

NEWSLETTER

# Ports & Terminals

May 2022

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## Key Takeaways

The international shipping industry has the ability to offer economic and efficient long-distance transportation. Ports and terminals constitute a significant part of transportation and are very important for the global economy. The shipping industry transports about 12 bln tons of goods each year. In developed regions such as the European Union, the shipping industry accounted for 80% of the total import and export volume and 50% of its value in 2019.

Maritime trade decreased by 3.8% in 2020 because of the shock in the first half which was the impact of COVID-19. The market managed to absorb the shock up to a certain extent. The comeback in trade flow during the later period of the year and in 2021 was partly caused by huge stimulus packages, increased consumer spending, and boom in e-commerce.

Ports & terminals are critical components of the global supply chain since they serve as entry and exit points for cargo all over the world. Cargo ships worth millions of dollars must turn around rapidly, loading or discharging their contents as soon as possible. As the world's commerce fleet grows and ships become larger, these ports are under growing pressure to increase capacity and enhance efficiency.

The ports and terminals global market reached USD 3,135.3 mln in 2020. With 3,700 commercial ports and 200 container ports handling traffic in excess of 500,000 TEU, marine traffic has a high level of port activity concentration due to maritime access and infrastructure development. Major container terminal operators are often present in more than one port; among others: PSA, DP World, Hutchison Ports, and APM Terminals etc. Asian Ports continued to dominate the ports and terminals market in terms of Container Traffic as well as Port Performance Index. The Chinese ports are the largest in cargo throughput, Shanghai Port was declared as the top port in terms of container traffic as of April 2021 whereas Port Performance ranking was dominated by Yokohama in Japan.

The sector is transforming itself to be part of a greener and cleaner world. Investments of approx. USD 40-60 bln are to be made between 2030 and 2050 to produce alternative fuels such as ammonia, hydrogen and methanol. Attempts are being made to establish new markets and value-added services in order to prepare for a future without carbon fuels. With a predicted rise of 4.7% in merchandised trade in 2022, the ports and terminals market is expected to grow at a CAGR of 9.8%. The market will reach USD 6,030 mln by the year 2027 with the growth rate predicted.

### Market Trends and Growth Drivers:

COVID-19 has affected the different aspects of port operations such as increase in number of blank sailing, drop in port calls etc. However, the market is recovering from the impact of COVID-19 in an organic manner, but still with hick-ups, major ports still suffer from local lock downs. The war between Russia and Ukraine is a major tragedy, first of all affecting civilians in the most tragic ways. The global trade also suffers under the war, with sanctions for Russia and a loss of trade from Ukraine.

The need of diverse land use, waterfront renovation, search for newer trade channels, rising demand for low cost productions, need of solution for the overcapacity of container market, need to stay ahead in using new age technologies are some of the factors that will act as the major growth drivers for the ports and terminals market.

Spatial strategies, trade protectionism, increased use of technology, continued increase in port congestion, strategic infrastructure investments, distinguishing strategy are some of the factors and ongoing trends that are going to play major roles in shaping up the future of the ports and terminals industry dynamics.

### Collaborations:

The Global Maritime & Offshore industry has witnessed an increase of 30.4% in deal value and a 11.0% decrease in the deal volume in 2021 compared to the previous year. In ports and terminals industry, players are becoming more interested in horizontal collaboration, which can range from ad-hoc cooperative ventures to mergers. The recent growth of Port Community Systems can be a prominent illustration of vertical collaboration in the industry.

# Global Maritime & Offshore



## Overview

The current conflict between Russia and Ukraine led to increased uncertainty at a time when the world economy is on the path of post-pandemic recovery.

The COVID-19 disruption had created substantial impact on maritime transport. Maritime trade decreased by 3.8% in 2020 because of the shock in the first half. However, there was a recovery in the second half of the year, and by the third quarter, volumes had returned for both containerized commerce and dry bulk commodities setting the groundwork for a revolution in global supply chains and new marine trade patterns. The condition of tanker shipping, on the other hand, has yet to fully recover. As per the latest United Nations Conference on Trade and Development (UNCTAD) report, 4.1% growth was predicted for 2021.

The COVID-19 pandemic developed in phases and at different speeds, with varying courses across regions and markets which somewhat absorbed the shock. The comeback in trade flow was partly caused by huge stimulus packages and increased consumer spending on goods as well as boom in e-commerce, particularly in the United States. Later, there was more widespread optimism in advanced regions as a result of vaccine implementation. However, it was also due to pent-up demand for automobiles, as well as restocking and inventory-building. The recovery was relatively quick as unlike the global financial crisis of 2009, the downturn was not globally synchronized.

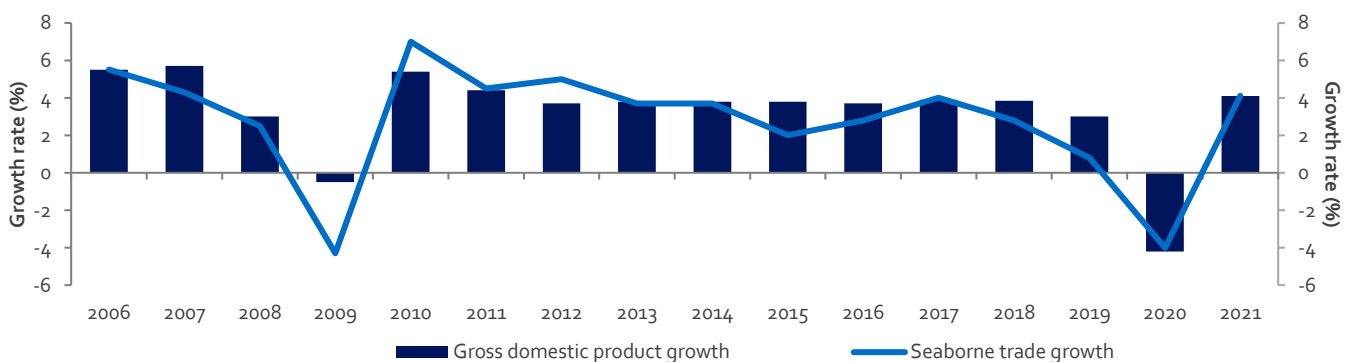
While carriers managed to buffer the shock and disruption, port and landside operations found it more difficult to react, and seafarers were put in jeopardy as the pandemic sparked an unprecedented global crew-change crisis. Because of the health risks and travel limitations, hundreds of thousands of seafarers were unable to return home, while an equal number were unable to join their ships and pay for their families.

Over the last two decades, marine trade has grown at a CAGR of 2.9%, but UNCTAD predicts this trend to decrease to 2.4% between 2022 and 2026.

The ongoing Russia - Ukraine war has led to the next global disruption. The conflict has a substantial impact on the tanker market, since Russia is a key player in the oil and gas sector. Grain supply is also disturbed as Ukraine as well as Russia are main grain producers, both belonging to the world's major producers.

The ports of the Black Sea are of great importance for as well Russia as Ukraine. For Ukraine Odesa, Kherson and Mykolaiv are key ports for international trade flows, but shipping on the Ukrainian side on the Black Sea has come to a standstill.

**Figure 1: Development of International Maritime Trade and Global Output (2006–2021)**



**Outlook**

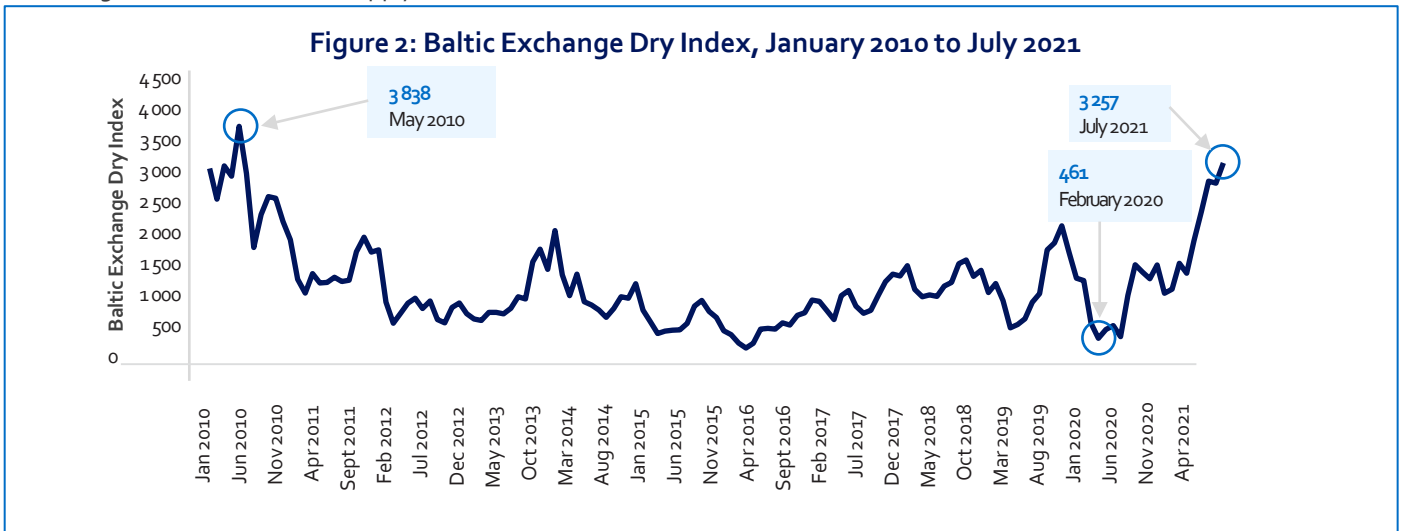
- ➔ The Russian invasion of Ukraine has changed the world, a military conflict causing most of all deep civilian sorrow; but it is also an economic war, influencing all aspects of the global economy
- ➔ The shipping industry is becoming increasingly complex with highly automated and digitalized technology being used for vessels. Supply and freight chains are being reinvented in order to improve operations between shippers, carriers, purchasers and service providers
- ➔ Cooperation among equipment vendors or freight chain suppliers is expected to reduce risks
- ➔ Regulatory environmental requirements are predicted to be the cause of investments in vessels and fleets, and sources of innovation and income for equipment manufacturers



**Dry-Bulk Sector**

The demand shock from the COVID-19 pandemic had put downward pressure to an oversupplied market in the first half of 2020, resulting in a decline in dry bulk shipping freight rates. In contrast, demand for dry bulk cargo increased in the second half of 2020, particularly for iron ore and grain entering China. This, combined with slower expansion in the active fleet, drove up freight prices. The Baltic Exchange Dry Index, which gauges the cost of shipping various raw materials such as coal, iron ore, cement, grain, and fertilizer, reflected this with just 461 points in February 2020, but rising to 3,257 points by July 2021. The index showed a three-decade high in October 2021 with 5,647 points. However, it showed a sharp decline in November 2021, which signals the end of the ongoing inflation in the trade sector.

Both Russia and Ukraine are major grain producers and exporters. From the start of the war between Russia and Ukraine Ukrainian ports are shut. And they probably will remain shut until the conflict ends. Although even once the conflict eases, there may still be some hesitancy by shipowners to dock at these Black Sea ports, whilst insurers may also be reluctant to provide the necessary insurance. With the supply disruptions concerns over food security have raised. Grain importing countries will look at other origins in order to ensure supply.



Source: UNCTAD (22,23), based on data from Clarkson Shipping Intelligence Network.

Freight prices remained high into the first half of 2021 as a result of continued high demand, fewer new vessel deliveries, and increasing scrapping activity. Delays induced by port congestion also had an impact on rates.

