, France		

Asia

Breakbulk Port Sector Review, China	Tuas Container Terminal, Singapore
Essar Oil Refinery, India	Colombo Port City, Sri Lanka
Container Terminal 10, Hong Kong	Tanjung Pelepas Port, Malaysia
Hong Kong Port 2030, Hong Kong	
Ennore Gateway Terminal, India	
Fuzhou Port, China	

Africa & Middle East

New Port Facilities, Mozambique	Wact, Onne Port, Nigeria
New Doha Port, Qatar	Mtwara Port Masterplan, Tanzania
Dammam And Jubail Ports, Saudi Arabia	Karun River Navigation, Iran
Vlcc Multi-Products Berth, Qatar	Tema and Takoradi Ports, Ghana
2nd Osc Expansion, Luanda Port, Angola	Atuabo Port, Ghana
Aden Container Terminal And Distripark, Yemen	Port Louis Port, Mauritius
Pointe Noire Port, Congo	Pemba Maritime Logistics Facility, Mozambique
Naval Dockyard, Kenya	Oqyana, The World, UAE
	Commodity Port, Angola

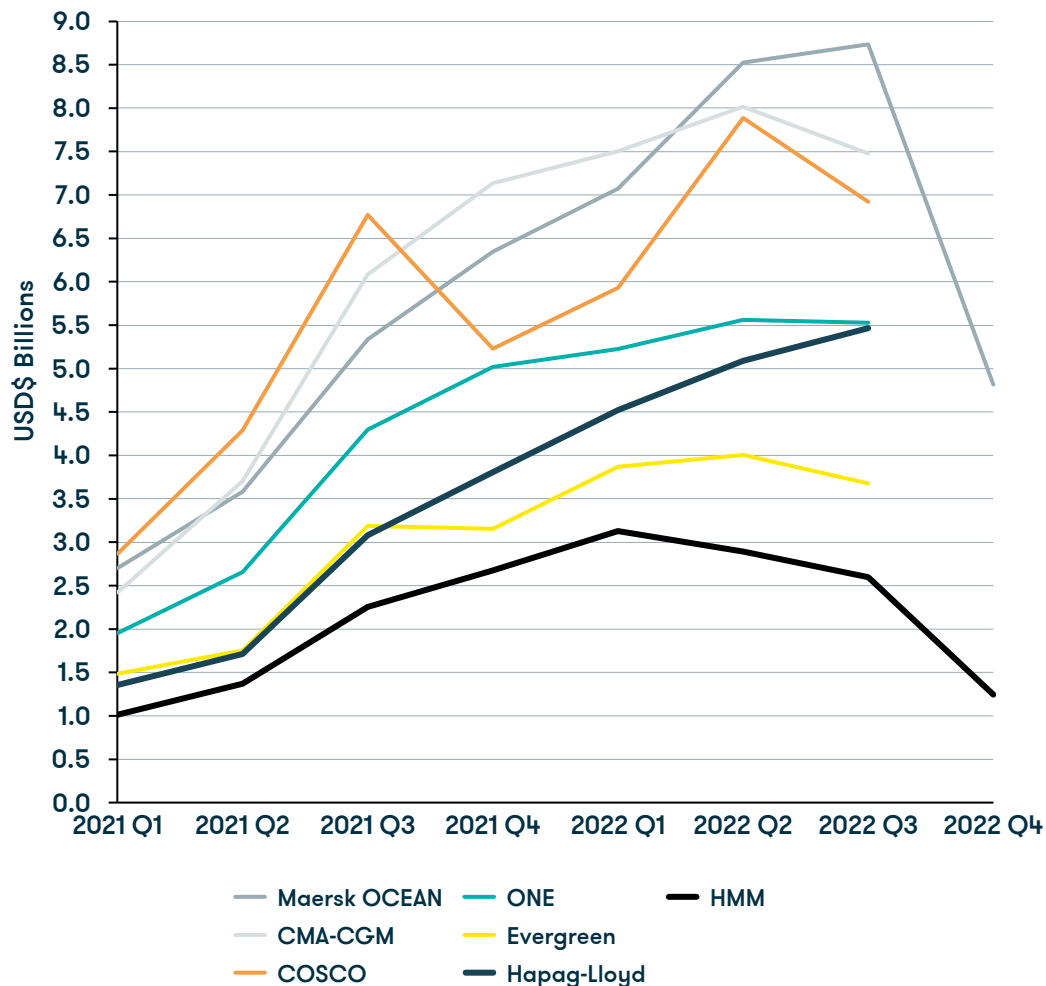
Financial Results of Major Shipping Lines

2022 has seen huge profit margins for the major shipping lines. 2022 Q3 had EBITs significantly higher compared to the same period in 2021, but recent FY reports indicate drastic drops in Q4.

- From Q1 2021 to Q3 2022, total EBIT of the seven lines shown has increased at a CAGR of 195.9%.
- Maersk Line EBIT Q3 2022 came to 8.7 billion, 63.6% higher than Q3 2021. Evergreen Q3 2022 revenues were 77.5% than Q3 2021.
- Slight drop-off in Q3 2022 in preparation for 2023 drop.
- Maersk reported a 45% drop off between Q3 and Q4 2022
- Expectations for lessening demand & revenue in 2023.

Shipping Line	Q3 21- Q3 22 EBIT YoY % Change
Maersk Line	63.6%
COSCO	22.9%
CMA-CGM	2.2%
ONE	28.7%
Hapag-Lloyd	15.4%
Evergreen	77.5%
HMM	15%

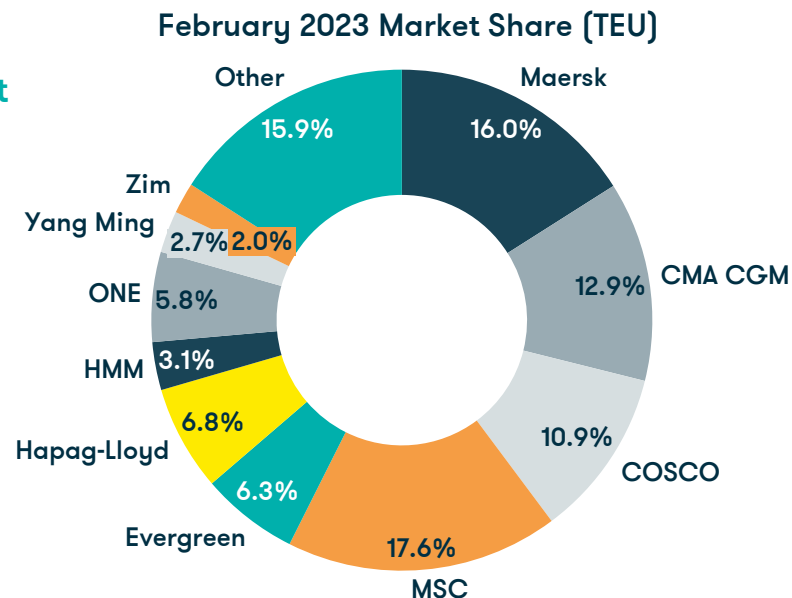
Top Shipping Lines EBIT Q1 2021- Q3/Q4 2022



Market Share and Capacity Growth

The top ten shipping lines hold 84.1% of the total market share, with MSC at #1 after overtaking Maersk as the largest container line in 2022.

- Frequent consolidations and M&As have resulted in the top ten shipping lines dominating the container shipping market.
- Larger operators are more insulated from changing market conditions, as they can easily change the networks they offer and move vessels within much wider global schedule networks..
- MSC are now the leading shipping line in terms of tonnage deployed following a 7.5% increase in capacity.
- Other major vessel investments by Zim (29%), Evergreen (12.5%), CMA (7.1%) and Yang Ming (6.8%) to keep up with competition and alliance partners.



Rank	Line	Capacity 1/1/2023	Capacity 1/1/2022	Gain/Loss	% Change	2022 Rank
1	MSC	4,598,373	4,276,918	321,455	7.5%	2
2	Maersk Line	4,219,395	4,281,100	-61,705	-1.4%	1
3	CMA CGM	3,393,190	3,167,922	225,268	7.1%	3
4	COSCO	2,871,859	2,934,447	-62,588	-2.1%	4
5	Hapag-Lloyd	1,782,689	1,751,027	31,662	1.8%	5
6	Evergreen	1,661,865	1,477,644	184,221	12.5%	7
7	ONE	1,528,921	1,542,261	-13,340	-0.9%	6
8	HMM	816,365	819,790	-3,425	-0.4%	8
9	Yang Ming	707,354	662,047	45,307	6.8%	9
10	ZIM	533,823	413,862	119,961	29.0%	11

Port Investments

Shipping lines increasingly look to investing in port terminals to consolidate assets, reduce costs, and increase efficiency. Some divestment occurring due to the Russia-Ukraine conflict.

GCC Region

- Khalifa Port
 - CMA CGM subsidiary CMA terminals owns 70% stake in new container terminal port expected operational by 2025.

Americas

- Bayonne and New York Tmls
- CMA CGM Group acquisition
 - Port NOLA Louisiana
 - TiL to invest in new tml

Europe / Med

- Jade Wesrer Port Wilhelshaven
 - H-L 30% stake of CT and 50% of rail.
- Tollerort GmbH
 - Minority stake (<25%) acquisition of HHLA's Container Terminal Tollerort GmbH by COSCO
- Port of Livorno
 - MSC buys 100% stake in Terminal Darsena Toscana

Africa

- Abu Qir Port, Egypt
 - Evergreen 20% stake in HPH operated facility
- Terminal TC3, Morocco
 - Hapag-Lloyd
- Damietta, Egypt
 - Hapag-Lloyd building new transshipment terminal

Russia

- Maersk divests 30.75% shareholding in Global Ports Investments PLC. Line is no longer involved in any entities operating in Russia.
- CMA CGM divests in Moby Dik Terminal (Saint Petersburg) and Yanino Logistics Park (Leningrad) through asset swap with Global Ports.