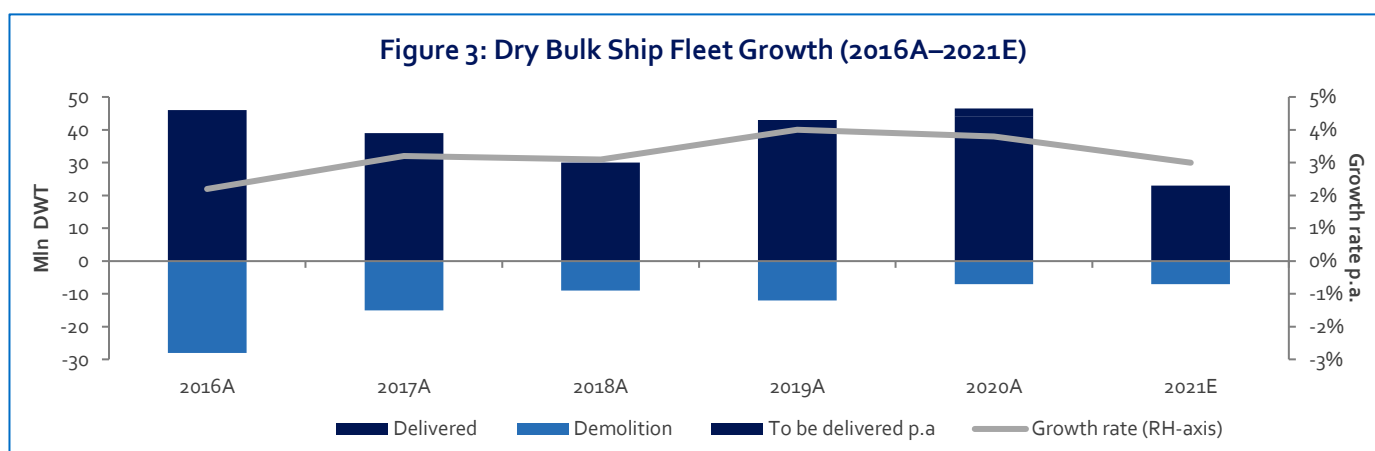
The number of vessels stuck in port congestion increased from 4% of the fleet in the fourth quarter of 2020 to 5% in the first quarter of 2021. This was mostly owing to increased exports of iron ore and grain products from Brazil, which caused up to 100 Capesize and Panamax vessels to be stranded at Brazilian ports during February and March 2021.

## Fleet and Demolitions

Despite the disruption to shipyards in early 2020, deliveries of dry bulk ships reached a four-year high by mid-November, totaling 42.2 mln DWT. BIMCO had estimated full-year growth of 3.8%.

Drivers of fleet development were ore carriers accounting for 54% of the total demolitions, with 24 VLOCs having a capacity of 6.7 mln DWT. However, delivery of the 20 new VLOCs this year (~6.5 mln DWT) had been enough to replace all the capacity lost. Four VLOCs launched in 2020 brought total deliveries of these ships to 7.9 mln DWT.

BIMCO had forecasted the pace of fleet growth to slow in 2021 to 3%, marking the lowest increase in capacity since the turn of the century, with a low order book signaling a dip in the number of ships. The latest data (August 2021) showed 53.9 mln DWT in the orderbook, which is a significant decrease from the past two years.



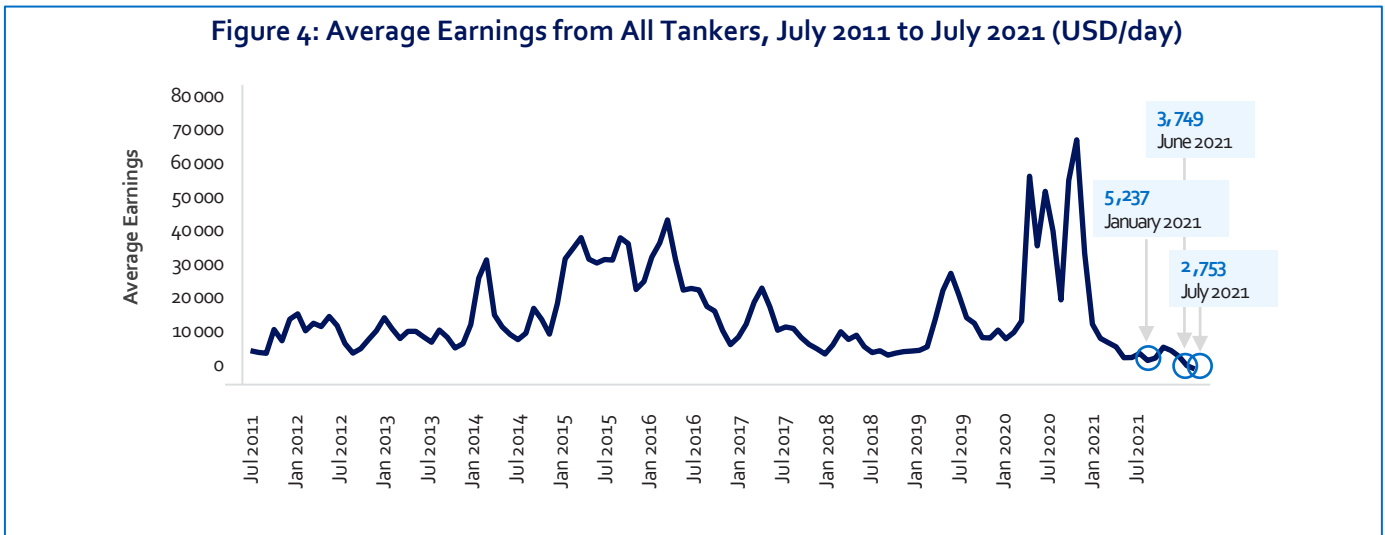
Source: UNCTAD (22,23), BIMCO, Clarksons

## Outlook

- ➔ Looking ahead, dry bulk demand is expected to rise while capacity remains manageable, implying that rates will remain high. As per Clarksons Research, the orderbook represents just about 6% of the existing fleet capacity, the lowest level in three decades. Future freight rates will be heavily influenced by demand growth, particularly from China, but the market will also be influenced by the ongoing energy transition and changes in fuel mix preferences. However, high freight rates may boost newbuild orders, causing the supply capacity to surpass demand in the medium term.
- ➔ The growing trend in freight rates has also generated concerns regarding market behavior and transparency in freight pricing. If the present spike in freight rates continues, it might have worldwide economic consequences. According to the UNCTAD calculation, it could raise global import prices by 10.6% and consumer prices by 1.5%. The impact will be significantly higher in SIDS (Small Island Developing States) where import costs might rise by 24% and consumer prices by 7.5%. Consumer prices in Least Developed Countries (LDCs) could rise by 2.2%.
- ➔ The conflict between Russia and Ukraine has caused severe supply chain disruptions within the grain trade. It is likely that grain importing countries will look for other countries for grain supply.
- ➔ The total impact of the war between Russia and Ukraine on the dry bulk sector remains muted because of the limited contribution of both Russia and Ukraine in the overall dry bulk trade.

 **Tanker Shipping**

Tanker shipping is the transportation of bulk items such as crude oil, gas, chemicals, and other products derived from crude oil refining. Tanker shipping often constitutes of a variety of tankers, including crude tankers, chemical tankers, and gas tankers. Globally, tanker shipping is governed by the International Maritime Organization (IMO).



Source: UNCTAD (22,23), based on data from Clarkson Shipping Intelligence Network.

Tanker freight prices increased in the first half of 2020, increasing profitability for tanker shipping businesses. COVID-19 effects dampened demand in the second half of the year, and rates began to fall in an oversupplied market. Oil tanker spot profits were USD 5,237/day in January 2021, but had dropped to USD 2,753/day by July, the lowest levels recorded. Short-term tanker freight rates are likely to stay low in the face of current low global demand and future uncertainties.

The tanker shipping industry encountered significant challenges. COVID-19 and several recent geopolitical difficulties have had a substantial impact on important commodities such as crude oil. Shipping demand has fallen drastically, and despite a minor short-term rebound, it is likely to remain low in the near term, and then fall further after 2032 due to the energy transition. Tanker shipping capacity is expected to rise steadily as a result of a high number of outstanding orders.

Oil inventories has been low in every trading hub, even before the invasion of Ukraine. The sanctions placed on Russia have a major impact on oil and gas commodities. Russia is a major oil and gas producer. Russia’s response to the international sanctions has been to order a halt to export amongst others oil and gas. One of the effects was a sharp increase of prices of oil and gas. It is uncertain how countries and refiners will take measures to tackle the situation of low inventories.

The uncertainty in the market has a propelling effect on the tanker spot rates. Drewry’s crude tanker equity index and Drewry’s product tanker equity index surged by 12.2% and 13.3% respectively since the beginning of the conflict, highlighting the massive increase in average spot earnings of crude and product tankers, especially on key routes in the Black Sea and Mediterranean.

According to shipbroker Gibson, Freight rates will likely remain volatile, and trade will become increasingly inefficient. Nonetheless, whether this creates a sustainable upturn in freight rates or not will depend entirely on the absolute demand levels.

**Outlook**

- ➔ According to McKinsey, increasing number of outstanding ship building orders and crude tanker oversupply is predicted to be even more intense in the next few years.
- ➔ The ongoing conflict between Russia and Ukraine has a substantial impact on the tanker market as Russia is a key player in the oil and gas sector.
- ➔ If the conflict stretches for a longer period, and the oil supply from Russia stays disrupted, it will increase oil prices and lead to demand destruction. This in turn will hurt global oil trade and put pressure on the earnings of oil tankers across vessel classes.

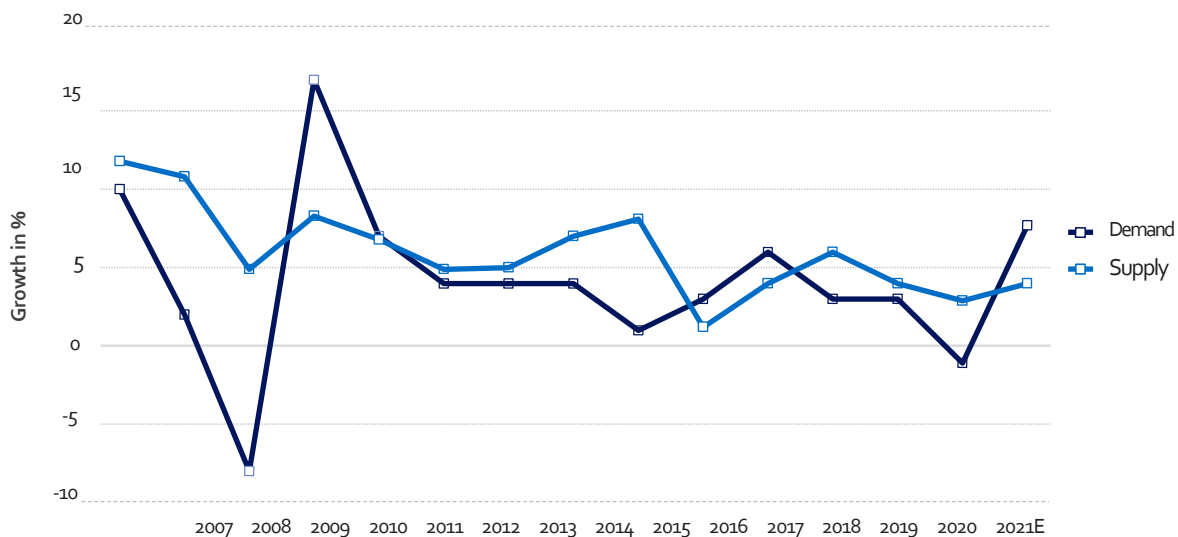


## Container Shipping

The container shipping market is heavily dependent on consumer spending, which was severely impacted during lockdowns across the globe. The months of April and May in 2020 suffered the worst impact as container shipping volumes declined by -13.6% and -11.0%, respectively, compared to the previous year. The lost volumes in June were less than half of this (-5.1%) and signaled the beginning of a muted recovery.

In terms of route, the Transpacific route traffic increased by 2.8% in 2020, boosted by an increase in flows from East Asia to the United States. Containerized trade between Asia and North America increased by 36% in the third quarter of 2020. While container transport imports to the United States had increased, exports from that country had decreased significantly. After being faced with port congestion and excessive wait times, stakeholders had opted for alternative solutions such as accepting more expensive air freight and keeping ships away from the busiest ports. The USD 1.9 trl stimulus program signed in March 2021 in the United States is projected to boost consumer spending.