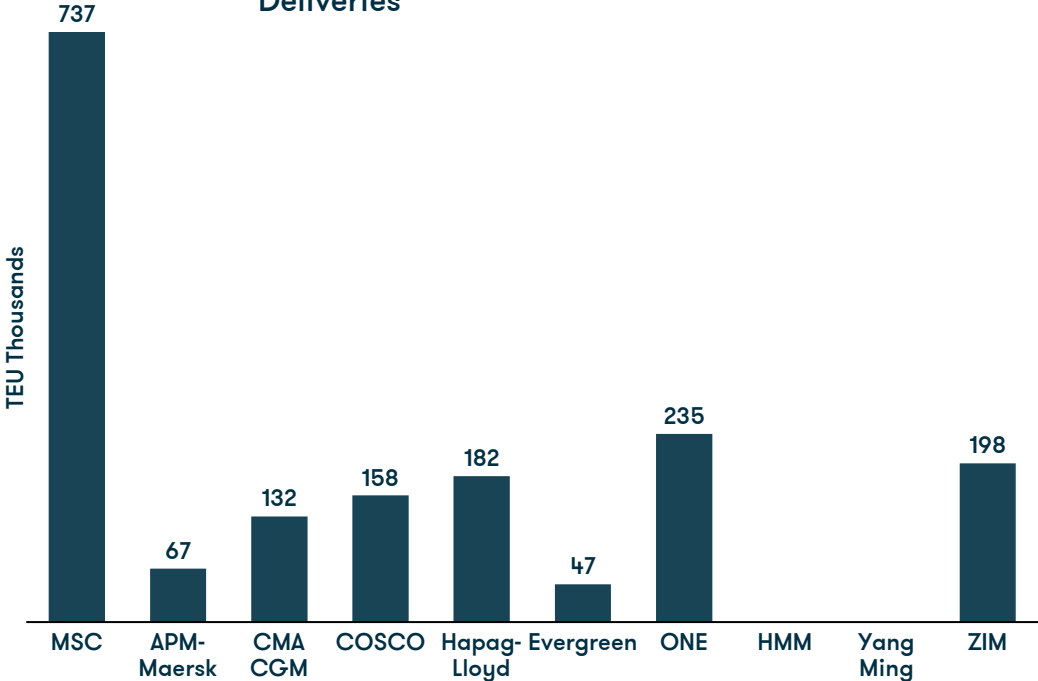


Investment in Vessels

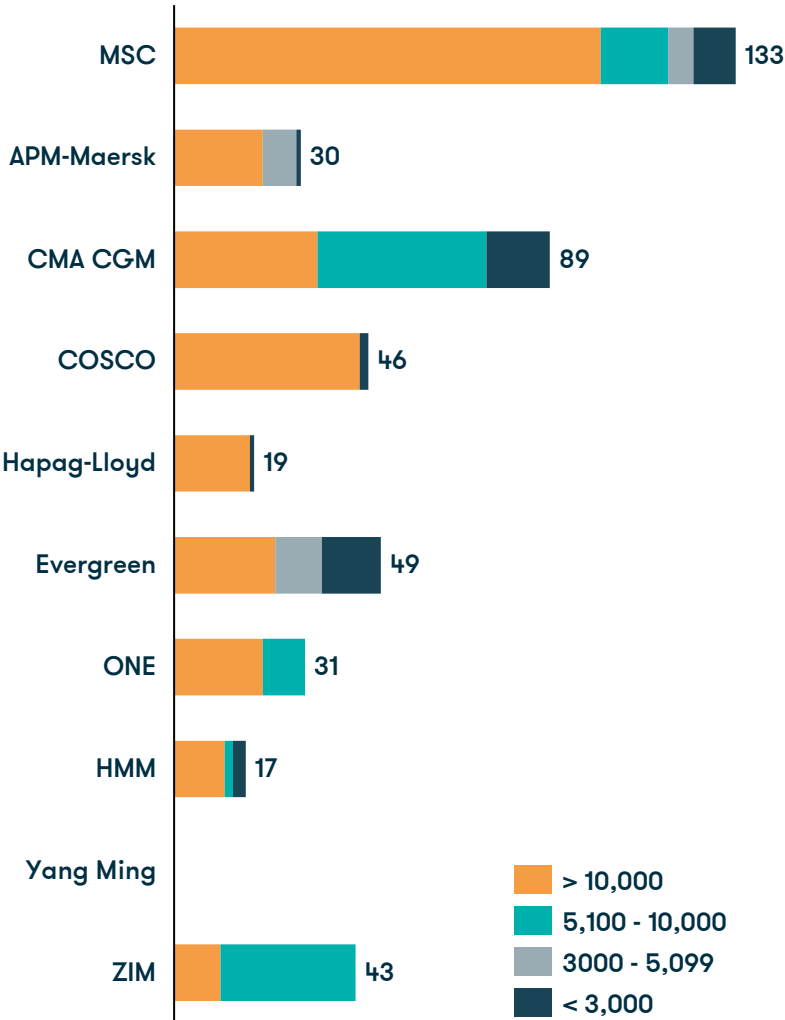
The top lines are investing in increasingly larger capacity ships with their orderbooks comprised of many ULCS orders.

- An estimated 6.6 million in new tonnage is currently on order.
- 5.5 million of that new tonnage is for the top 10 lines. 1.65 million TEU scheduled for delivery in 2023.
- Focus on larger ships, with 329 ULCS on order among the top lines.
- In 2022, MSC received the largest ship ever built, a further increase in size to 24,116 TEU.
- MSC has 18 megamax and 63 post-panamax ships scheduled for delivery in 2023.

Top Lines 2023 Scheduled Deliveries



Top Lines Total Orderbook Vessel Size



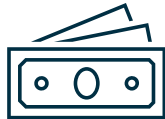
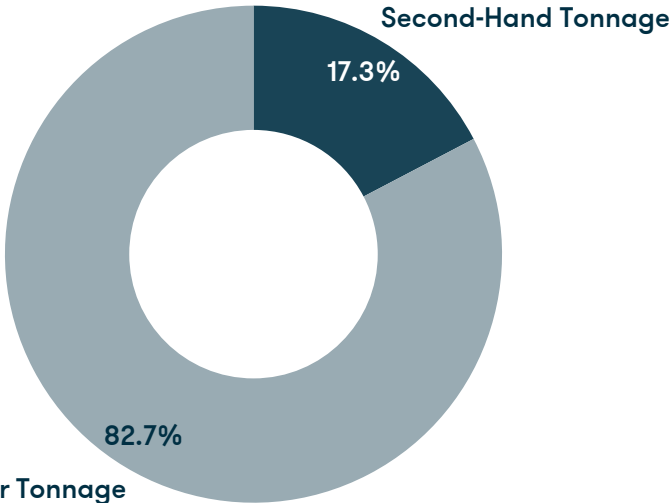
> 10,000
 5,100 - 10,000
 3000 - 5,099
 < 3,000

MSC Fleet Expansion: Second-Hand Vessels

MSC has deviated from the trend by acquiring second-hand vessels to bolster their fleet.

- In addition to newbuilds, MSC’s impressive growth can be attributed to their continued acquisition of second-hand tonnage.
- Estimated to have spent close to \$10 billion since the COVID-19 pandemic on second-hand tonnage.
- The line has purchased 271 second-hand container ships comprising 1 million TEU as of the beginning of 2023.
- Taking advantage of falling ship values to continue fleet expansion.
- May run into difficulties in mid/long term with older vessels needing to be replaced sooner than newbuilds, especially with new environmental laws.

MSC Total Tonnage (current and ordered)



\$10b spent



+1m TEU



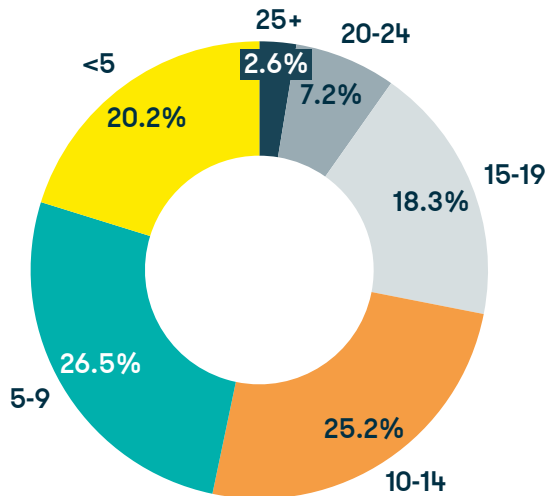
+263 ships

Fleet Assessment

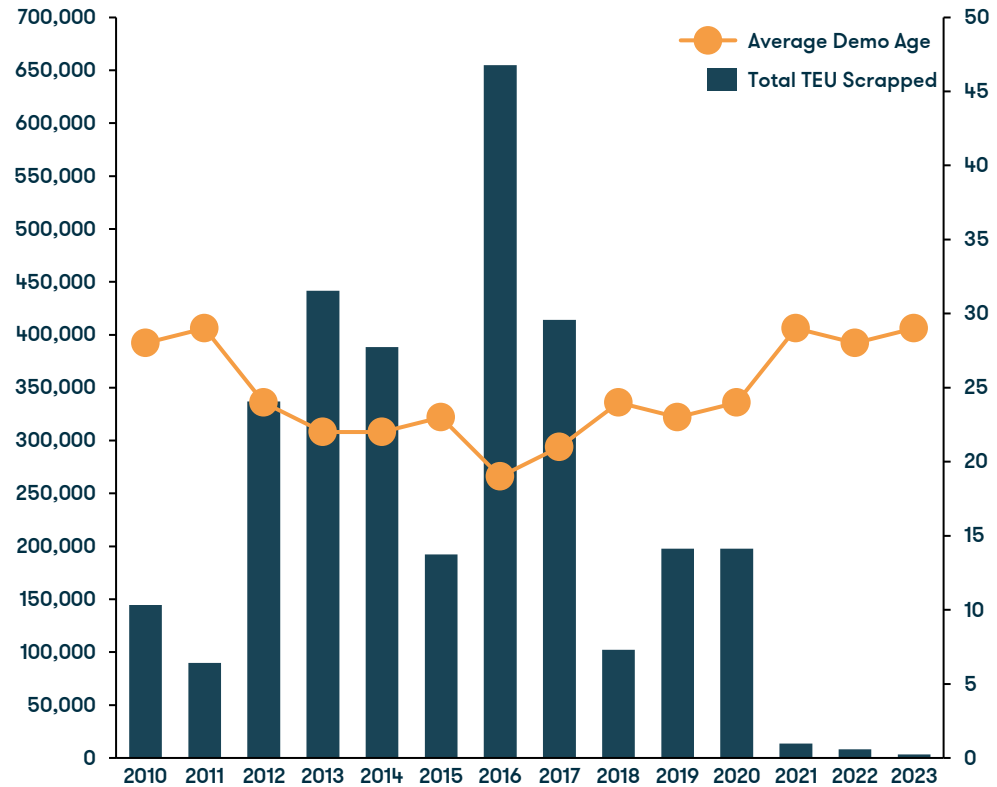
Only 2.6% of TEU tonnage of the current total cellular fleet is overage (25+ years). With a large orderbook tonnage expected, oversupply poses a plausible risk.