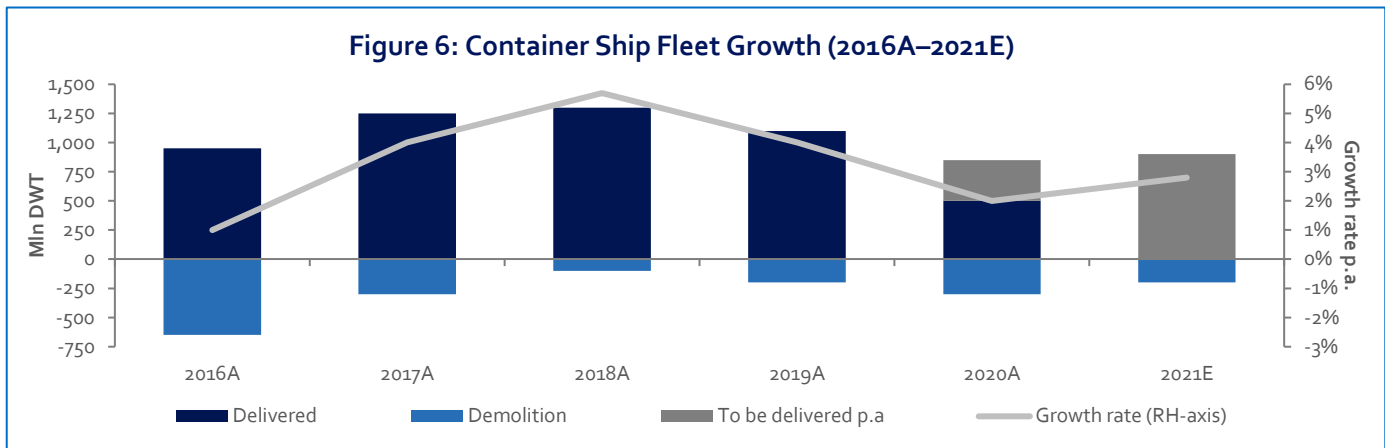
**Figure 5: Growth of Demand and Supply in Container Shipping, 2007–2021 (%)**



Source: UNCTAD (22,23), Clarksons Research



Since the Russian invasion of Ukraine trade and container movements in the Black Sea have ceased. Cargo and equipment are stuck at ports. Maritime trade with Russia and Russian businesses will be difficult in the next months. Due to closed borders, including air space and rail and road routes between Russia or Belarus and Europe, more demand for maritime shipments and equipment out of Asia occurred on the Asia-Europe trade. On global view, the war will increase more disruption on supply chains, more delays and overall inflation.



Source: UNCTAD (22,23), BIMCO, Clarksons

As per the data from Global Liner Performance (GLP) and Trade Capacity Outlook (TCO), 3.1 mln TEU, or 12.5% of shipping capacity, was out of service due to delays in August 2021. This compares to a prior high of 11.3% in February, which was followed by a decrease to 8.8% in April 2021.

## Outlook

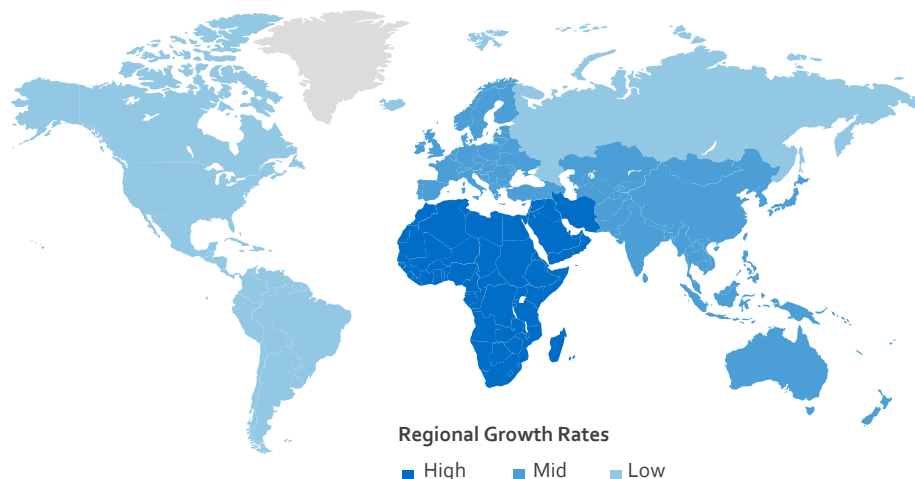
- ➔ According to IHS Markit, worldwide containerized export volume was expected to increase by 4.8% in 2021, fueled mostly by strong US container imports (15.7%), and is expected to rise by another 2-3% in 2022, owing to a high backlog recorded and a gradual recovery of the global economy.
- ➔ With supply-side pressures such as reduced congestion and many new building deliveries, container freight prices are projected to correct in the following years. Annual container fleet growth is expected to expand 4.5% in 2022, and 7.5% in 2023.
- ➔ UNCTAD has projected the impact of the present surge in container freight costs, predicting that worldwide import prices will climb by 10.6%, with a one-year time lag. The container freight rate surge refers to a 233% increase in the CCFI between August 2020 and August 2021, with the simulation assuming that the levels in August 2021 will be maintained throughout the simulated period.



## Offshore Supply Vessel

The offshore supply vessel (OSV) market is oversupplied, and the demand outlook is weak. To balance the market, scrapping of laid-up and older tonnage is necessary. This entails owners (and their banks) writing off value of their fleets. Until now, many market participants have been unwilling to do so. All players hope that others will take the loss or that an unforeseen event will boost demand. If a large part of the fleet remains intact, the oversupply persists, causing low rates and utilization. North America has been the dominant OSV market with increasing offshore exploration activities in the region including the Gulf of Mexico driving up demand for OSVs. Additionally, increasing offshore activity in Asian countries especially India could potentially lead to long-term contracts for the OSV providers.

Figure 7: Vessels Market – Growth Rate by Region (2019–2024)



Source: Mordor Intelligence

Growth drivers include growing exploration activities, increasing number of offshore wind farm projects, and increasing offshore decommissioning activities. Buoyed by the decline in capex and opex for both offshore oil & gas projects, the demand for OSVs is expected to surge. The decline in costs has also led to increasing exploration activities in ultra-deep waters and Arctic regions. It could, in turn, further fuel demand for OSVs.

OSV operators are increasingly investing in more efficient and environment-friendly battery-hybrid propulsion. Major companies including Tidewater, Atlantic Offshore, and Harvey Gulf International Marine are upgrading their vessels with battery-hybrid propulsion and US-based SEACOR Marine aims to have the largest battery-hybrid-powered OSVs fleet.

The Russian invasion of Ukraine has made the oil prices surge, coming close to USD 110 per barrel. This makes the oil and gas e&p market a very interesting one for many companies. With the sanctions on Russia, 10 mln barrels crude oil do not enter the market, and alternative sources of supply are looked for.

## Outlook

- ➔ Decreasing rate of utilization has resulted in many OSV owners approaching their creditors for yet another round of restructurings. This, in conjunction with the fact that advances in technology have led to a higher rate of obsolescence of floating units, is expected to lead to more pressure on OSV companies to right-size their inventories.
- ➔ After years of crisis in the offshore supply vessel market, operators now widely project that a recovery is coming in 2022. But hundreds of vessels will have to be scrapped in order for the market to see a long-awaited and genuine recovery, analysts say.
- ➔ The energy consumption would decrease or stagnate in the future years, owing to offshore energy projects in both the oil & gas industries.

## Cruise Line

Cruise ships are part of the global travel business and operate in a variety of locations around the world, from the Mediterranean Sea to the Pacific Ocean. As per Statista, global cruise industry's income has risen to more than USD 27 bln in recent years, yet travel restrictions caused by the COVID-19 pandemic will have a significant impact on this sector in 2020. With its lengthy beaches and easy access to several adjacent ports in the beautiful Caribbean Sea, the United States leads the globe in cruise income. Prior to the pandemic, the US cruise industry's revenue was more than four times that of Germany, the second-largest market. The United States remained the market leader in 2020, but revenue fell by almost USD 12 bln from the previous year

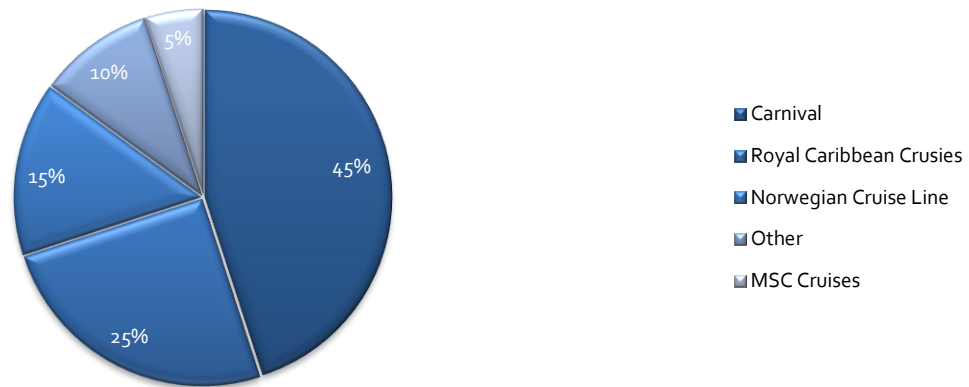
The global passenger capacity was at 27.5 mln in 2018 and was down to 7.1 mln in 2020. In 2019, demand for cruise from North America accounted for almost 59% of the total number of cruise passengers. The COVID-19 situation had severely impacted cruise demand for most of 2020 and had seen many sailings canceled well into 2021. According to the United Nations World Tourism Organization (UNWTO), international tourism had declined by 65% in the first quarter of 2020. The overall global ocean cruise business was expected to be worth USD 23.8 bln in 2021 with 13.9 mln yearly passengers transported (a 96.2% increase over 2020 and a -49.4% decline from 2019) as per Cruise Market Watch data.

The cruise industry has been terribly hit amid the COVID-19 pandemic. Travelers with underlying health issues were avoiding cruise ships as they feared infection risk in a cruise-ship setting. In the event of an outbreak, cruise lines were required to subject passengers to further health screening.

Ships were also expected to follow the increased cleaning protocols, which included more frequent hull cleaning. Some businesses were destroying cruise ships and selling them as scrap metal, with many ships landing in the United Kingdom, Italy, and the United States for deconstruction.

The cruise industry is on the verge of recovery and the threat of COVID-19 and the Omicron variant all but in the past. However, the invasion of Ukraine by Russia all changes good times again. Ports in the Black Sea will not be visited, nor will the port of St. Petersburg. Another major step back is the increasing oil price, also a result of the Russia-Ukraine war. Fuel prices, the most significant expense for cruise companies, are rising to extreme heights, with almost triple prices compared to 2020. This certainly is going to affect cruise prices.

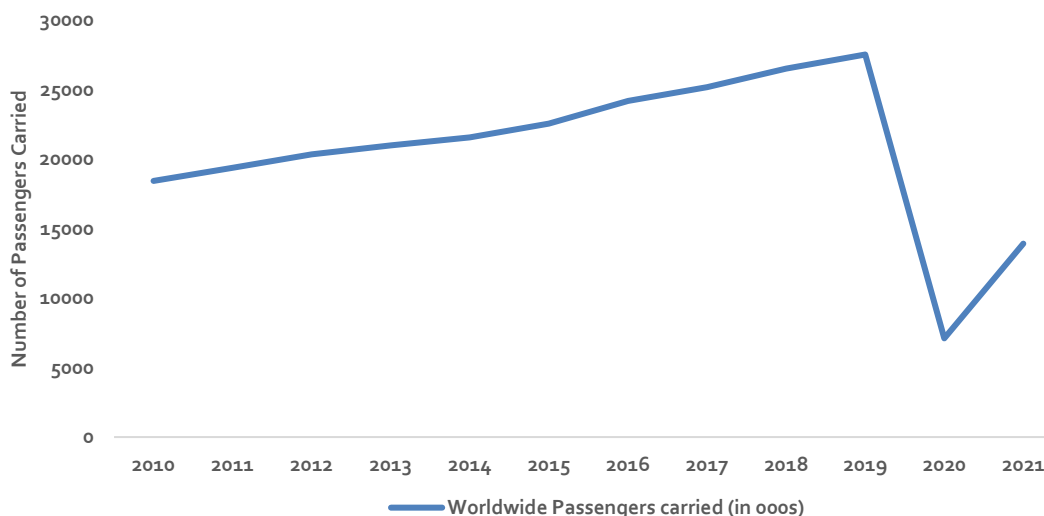
**Figure 8: Worldwide Market Share of Leading Cruise Companies in 2021**



Source: Statista (24)

The data given below on the worldwide passengers carried by cruise industry from 2010 to 2021 shows the impact of COVID-19

**Figure 9: Worldwide Passengers Carried (2010–2021)**



Source: Cruise Market Watch (7)

## Outlook

- ➔ The cruise industry growth will be driven by a record order book of over 117 new cruise ships with deliveries scheduled through 2027. New ship deployment will be largely driven by the Caribbean region (32%), followed by the Mediterranean region (17%) and the European region (11%).
- ➔ Key market participants have initiated their growth plans. For instance, MSC Cruises is planning for the biggest growth with 14 ships on order including 10 mega-ships, four smaller ships, and 1,000-guest luxury vessels since the company is focusing on dominating the high-end market. Additionally, Carnival Corporation has 20 ships on order from 2019, extending its order book through 2024. Further, Royal Caribbean Cruises has an order book of 15 ships with a delivery line through 2026.



## Ports/Terminals

Ports and terminals are critical components of the global supply chain since they serve as entry and exit points for cargo all over the world. Cargo ships worth millions of dollars must turn around rapidly, loading or discharging their contents as soon as possible. As the world's commerce fleet grows and ships become larger, these ports are under growing pressure to increase capacity and enhance efficiency.

Port facilities come in a variety of shapes and sizes. These include:

 <p>Massive container-handling terminals known as hub ports</p>	 <p>Massive gantry cranes handling the largest container ships carrying over 10,000 containers each</p>	 <p>Floating single point mooring buoys anchored offshore</p>
 <p>Ports handling Very Large Crude Carriers (VLCCs) and other tankers discharging oil via a pipeline</p>	 <p>Mining ports that load the largest bulk carriers</p>	 <p>Warehouses that handle pallets of refrigerated products</p>

Source: Marine Insight

The past year has been extremely difficult for port operations. The effects of COVID-19, along with the ongoing Gigen issue in the Suez Canal, have caused congestion and equipment shortages as well as disrupted supply chains. Nonetheless, ports have stayed functional and have continued to serve a variety of economic flows. Their experience has highlighted the value of being prepared for the unexpected and developing resilience. However, the COVID-19 problem has created new chances for diversification and improved links between maritime and other types of transportation.

The Russian invasion of Ukraine has a major impact on the Ukrainian ports on the Black Sea - all of them are closed. Meanwhile, the Russian and Crimean ports are continuing their normal operations.

According to Clarksons Research wide-scale congestions keep on providing harbors around the world with problems, and the recent Ukraine war have only made problems worse. The 'direct and indirect impacts' of the war in Ukraine are, for instance, sanctions and new routes, which cause further inefficiencies across the maritime transport system.

The fact that some regions in China are in lock down again also worsen congestion problems.

During the pandemic, customers sought safer means to meet their demands, resulting in a surge in online retail sales which was USD 4.28 trl globally in 2020. This trend is predicted to continue, and e-commerce revenue is expected to reach USD 5.4 trl in 2022 (Statista, 2021). These increased quantities, combined with expectations for a faster delivery, have increased demand for better logistical facilities, particularly sufficient warehouses to store products as well as space to fulfil and dispatch orders while also delivering value-added services.

Ports are also investing in new technology to monitor supply chains, detect potential disruptions, and follow cargo to their final destinations. Several Asian ports, including Sichuan and Hainan in China, announced investments in smart logistics in 2021.

The port & terminals market has seen an increase in the use of Internet of Things (IoT) solutions to improve safety and operational efficiency at port terminals. These reduce human effort and increase operational efficiency in areas such as real-time container and ship tracking, controlling and enabling access to closed circuit TV (CCTV) cameras for the entire port, and tracking and identifying assets and vehicles for complete traceability within the port’s vicinity. Furthermore, the ports & terminals sector is putting a larger emphasis on investing in new technologies such as AI and blockchain and evolving into 'Smart Ports' as there is an increasing concern of cyber-attacks due to the presence of important marine data points in the supply chain.

There have been recent developments in the ports & terminals market that shows the interest toward investing on green opportunities to generate new revenue streams. Some of these worth mentioning initiatives are:

**Figure 10: Industrial port projects focusing on green opportunities for new revenue steam generation**

Alternative energy	Bunkering infrastructure	Facilitating import of alternative energy and storage infrastructure
<ul style="list-style-type: none"> <li>Project to develop hydrogen-based exports from the Port of Fujairah (United Arab Emirates)</li> <li>Project to develop offshore wind energy to generate hydrogen at North Sea Port (Belgium)</li> </ul>	<ul style="list-style-type: none"> <li>Pilot hydrogen filling stations in the port of Antwerp</li> <li>Proposed hydrogen infrastructure at Kobe, Chita, Yokkaichi and Hibikinada ports (Japan), capitalizing on existing hydrogen pipeline</li> </ul>	<ul style="list-style-type: none"> <li>Project to develop a terminal in Germany for import and onward distribution of LNG, encompassing storage and ancillary services (Brunsbüttel Ports, Germany)</li> </ul>

Source: UNCTAD

## Outlook

- ➔ The world is now making the switch to cleaner energy. This will be expensive. It is anticipated that reducing shipping emissions by 2050 will necessitate an annual average investment of USD 40 - 60 bln between 2030 and 2050. The majority of this investment is to produce alternative fuels such as ammonia, hydrogen, and methanol, as well as the development of new land-based infrastructure for storage and bunkering.
- ➔ The energy revolution has far-reaching consequences for ports. Less oil trading means less revenue from storing and transporting fossil fuels. Ports are attempting to establish new markets and value-added services in order to prepare for a future without carbon fuels.

# Ports and Terminals



## Global Ports and Terminal Market Overview

### Port Facility Types and Uses




Port facilities come in a variety of shapes and sizes. From massive container-handling terminals known as hub ports with massive gantry cranes handling the largest container ships to floating single point mooring buoys anchored offshore handling very large crude carriers (VLCCs) and other tankers discharging oil via a pipeline. From mining ports that load the largest bulk carriers with dense ore in a couple of hours to gleaming warehouses that handle pallets of refrigerated products bound for supermarket shelves. These different types of port facilities help in various activities being a part of the global supply chain.

### Categories of port terminals

Ports are complexes including at least one terminal, but larger facilities include a variety of terminals. The composition of these terminals determines the role and function of the port with some ports being multifunctional, while others can be specialized. Terminals come into three major categories:

- General cargo: unitized cargo that can be carried in batches and handled by three specialized terminal types; break-bulk terminals, neo bulk terminals (e.g. car terminals), and container terminals. The latter has become the most prevalent unitized cargo terminals and have been subject to pressures towards economies of scale.
- Bulk cargo: Loose cargo carried in loads relative to the ship size and the storage capacity. Liquid bulk and dry bulk rely on different transshipment techniques and are, consequently, two distinct categories of bulk terminals. Further, most bulk terminals are specialized to the level of a unique commodity, such as coal, grain, iron ore, natural gas, or petroleum.
- Passengers: a relatively small element of modern port terminals, with the notable exception of areas with high intensity of ferry services (e.g. Aegean Sea, the Baltic, or Indonesia). The growth of the cruise industry has led to the emergence of specialized cruise terminals.

Figure 11: Categories of port terminals

					
Ports	General cargo <i>Unitized cargo</i>	Break bulk (drums bags, pallets, boxes)	General warehouses	Lift-on/lift-off Av. 1 day in port	7% of tonnage
		Neo bulk (lumber, paper, steel, vehicles)	Parking spaces, warehouses	Lift-on/lift-off; Roll-on/Roll-off Av. 1 day in port	5% of tonnage
		Containerized (containers)	Paved yards	Lift-on/lift-off Av. 0,9 day in port	13% of tonnage
	Bulk cargo <i>Loose cargo</i>	Liquid bulk (petroleum, LNG, chemicals, veg.oil)	Storage facilities	Pumps and pipelines Av. 1,2 days in port	35% of tonnage
		Dry bulk (coal, iron ore, grains, bauxite, sand)	Open or covered stacks	Grabs / suction and conveyors Av. 2,7 day in port	40% of tonnage
	Passengers <i>People and vehicles</i>	Ferry & cruises	Parking spaces, waiting queues, terminals	Roll-on/Roll-off, gangways < 0,5 day in port	
		Terminals			

Source: Transportgeography.org

## Ports and their Regional Dynamics

Due to the operational characteristics of maritime transportation, port location is constrained to a limited array of sites, mostly defined by geography. Since ports are bound by the need to serve ships, access to navigable waterways has been historically the most important site consideration. Before the industrial revolution, ships were the most efficient means of transporting goods across all modes. Thus, port sites were frequently chosen at the head of water navigation, the most upstream site, such as London on the Thames, Montreal on the St. Lawrence River, or Guangzhou on the Pearl River. Ship draft was small, so many sites were suitable to be used as ports. Sites on tidal waterways created a particular challenge for shipping because of the twice-daily rise and fall of water levels at the berths. This implied that protected areas such as bays were particularly suitable as port sites.

Port sites have been the subject of geographical considerations, with a preference for sites combining a good maritime profile with inland accessibility. There is a vast array of port sites linked to specific nautical profiles, which are articulated around seaports and mainland ports.

- Sea ports are ports with direct access to the sea. They use the advantages of its local geographical feature. The feature can involve a bay or direct coastline, a natural harbor or a protected location.
- Mainland Ports are ports plotted at a major river, which often serves a vast hinterland. There are ports in an estuary, a delta, or along a river. The latest is often located at the furthest point of inland navigation.

The dynamics of ports and terminals are growing more regional, signifying a new evolution from their original local purpose, notably as industrial clusters. The port of Hong Kong, for example, owes its prosperity to its natural location and geographical location as a transit harbor for southern China. With the Yangtze river system, Shanghai serves a comparable purpose for central China.

Singapore, for its part, has benefited from its location at the mouth of the crucial Strait of Malacca and is thus a point of convergence for Southeast Asian transit. More than 90% of the traffic it handles is exclusively transshipments (cargoes moving from one maritime service to another without exiting the port terminal). Through the Hudson/Erie Canal system, New York has long served as the entrance to the North American Midwest, a function that Western European ports such as Rotterdam and Antwerp do with their access to the Rhine system.



Mainland port

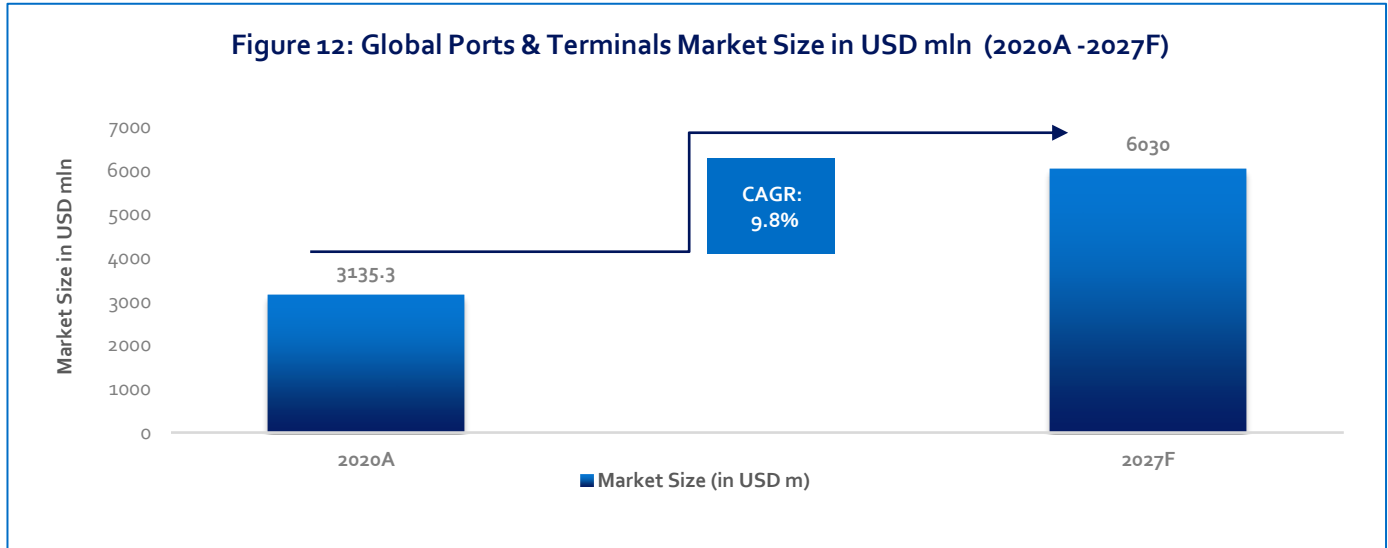


Sea port

Throughout the first half of 2021, many North American ports saw increases in cargo volume, particularly imports, as the national economy recovered in the face of the pandemic. With consumer confidence rising and economies expanding in the second half of the last year, products were exported at an unprecedented rate. Due to pent-up demand, major ports such as New York/New Jersey (NY/NJ) and the Ports of Los Angeles (LA) and Long Beach (LB) have continued to endure delays, including wait periods and ship arrival delays. Container ships have been queuing up at the ports of Los Angeles and Long Beach at rates not seen since the peak season of 2020.