- The average age of vessels that were deletions between 2018-2021 was 25 years of age.
- The average age of the cellular fleet is only 13.34 years and 10.7 years TEU weighted.
- Approximately 670,000 TEU is delivered by the cellular fleet above 25 years of age, accounting for only 2.6% of the total TEU delivered – lower size classes.
- Older tonnage with typically lower tonnage likely to be replaced with new and larger tonnage.
- How will lines deal with overcapacity & decide which ships to scrap?

Age of Total Cellular Fleet Tonnage



Total Scrapped TEU

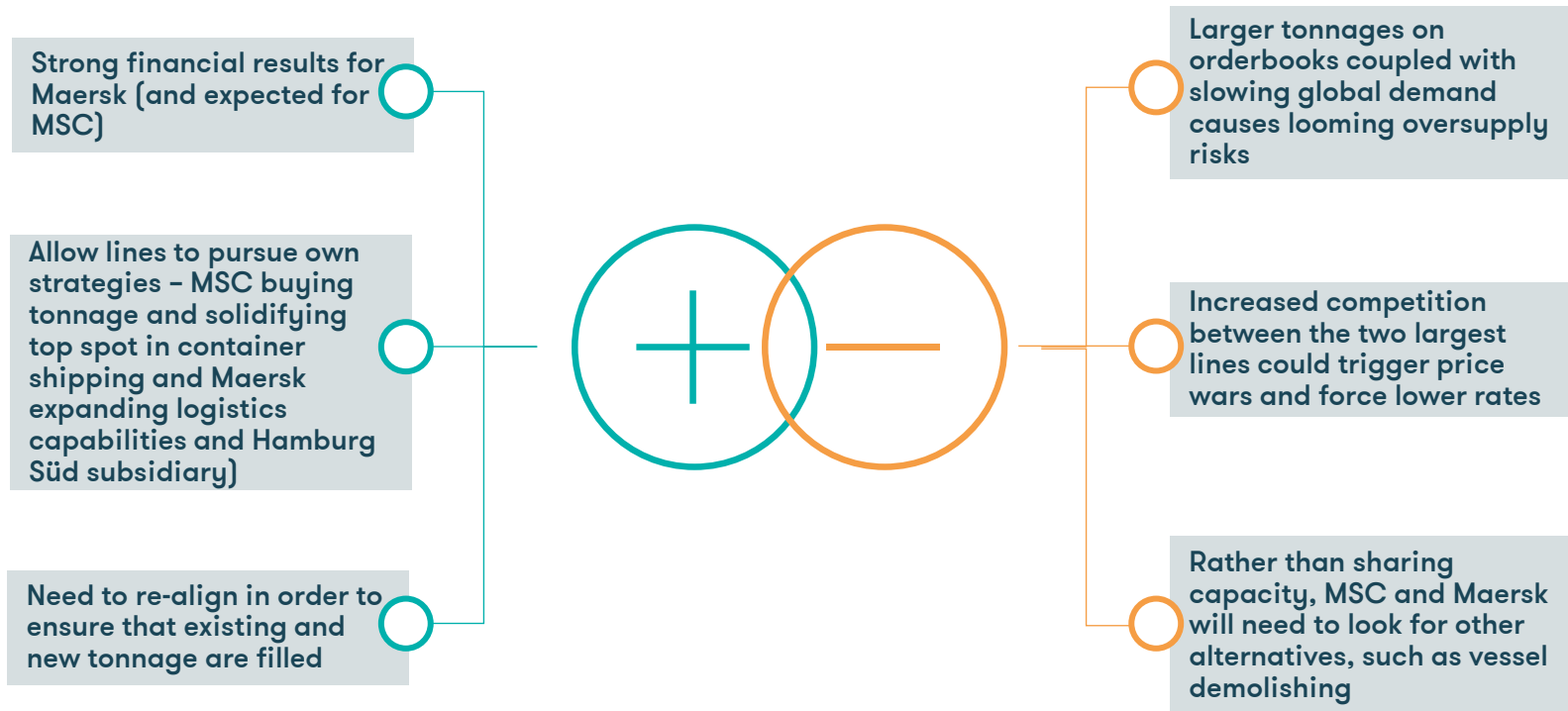


*2023 based on reported demolitions up to February

2M Alliance Break-up

In January 2023, the world's two largest container shipping lines, MSC and Maersk, announced that their "marriage of convenience" would be terminated from 2025.