**Ports and Terminals Global Market Size**

The ports and terminals global market reached USD 3,135.3 bln as per the reports by Research and Markets. The market is predicted to grow by 9.8% for the period 2020-2027 and reach USD 6,030 mln by the year 2027.

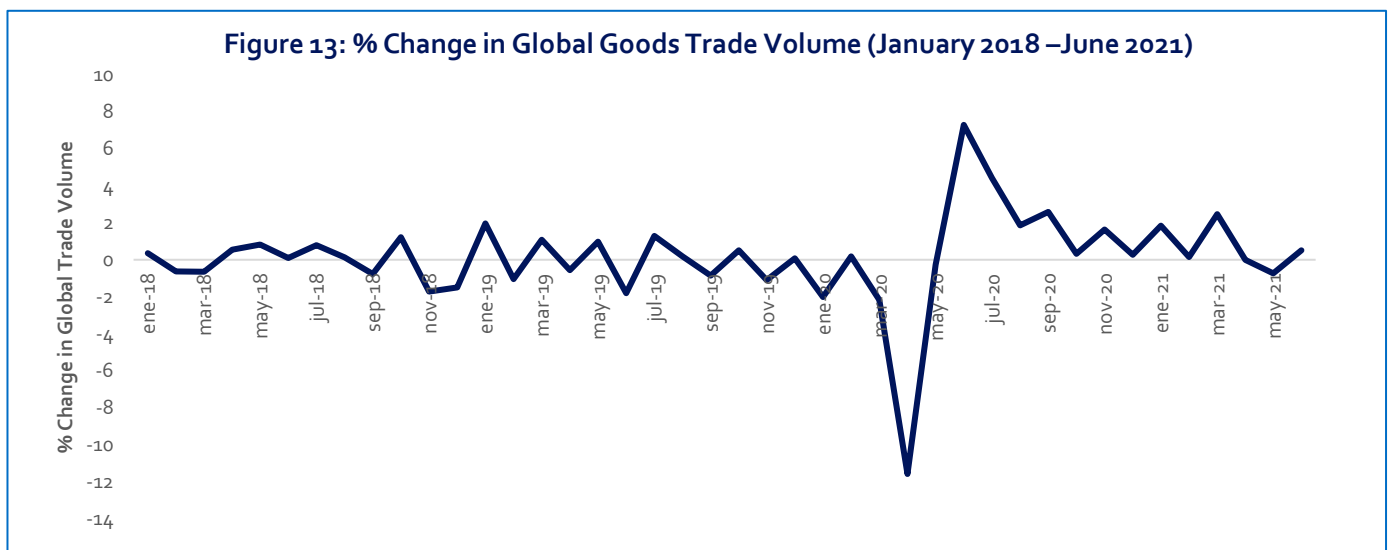


Source: Research and Markets

**Ports and Terminals Market and International Trade**

The ports and terminals market is heavily dependent on global imports and exports. According to a UNCTAD report issued on November 2021, the value of global imports and exports of goods reached USD 5.6 mln in the third quarter of 2021, setting a new quarterly record. However, the overall excellent performance of trade masks the fact that the recovery has been uneven between countries and sectors. The positive trend in international commerce in 2021 is mostly due to a robust recovery in demand as a result of easing pandemic restrictions, economic stimulus packages, and commodity price hikes. The 2022 outlook for global imports and exports is predicted to be highly uncertain.

Maritime transport supports global supply chain links and economic relations, with shipping and ports handling more than 80% of global commercial trade by volume and more than 70% by value. Ports and terminals are primarily utilized for trading goods globally. So, the market is dependent on the trade volume across the globe. Figure 13 shows the change in global trade volume from January 2018 to June 2021, which captures the period that witnessed all COVID-19-related market dynamics.



Source: Statista





## Key Traded Commodities from Major Ports and Terminals

### Global Trade Insights and Outlook

Following an unusually robust performance since the second half of 2020, global commerce in goods declined in Q3. In this scenario, a moderate recovery in Q4 2021 is projected (+0.8% q/q after -1.1% in Q3 for trade in goods).

According to Euler Hermes, production shortfalls account for 75% of the present decrease in global trade volume, with the remainder explained by logistic bottlenecks.

There is also a risk of a double-dip in Q1 2022 since instability in trade flows is expected to persist until the spring. Looking forward, three factors will promote trade normalization beginning in the second half of 2022.

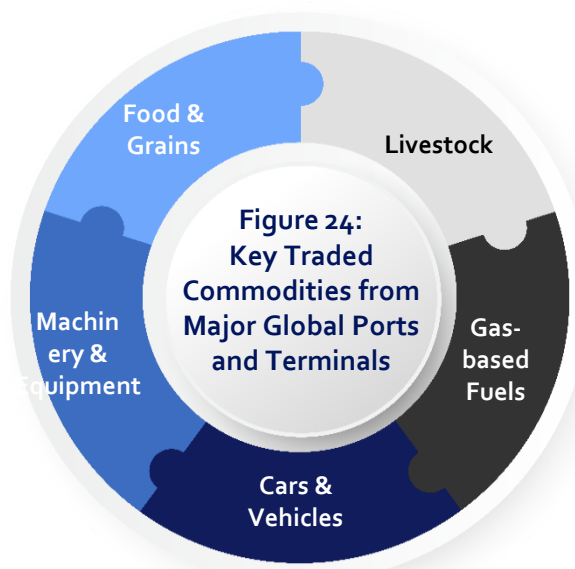
### Role of Ports and Terminals in Transporting Key Commodities

Ships deliver more than 80% of global commerce volume and around 70% of trade value (Marine Insight, 2021). Dry bulk ships, containerships, and oil tankers comprise the global fleet that transports seaborne cargo. Each vessel type specializes in distinct product classes and can be divided into two types: those that run on fixed itineraries such as buses, and those that operate on flexible routes such as taxis. Containerships are classified as part of the first category, whereas gas/oil tankers and dry bulk ships are classified as part of the second.

As per Port Economics Management, dry bulk ships are the primary form of transportation for commodities such as grain, ore, and coal, accounting for over half of all seaborne trade and 45% of the total global fleet.

### Key Traded Commodities from Port and Terminals

In today's world, transporting commodities via seaborne vessels has become one of the most cost-effective modes of transportation, based on the cost per ton and fuel consumed per ton moved and ships are customized to handle a wide range of goods, from machinery and equipment to food and cars. Crude oil, fuel gases such as LNG and CNG, minerals, and ores all require their own sorts of vessels that are specifically designed to meet the challenges that these volatile items provide. Following are some of the most common cargo items transported through Ports and terminals.



Source: Port Economics

### Dry bulk terminals

The term major bulk refers to commodities that are transported in very large quantities using bulk carriers.

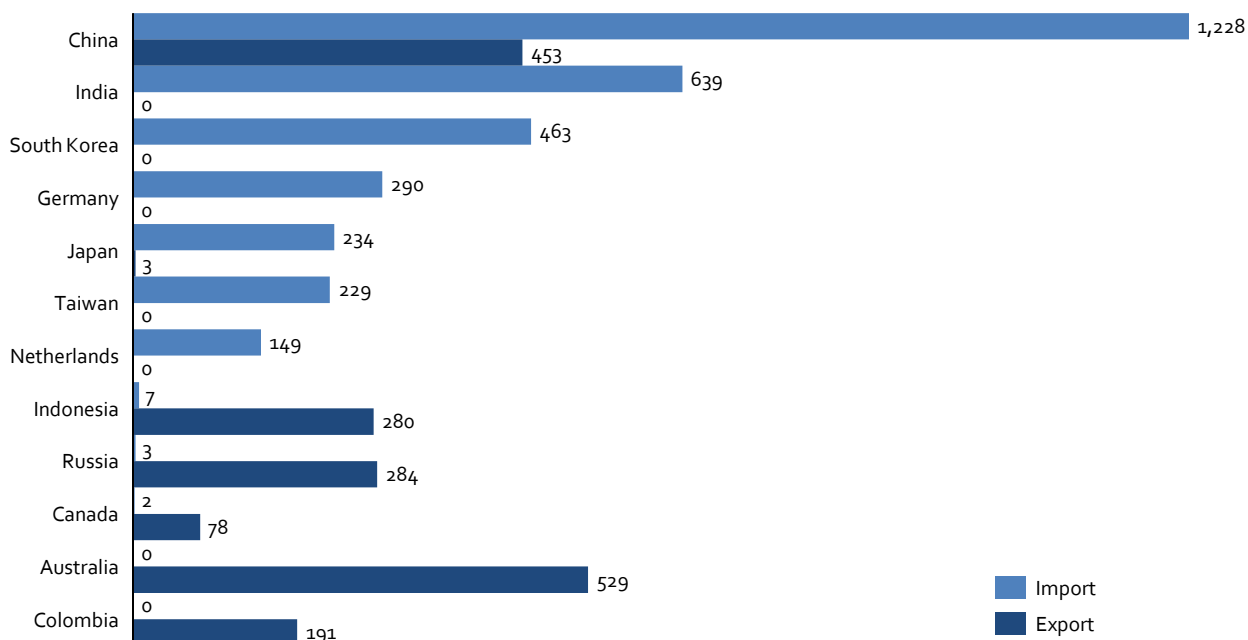
Three major components impact bulk terminal design:

1. Supply characteristics – dry bulk can be extracted from mines, like coal, minerals such as iron ore or are collected from extensive areas, such as agricultural good like grain, soy, wood products. So, the origin of the dry bulk material can be determined by geographic or climatic conditions.
2. Demand characteristics – each bulk market has its own characteristic related processing and manufacturing activities. The location of these facilities is usually adjacent to port sites. The demand for bulk commodities is usually managed by large commodity traders and brokers able to consolidate purchases and distribution in large quantities.
3. Potential for economies of scale – the economic rationale in using the largest ship size possible considering the geographical distribution of the supply and demand is fundamental in the bulk market. This potential is limited by the characteristics of the waterways at the port of origin, in transit (e.g. Panama, Suez), and at the port of destination. The outcome is a wide range of bulk ship classes trying to reconcile supply, demand, and economies of scale.

Dry bulk market is divided in major and minor dry bulk commodities. Major dry bulk commodities include iron ore, coal, and grains. These major bulks account for nearly two-thirds of global dry bulk trade. Minor bulks include cargoes such as fertilizers, bulky agricultural products, cement, sand, petroleum coke, and metal scrap. The term minor bulk is derived from the potential economies of scale that can be realized due to market size and demand patterns that are more dispersed than for major bulk trades. Each bulk commodity represents a different market, implying a segmentation of the bulk trades. While major bulks are often loaded in large bulk carriers (such as Capesize and Panamax vessels), minor bulks are usually transported by sea in smaller and more versatile vessels such as handymax ships and coasters.

Coal is the largest source of electricity generation and the second largest primary energy source. Worldwide over 13,000 coal plants are active, with China as a large-scale consumer, with a capacity of over 1 mln MW. Furthermore, coal is important for heating in industries, like steel industry. Main importers are China, India and South Korea, main exporters are Australia, Russia and Indonesia.

**Figure 14: Global coal terminal capacity by country (Mtpa)**



Source: <https://globalenergymonitor.org/projects/global-coal-terminal-tracker/>



Port Hedland Iron Ore Port - Australia

### Iron ore

Four major mining companies dominate the iron ore market: Vale in Brazil, Fortescue, BHP and Rio Tinto in Australia.

Australia houses the largest one: Port Hedland with an export of 50.8 mln tons of iron ore. Other major ports are Dampier and Cape Lambert. Port Hedland is used by BHP, Fortescue and Atlas Iron, while Dampier and Cape Lambert are exclusively used by mining company Rio Tinto.

In Brazil Vale owns several iron ore terminals of which Ponta de Madeira is the largest. The terminals in the ports of Itaquí, Tuburao and Santos are also main iron ore export terminals.

### Grains

Corn, rice and wheat are the worlds most produced grains

- Wheat has a production of 775.9 mln tons (June-May 2020/2021)
- Rice production amounted to 507.2 mln tons (June-May 2020/2021)
- Corn production reached 1,122.8 m mln tons (June-May 2020/2021)

Middle East, North Africa, Sub-Saharan Africa Southeast Asia and East Asia are the main importers of wheat, while Australia, the European Union, Ukraine and Russia are the main exporters.

Concerning rice, India is by far the largest exporter, and China the main importer. North African countries together also form a major import force.

Major exporters of corn are Argentina, Brazil and Ukraine. China also is the main importer of corn, but also other countries in East Asia import substantially.

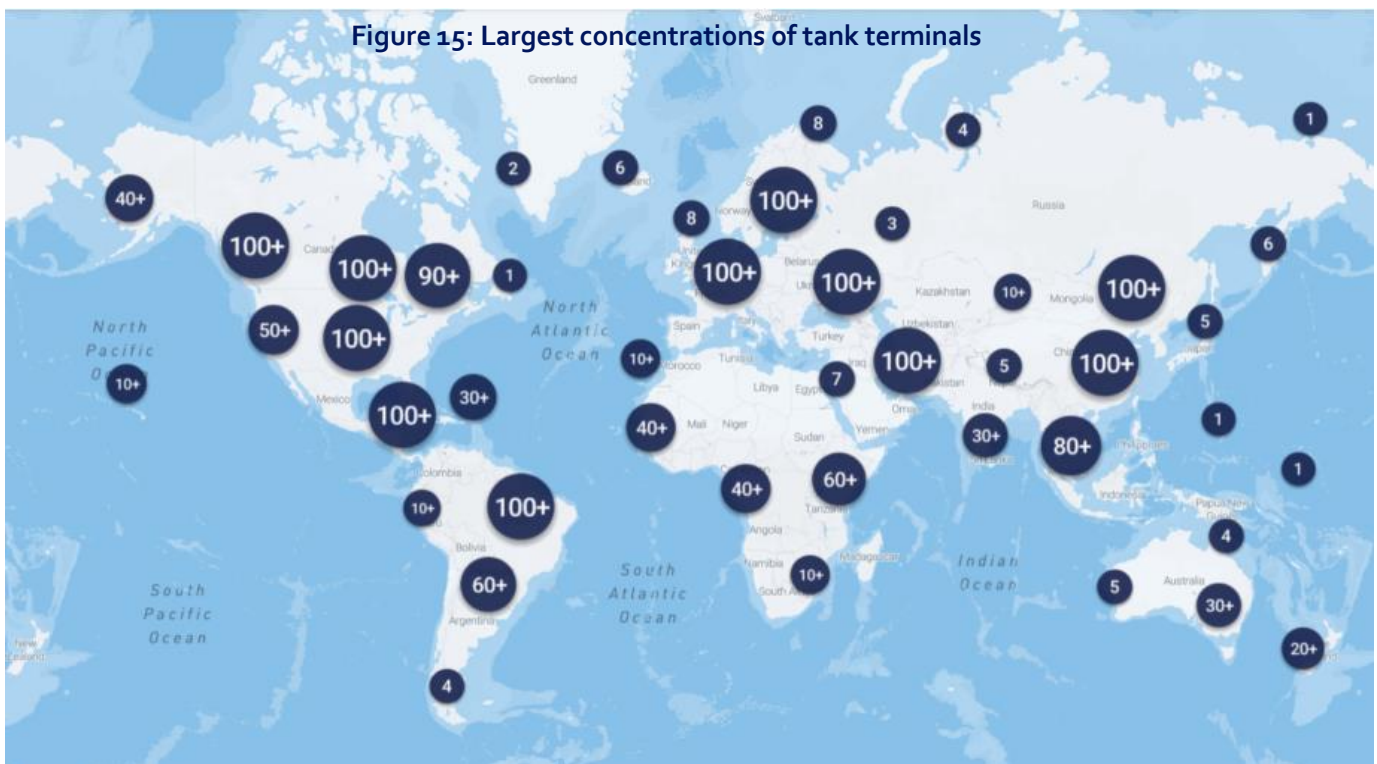
The world's largest commodity traders also operate the largest grain terminals worldwide. The main commodity producers, traders, logistic suppliers are Archer Daniels Midland (ADM), Bunge, Cargill and Louis Dreyfus.

Liquid bulk terminals

Liquid bulk accounts for 35% of throughput in ports worldwide. In our GMAP M&O Newsletter Tank Terminal published in August 2018 we elaborated on this subject.

Energy companies use complex networks of onshore terminals, storage tanks, blending facilities and pipelines. These bulk logistical facilities take crude oil from ships, storing and delivering it to the refinery at the right time. Similarly, they store and blend refined product to create the exact specifications required in certain markets before transporting it on to the end customer.

Global growth in energy demand and a change in product mix in coming years should create new opportunities for storage services. Additionally, storage activity depends on numerous factors such as global energy growth, energy mix evolution, production and consumption adequacy and locations, which all combined result in a more and more complex matrix to which storage players have to adapt.)



Source: [www.tankterminals.com](http://www.tankterminals.com)

As can be seen in the list of figure 16, based on total capacity, the biggest players are located in China with Sinopec, CNPC and PetroChina, followed by US with Kinder Morgan, Buckeye, Marathon, Enterprise and Magellan and Europe with Vopak and Oiltanking. With a combined total capacity of 223 Mcbm, the top 10 players cover around 21% of the total capacity globally.

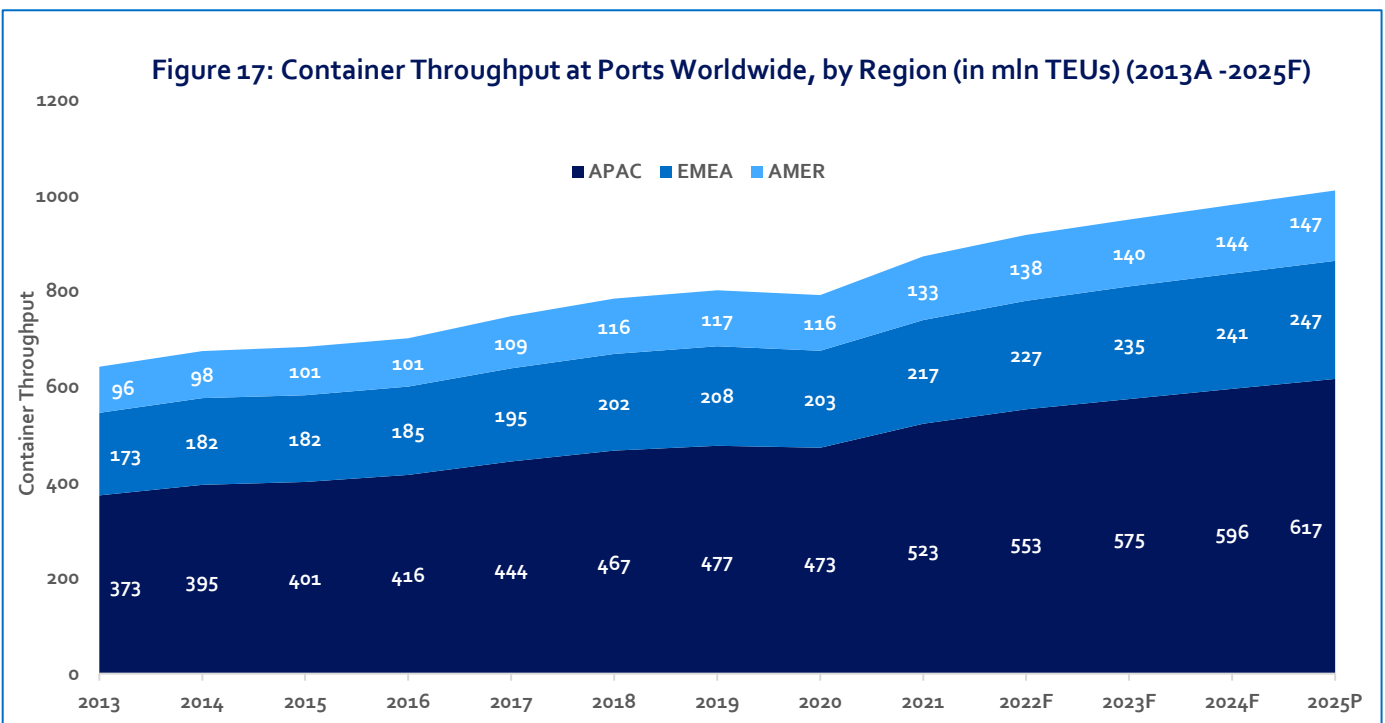
Figure 16: Major of tank terminal operators

Company	Terminals (#)	Capacity (Mcbm)
Sinopec	51	44.1
Vopak	69	33.1
CNPC	24	25.7
Kinder Morgan	96	21.7
PetroChina	34	19.8
Buckeye	114	18.1
Oiltanking	73	17.6
Marathon	99	16.7
Enterprise	55	13.2
Magellan	93	13.1

### Container ports

There are around 3,700 commercial ports in operation worldwide, although only a few hundred are truly global in importance. There are around 600 container ports, with 200 handling traffic in excess of 500,000 TEU. As a result, marine traffic has a high level of port activity concentration, a process primarily due to maritime access and infrastructure development.

The data below shows the container **throughput** at ports of APAC (Asia Pacific), EMEA (Europe, Middle-East and Africa), and AMER (North, Central, and South America) regions from the year 2013 to 2021. Moreover, the data is forecasted for 2022 to 2025 to understand the global market overview of ports and terminals in these major regions. The APAC region has always been dominating in terms of container throughput. The EMEA region has followed APAC with the AMER region capturing the least share compared to these two regions. The container throughput has always been on a rising trend with positive YOY growth for all the regions in these years except for 2020. COVID-19 pandemic can be one of the major reasons for this significant downfall.



Global container port **capacity** is projected to increase by an average 2.5% per year to reach 1.3 bln TEU in 2025. With global demand set to rise by an average 5% per annum over the same period, average utilization rates will increase from the current 67% to over 75%.

Most of the forecasted additional capacity will be delivered at existing terminals. Global operators are less keen on investing in greenfield projects. Existing terminals are being retrofitted for more automation, increasing capacity. The leading operators are also investing in digitalization, recognizing that this can increase the speed of movement of boxes through their facilities. Neutral trade platforms such as Trade Lens and GSBN use blockchain technology to streamline the regulatory and financial flows associated with the cargo.

Drewry’s Senior Analyst Eleanor Hadland: *“Improving cargo flow is key. If via the roll-out of blockchain-based technology GTOs can achieve higher volumes over the same asset base, this will drive improved returns on investment”*

Top container terminal operators

Besides regional container terminal operators, operating in its own region, country or port, about 21 container terminal operators operate on a global basis. These transnational terminal holding companies are grouped into three categories:

**Independent stevedores**, like PSA International with headquarters in Singapore is the largest global terminal operator coming from a stevedore background, followed by Hutchison Ports with headquarters in Hong Kong. Stevedores account for about 50% of the hectares controlled by terminal operators worldwide

**Maritime shipping companies**, invested in port terminal facilities to help support their core maritime shipping business. APM Terminals, a Maersk Line sister company, is the largest global terminal operator from a maritime shipping background. Shipping lines account for about 31% of the hectares controlled by terminal operators worldwide.

**Financial holdings**, include various financial interests ranging from investment banks and retirement funds to sovereign wealth funds attracted by the port terminal sector as an asset class, and with revenue generation potential. DP World, a branch of the Dubai World sovereign wealth fund, is the largest global terminal operator coming from a financial background. Holdings account for about 19% of the hectares controlled by terminal operators worldwide.