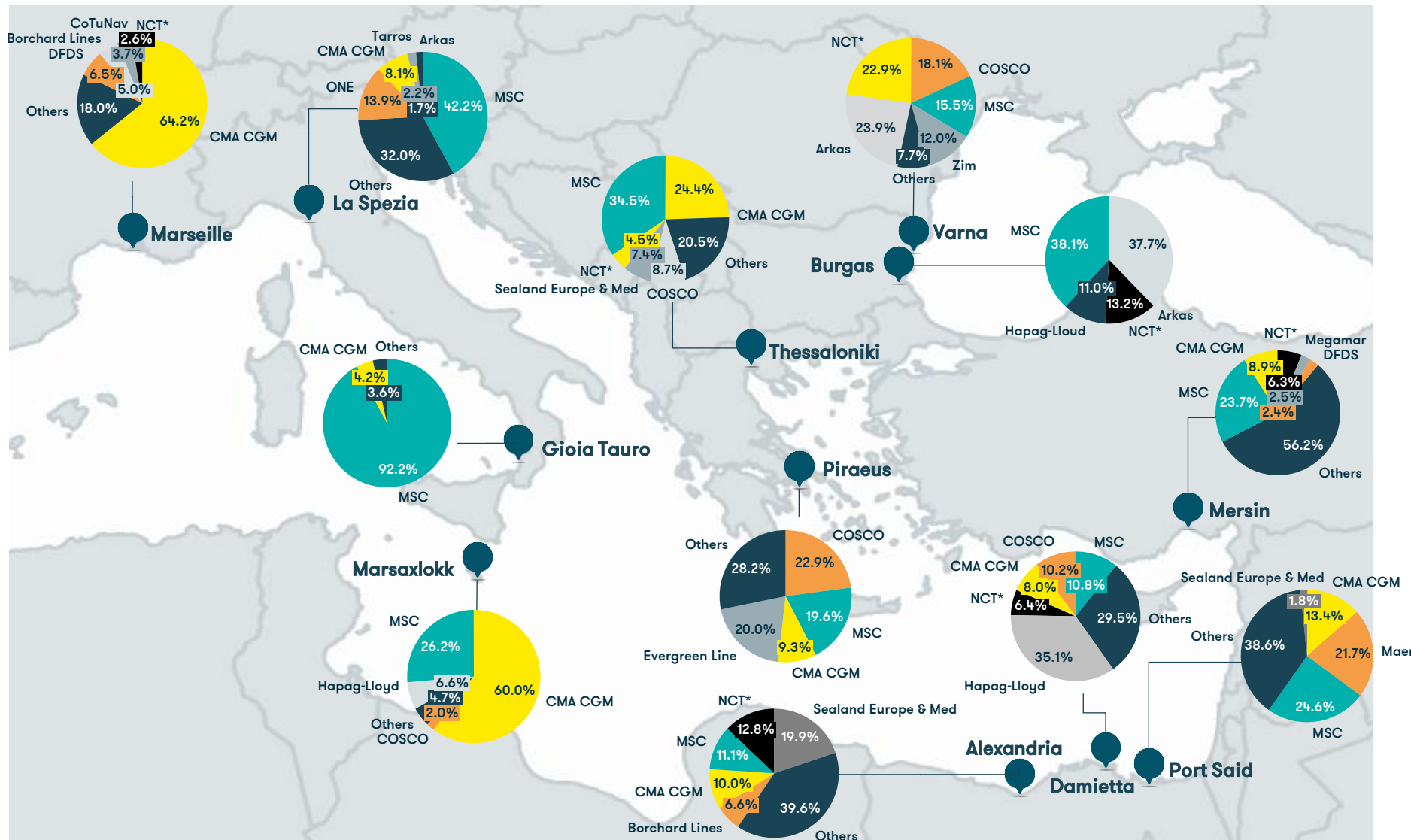
- Since 2015, Maersk and MSC have maintained a Vessel Sharing Agreement (VSA), allowing the lines to use capacity on each other's ships on certain routes between Asia-Europe, Transatlantic, and Transpacific trade lanes, to optimize operations and cost efficiency.
- The VSA has allowed Maersk and MSC to move more than 4 million TEUs together.
- Alliances have been able to mitigate the looming risk of oversupply.
- Though the alliance breakdown will not be official until 2025, it should be expected that their networks will start to diverge much sooner.
- Speculation that this breakup could instigate others, such as Ocean Alliance and THE Alliance, to also reevaluate their own VSAs.
- Continued speculation about future positions of Hapag-Lloyd and CMA-CGM in particular.



Shipping Lines Regional Interest

The Mediterranean region remains a strategic region for shipping lines due to its geographic location. All major shipping lines are calling at ports in the region.

Shipping Line Call Distribution by TEU (February 2023)



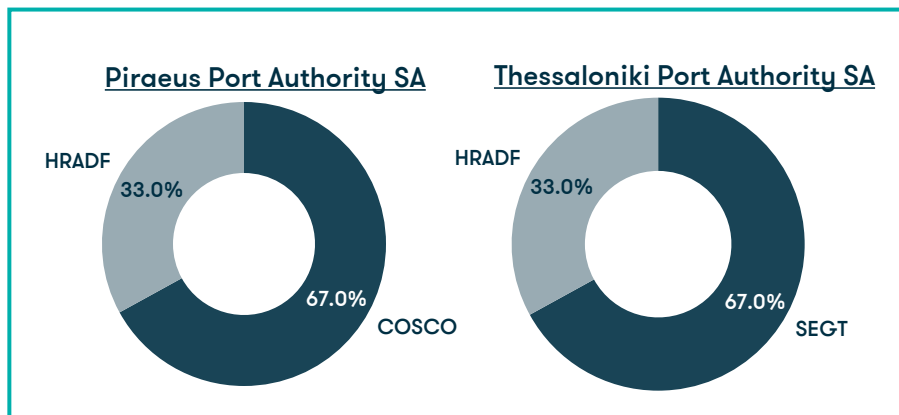
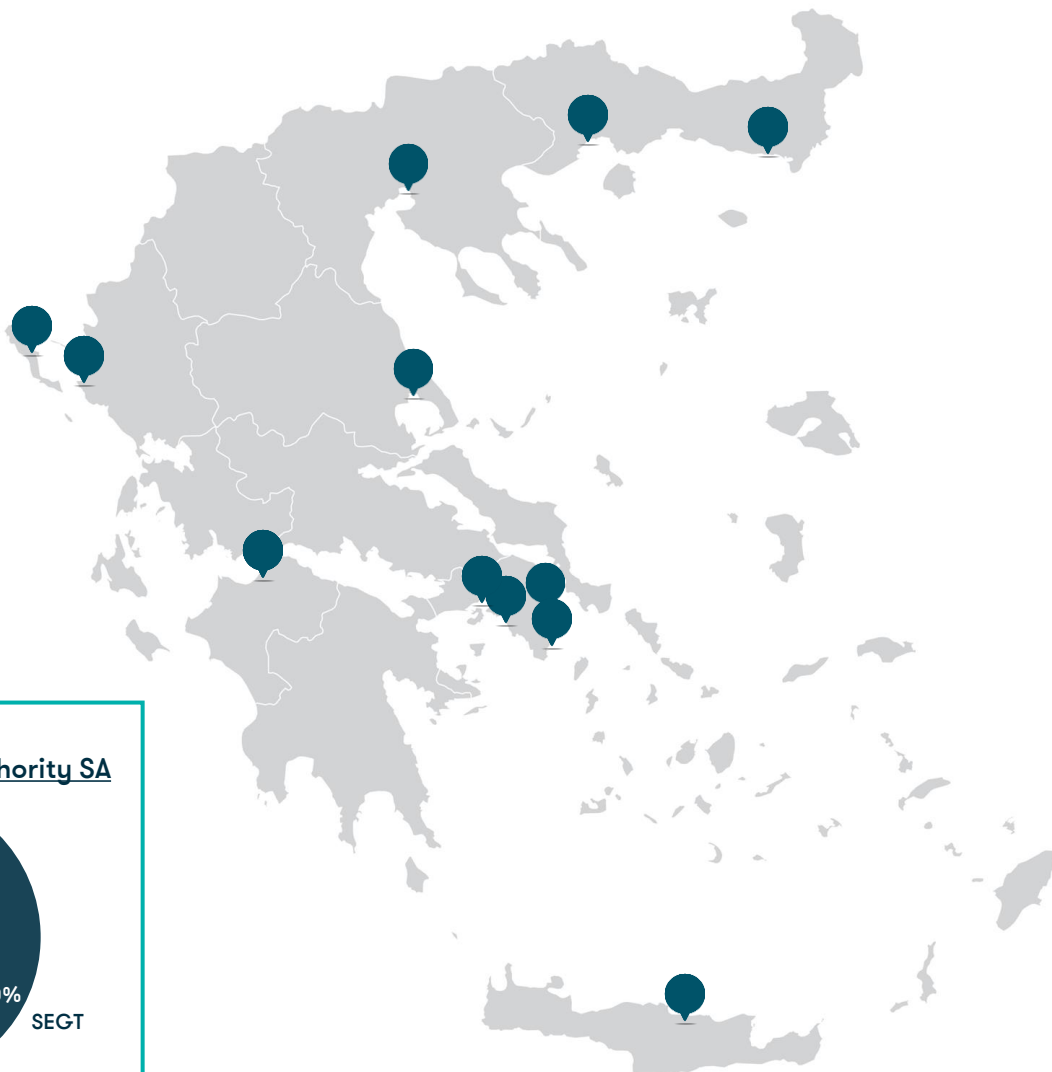
*NCT refers to non-container trading