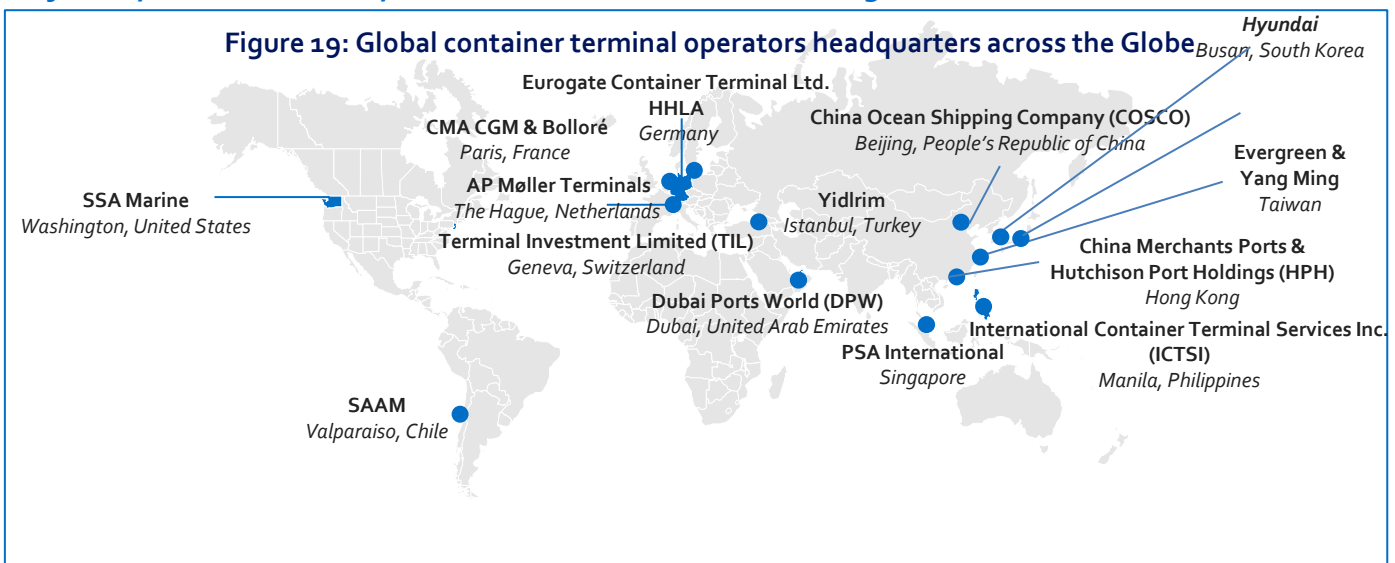
Figure 18: Global container terminal operators

Global container terminal operator	Country HQ	Throughput in TEU (2021)	# Ports (2021)
China Merchants Ports	Hong Kong	135,0	25
COSCO	China	105,6	44
PSA International	Singapore	91,5	60
Hutchison Ports	Hong Kong	88,0	48
DP World	UAE	77,9	40
APM Terminals	Netherlands	45,5	76
Terminal Investment Limited (TIL)	Switzerland	31,8	40
CMA CGM	France	26,1	35
SSA Marine	USA	14,0	18
Eurogate Container Terminal Ltd.	Germany	11,7	12
International Container Terminal Services Inc. (ICTSI)	Philippines	11,2	35
Evergreen Marine Corporation (EMC)	Taiwan	10,1	12
Hyundai	South Korea	9,5	8
NYK	Japan	8,2	13
MOL	Japan	7,8	11
HHLA	Germany	6,9	6
Yildirim / Yilports	Turkey	6,4	21
Bolloré Ports	France	5,3	15
Yang Ming	Taiwan	4,4	5
K Line	Japan	3,3	5
SAAM Puertos	Chile	3,0	10

Figures in italic are 2020 data

Sources: Drewry, website operators

Major Players in the Industry ( in Terms of Total Container Tonnage and Container Traffic )



Source: JBR Research

## Port Competition

The globalization of production and consumption, the establishment of a worldwide transportation network, and changes in inter-port interactions, terminal linkages, and logistics have increased port competitiveness. Port competition includes competition for trades with terminals as competitive units; logistics, transport, and industrial companies as trade chain managers; and port authorities and port policymakers as co-developers of the broadly defined port complex. Terminals are the primary focus of the competitive strategy.

Competition between ports has increasingly been replaced by competition among market players who are often present in more than one port (e.g., global terminal operators such as PSA, DP World, Hutchison Ports, and APM Terminals) or multimodal logistics and transport service providers who, in addition to operating various transport modes, offer combined stevedoring, storage, forwarding, and other activities.

### Factors affecting Port Competition

Port competition can also include rivalry among port authorities in order to provide the greatest facilities (both material and non-material) to all actors involved in the supply chains of various trades (e.g., stevedoring businesses, shipping companies, shippers, and multimodal transportation). The competitiveness of ports can also be understood by using a supply chain perspective. Port selection becomes more dependent on the overall network cost and performance. A well-coordinated logistic and distribution function of port facilities, with the participation of diverse service providers, promotes port demand. The traditional perspective on a port's competitiveness focuses mostly on physical qualities of a port, such as:

- Physical and technical infrastructure
- The geographical location
- Port efficiency
- Connectivity of the port on seaside and landside

### Top Ports as per Container Port Performance Index

The World Bank and IHS Markit designed a new index, the Container Port Performance Index (CPPI), in April 2021. This index incorporates information about vessels, port calls, cargos loaded and unloaded, and time spent in ports. The initial version was dominated by East Asian ports, led by Yokohama in Japan, which was ahead of Saudi Arabia's King Abdullah Port and China's Qingdao. In Europe, Algeciras in Spain was ranked 10th; in South Asia, Colombo in Sri Lanka was ranked 17th; and in the Americas, Lazaro Cardenas in Mexico was ranked 25th. The only other North American port in the top 50 was Halifax, Canada. Djibouti was the top-ranked port in Africa.

**Figure 20: Top 10 Ports (April 2021)**

Port name	Economy	Rank
Yokohama	Japan	1
King Abdullah port	Saudi Arabia	2
Chiwan	China	3
Guangzhou	China	4
Kaohsiung	Taiwan Province of China	5
Salalah	Oman	6
Hong Kong	Hong Kong, China	7
Qingdao	China	8
Shekou	China	9
Algeciras	Spain	10

Source: World bank, IHS Markit

Top Container Ports of Various Regions around the World

Figure 21: Top Container Ports Across the Globe



Source: Cushman & Wakefield Research (2021), Ship Freight (2022), Marine Insight

To have a more regional understanding of the port functions across the globe, top container ports in various regions of the world are given in the below table as per TEU.

Figure 22: Top Container Ports across the World and their TEU

Port Name	Latest Total Container Volume (TEUs)	Region	Port Name	Latest Total Container Volume (TEUs)	Region
1. Rotterdam (Netherlands)	14.8 mln	EU	1.Tangier Med port (Morocco)	9.0 mln	Africa
2. Antwerp (Belgium)	11.8 mln	EU	2.Durban (South Africa)	5.6 mln	Africa
3. Hamburg (Germany)	9.2 mln	EU	3.Port Said (Egypt)	3.5 mln	Africa
4. Piraeus (Greece)	5.6 mln	EU	4.Ngqura (South Africa)	2.0 mln	Africa
5. Valencia (Spain)	5.4 mln	EU	5.Mombasa (Kenya)	1.6 mln	Africa
1. Los Angeles	5.4 mln	North America	1.Shanghai Port	37.1 mln	Asia
2. Long Beach	4.7 mln	North America	2.Singapore Port	30.9 mln	Asia
3. New York/ New Jersey	4.3 mln	North America	3.Shenzhen Port	24.0 mln	Asia
4.Savannah	2.7 mln	North America	4.Ningbo Port	21.0 mln	Asia
5.Vancouver	2.0 mln	North America	5.Port of Busan	19.9 mln	Asia
1.Colon, Cristobal & Manzanillo	4.4 mln	Mexico & Latin America	1.Port of Sydney / Botany	-	Australia
2.PSA & Balboa	3.2 mln	Mexico & Latin America	2.Port of Darwin	-	Australia
3.Limon - Moin	1.2 mln	Mexico & Latin America	3.Port of Hedland	-	Australia
4.Lazaro Cardenas	1.1 mln	Mexico & Latin America	4.Port of Dampier	-	Australia
5.Veracruz	1.0 mln	Mexico & Latin America	5.Port of Melbourne	2.6 mln	Australia

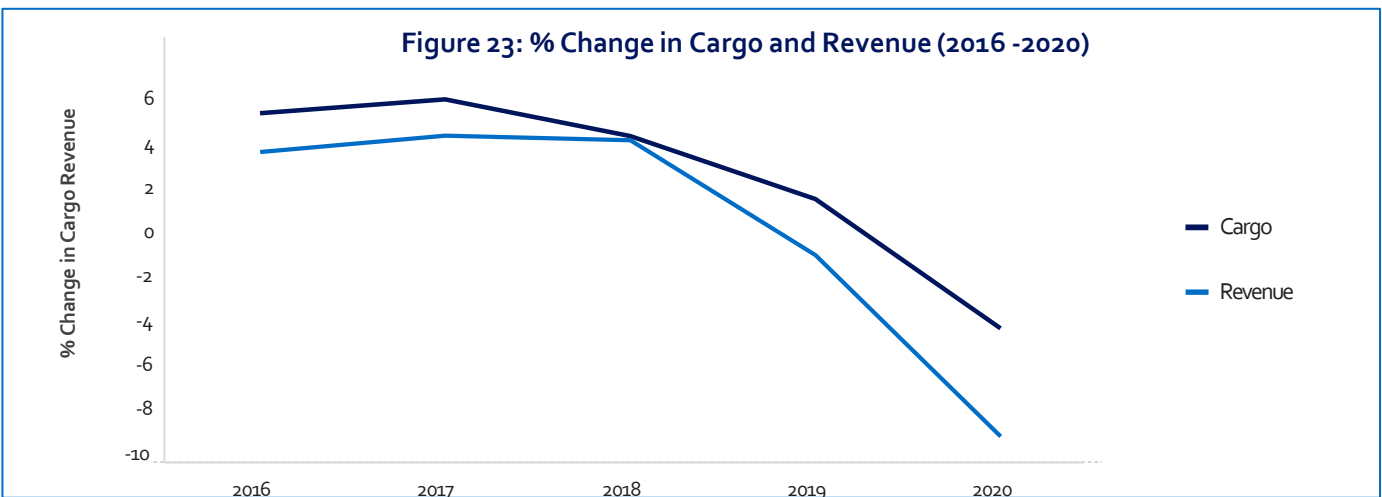
Source: Cushman & Wakefield Research, Ship Freight (2022), Nairobi News, Statista, Marine Insight



# Impact of COVID-19 on Global Ports and Terminals

## Impact of COVID-19 on Cargo Volume and Revenue on Ports and Terminals

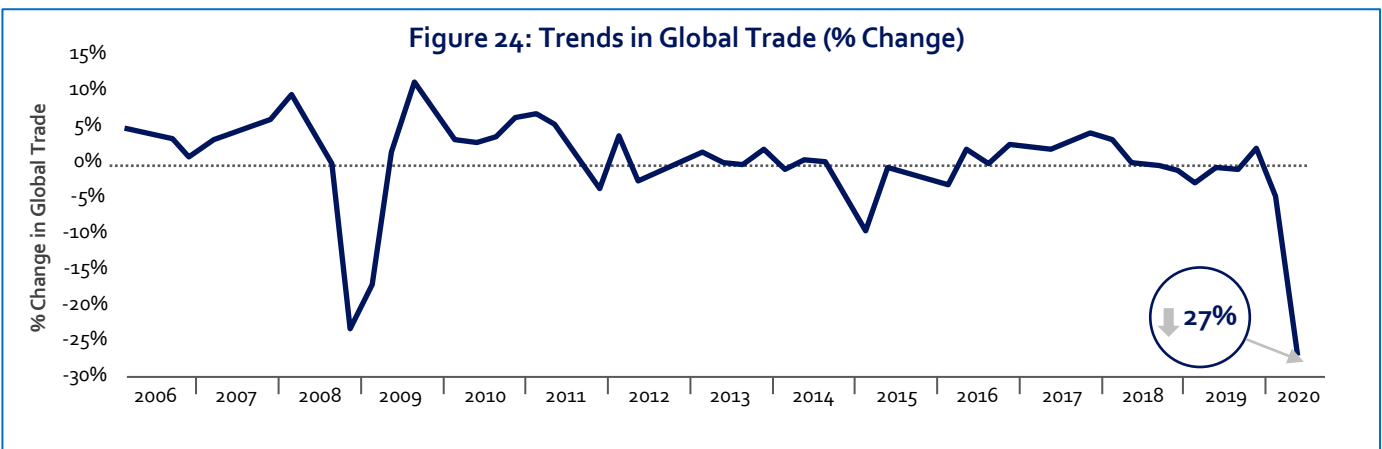
COVID-19 created a global health and economic crisis with far-reaching consequences for maritime travel and trade. Restrictions imposed in response to the pandemic have affected ports, shipping, and supply networks. Ports and terminals have faced challenges such as port closures, restricted operating hours, equipment and personnel shortages, and truck/transport capacity limits. These impediments hampered the smooth flow of trade and supply chain operations. The pandemic posed health dangers to port personnel and mariners throughout the world, as well as significantly reduced commerce volume. Between 2016 and 2018, shipments increased by a median of 5% per year, while revenues increased by 6%. Volumes were down by 4% in 2020, while total revenues were down by 9% (Figure 17). Various market players have reported significant increase in the cargo volume handled and the increase in revenue in 2021 which indicates that COVID-19 hit took the market to an all time low and only growth can happen from there.