Source: AlphaLiner

Greek Port Privatisation

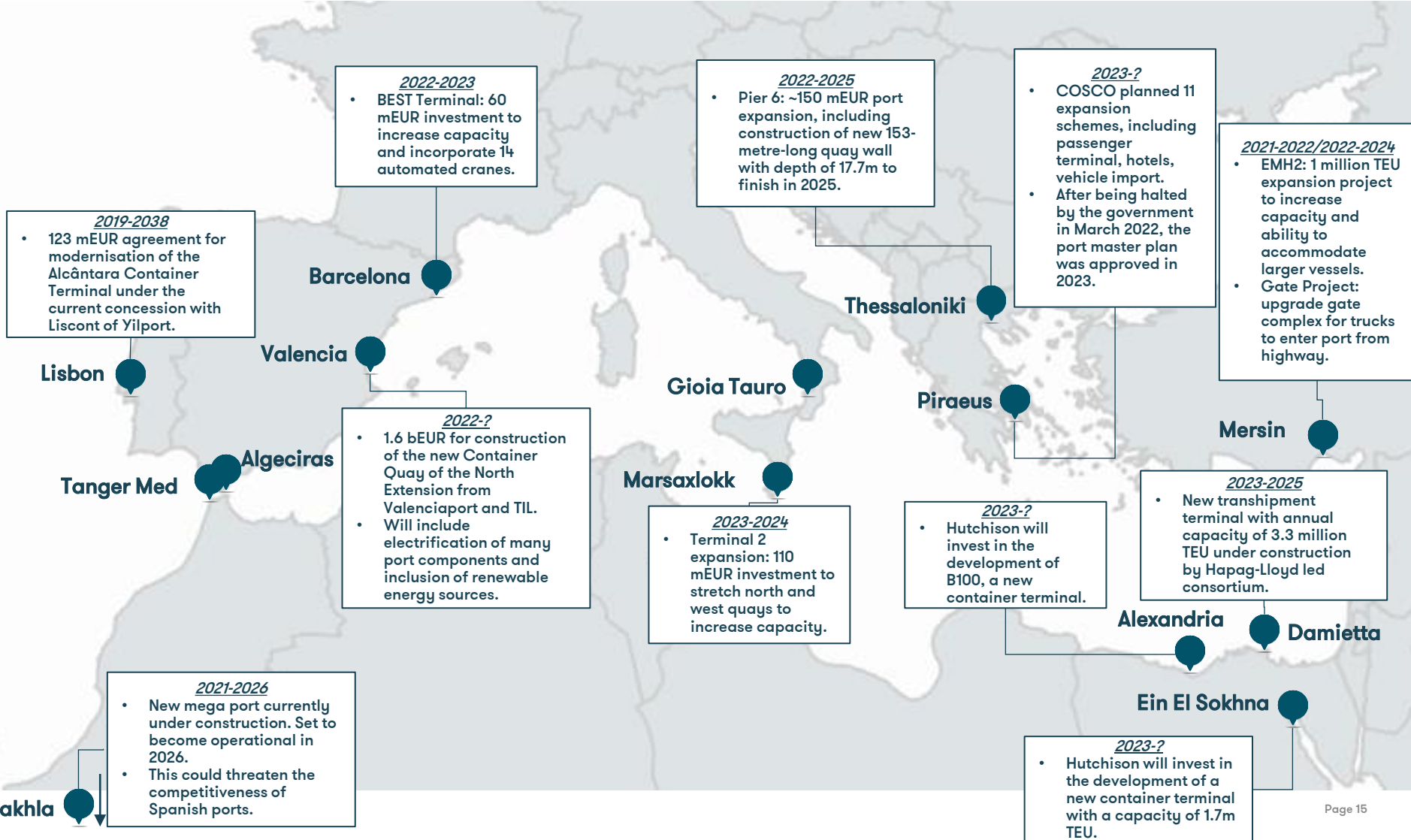
Piraeus and Thessaloniki were the first two Greek ports to be privatized. HRADF holds 100% of shares in 10 regional port authorities and have planned to sell 67% stakes in each. To date, tender processes have been launched for the development of Igoumenitsa and Kavala. Alexandroupolis port tender was cancelled and will remain

- **Piraeus** – 67% stake owned by COSCO.
- **Thessaloniki** - the South Europe Gateway Thessaloniki (SEGT) holding vehicle, which owns a 67% stake in the port, is owned by Terminal Link (CMA CGM & China Merchants Holding) and Belterra Investments (67.7%).
- **Igoumenista** - preferred proponents are Grimaldi Euromed, ferry operator Minoan Lines, and local Greek company Investment Construction Commercial and Industrial.
- **Kavala** – preferred proponents are International Port Investments Kavala (Black Summit Financial Group, EFA Group, Terna).
- **Alexandroupolis** -- the planned Alexandroupolis port privatization was cancelled (Nov 2022) due to the strategic benefits of the port.
- **Volos** – eight consortiums have submitted EOIs for a 67% stake in Volos Port.
- **Heraklion** – eight bidders selected as pre-qualified.



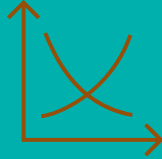
Regional Planned Port Development

With the planned port privatizations, many Greek ports will see upgrades and expansions improving their competitive position in the region. Ensuring that regional ports maintain adequate infrastructure for increasing vessel sizes is essential to remaining competitive; however, simultaneously must mitigate the risk of overcapacity.



Conclusions

Unprecedented global demand



Increased demand from 2019-2022 as a result of the pandemic is expected to slow in the near future.

Record-breaking revenues



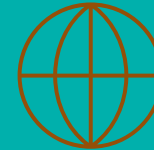
Lesser demand and lower freight rates will expectedly reduce revenues.

Increasing Ship Sizes



Lines' newbuilds and orderbooks suggest continuing increase in vessel size

Geopolitical tensions disrupt the supply chain



Lines focus on acquisitions to offer end-to-end supply chain services and port investment to improve efficiencies

M&A and Port Investments



Lines focus on acquisitions to offer end-to-end supply chain services and port investment to improve efficiencies

Port Developments



Port developments in the region focused on improving capacity, efficiency, and sustainability.

Future Outlook for the Mediterranean

1

Services from the Far East may stop at additional ports in the Mediterranean/Greece (Piraeus & Thessaloniki) on the way to Europe/Americas to ensure that vessel capacity is fully utilised and “spare” tonnage utilised

2

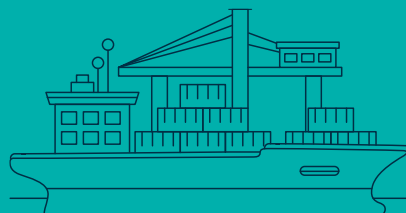
Bigger ships offer opportunities for more transshipment and the Mediterranean is advantageously placed to handle transshipment services at its major t/s hubs

3

Mediterranean ports must be prepared to handle bigger vessels, or lines will not call with mainline vessels. Given surplus tonnage, now is a great time to attract additional calls

4

Increase in the incidence of transshipment will see a requirement for larger feeder vessels, so vessels serving outports will also see an increase in vessel size and volumes



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