Source: UNCTAD (25), TrainForTrade Network

## Impact of COVID-19 on Global Trade

As stated earlier, trade volume is very closely related to the ports and terminal sector. The world bank stated that merchandise trade had bottomed out in April 2020, dropping roughly 20% YOY after declining 10% in March 2020. It also mentioned that the trade contraction induced by COVID-19 was more severe than the one experienced during the 2008-2009 financial crisis. The contraction has affected the ports and terminals market in the same manner.



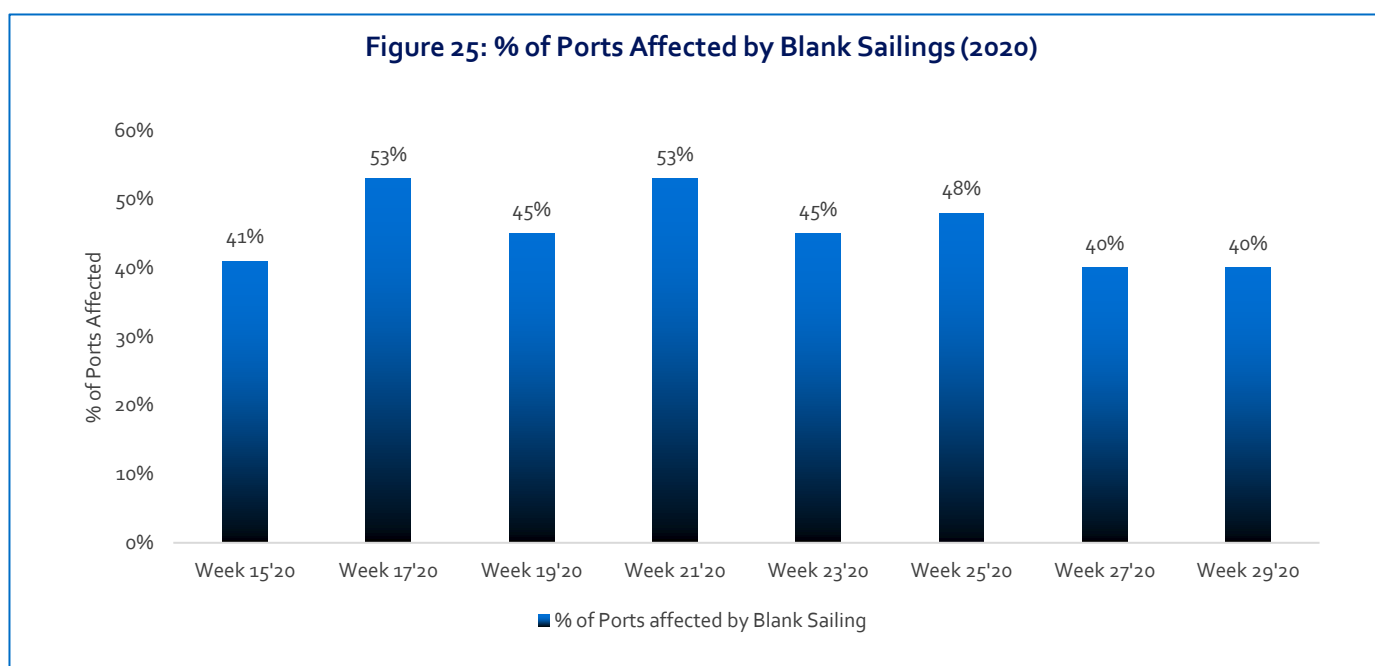
Source: UNCTAD (25), Global Trade Update

As per World Trade Organization (WTO), the global merchandise trade volume growth was 10.8% in 2021. In 2022, a rise of 4.7% is predicted. This rise is believed to be part of the COVID-19 recovery.

The pandemic's disruption occurred in at least four stages. The first stage began in early 2020, with lower container shipping demand as a result of Chinese manufacturers' closing for the Chinese New Year. The blank sailings continued for a longer period throughout the second stage. The cargo initially intended to be carried from the Far East after the Chinese New Year was delayed in the third stage due to the lockdown in Wuhan. Data available for early March reflected this trend, stating that maritime trade was on the mend. The fourth phase is distinguished by the COVID-19 breakout outside China, the impact of lockdowns and limitations on the economic activity in Europe and North America, as well as consumer and business demand.

### Ports Getting Affected by Blank Sailings due to the Impact of COVID-19

According to the United Nations, container ship calls were 3.5% lower in 2020 after the first 24 weeks (January to mid-June) than in 2019, amounting to a drop of 213,283 calls. Container ship calls worldwide have fallen 5.8% since the pandemic was declared, compared to the same period in 2019. As per the IAPH-WPSP COVID-19 Economics Impact Barometer, at least 40% of container ports globally have had blank sailings each week since the pandemic was declared in mid-March 2020 (Figure 25). In May 2020, blank sailings on the Asia-United States trade route reached a 19% cancellation capacity.



Source: IAPH-WPSP COVID-19 Port Economic Impact Barometer (13), UNCTAD (5,6)

Earnings before interest, taxes, depreciation, and amortization (EBITDA) is a measure of profitability, and organizations with high demands for infrastructure investment require high levels of EBITDA to be sustainable. In 2020, average profitability in Europe fell by 12%, Asia by 17%, and for Africa, the fall was by 25%. Latin America exhibited no change. The fall in the average profitability can be explained partly by the effects of COVID-19. According to the Port Performance Scorecard (PPS) provided by the TrainForTrade Port Management Program, the global EBITDA (which also reflects profitability) as a % of revenue in 2020 was 38.8% and was expected to fall to 33% in 2021. However, the impact was weaker in Europe where averages stayed at 59%, and in Latin America where averages remained at 41%.

The quantity of passengers was one of the most direct effects of COVID-19. Passenger numbers declined by 34% from 2016 to 2020 when compared to the preceding five-year average. The number of cruise passengers fell by a comparable amount, by 28% (indicator 24). Only between 2019 and 2020, the number of passengers on ferries plummeted by 71% and on cruise ships by 76%. According to the International Chamber of Shipping (ICS), the revenue losses caused to the shipping industry due to the pandemic were USD 350 mln per week.

### Impact of COVID-19 on Port Economy in Multiple Phases

The COVID-19 pandemic triggered the second worldwide crisis since the 2009 financial crisis, causing havoc on global supply chains at all levels, including the ports & terminals industry. The COVID-19 pandemic occurred in stages.

The first phase began in early 2020 with a supply shock in China, as lockdown tactics led in a de facto prolongation of sharply reduced Chinese output throughout the Chinese New Year period. Between mid-January and early March 2020, the lockdown affected many of the workers and hampered the industrial base.

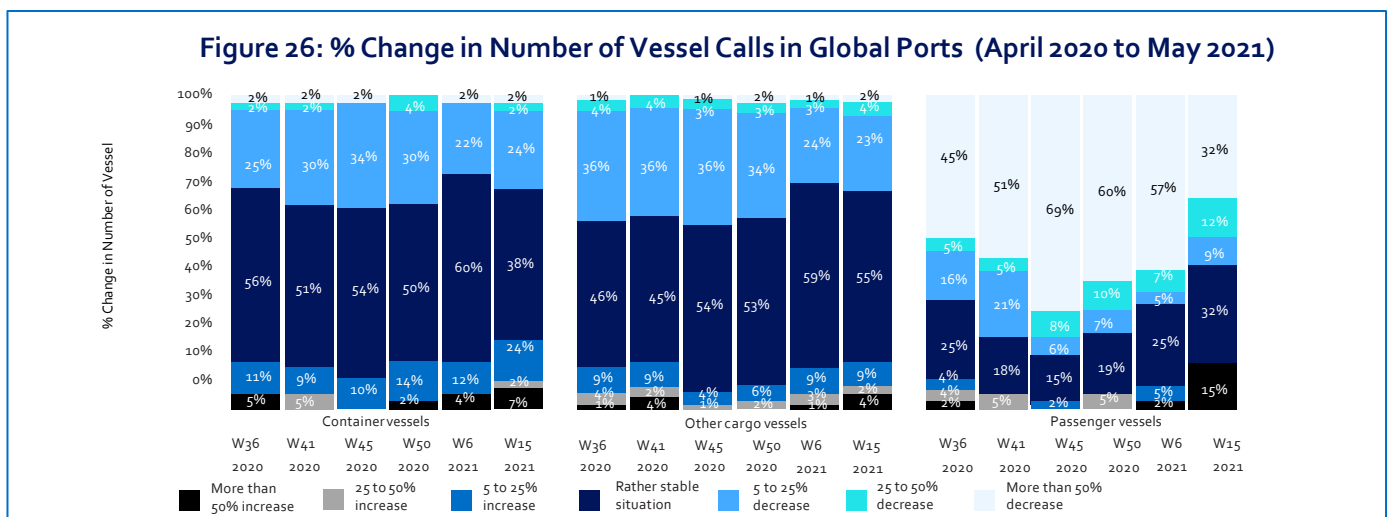
The second phase, which began in mid-March 2020, was characterized by a (global) demand shock. Globally adopted lockdown and semi-lockdown procedures resulted in a reduction in global derived demand due to lower consumer and industry confidence and limited retail activity. The lockdown of a huge consumer base took people out of the labor force and altered purchase patterns to necessities (food and personal items). The suspension of travel, tourism (including cruising), and the entertainment industries, as well as the temporary closure of pubs and restaurants, lowered consumer demand even further. The lower level of economic activity and uncertainty about the path to economic recovery resulted in a sharp reduction in the price of key commodities, including petroleum.

During the third phase, many regions around the world began to ease the COVID-19 measures, with most economic sectors restarting operations. However, the level of deferred demand remains undetermined. New local coronavirus outbreaks, notably in developing economies such as Brazil and India, and second and even third waves in numerous countries resulting in new forms of economic and societal limitations have further impacted demand. Since the summer of 2020, demand from Asia to the rest of the globe has increased, most notably on container trade lanes, as a result of company restocking tactics and high sales of durable items such as office equipment, furniture, and electronic devices.

The global economy has yet to reach the final stage, which will include a clear and persistent recovery as well as a return to regular demand patterns. When such a recovery period begins, it may be accompanied by an increased danger of protectionism to boost domestic production. Furthermore, nearshoring and reshoring initiatives are being examined in order to reduce reliance on overseas production, promote critical economic activities at the regional/local level, and boost supply chain resilience.

### Impact of COVID-19 on Different Aspects of Port Operation

As port demand is a derived demand, a sudden drop or increase in demand has an immediate impact on port activity levels. To analyze the impact of COVID-19 on the ports & terminals industry, we must look at the impact on various operational activities. The graph below shows the % change of the number of vessel calls in the ports for each week starting from April 2020 to May 2021, compared to the activities during normal conditions.



Source: IAPH-WPSP Port Economic Impact Barometer One Year Report (13)

The line graph provides an overall picture of the percentage of ports that reported more than a 5% decrease in vessel calls per market each week since the first survey of the COVID-19 pandemic implications in early April 2020 till May 2021. Analyzing in detail the impact of COVID-19 per market (i.e., container, other cargo, passenger), the line graphs are also presented to demonstrate the evolution in vessel calls in the world as well as in three regions, i.e. Europe, North America, and Central and South America. Two graphs (Figures 27 and 28) depict the situation for container vessels.

Figure 27: % Change in the Number of Vessel Calls in Global Ports (April' 20 to May' 21)

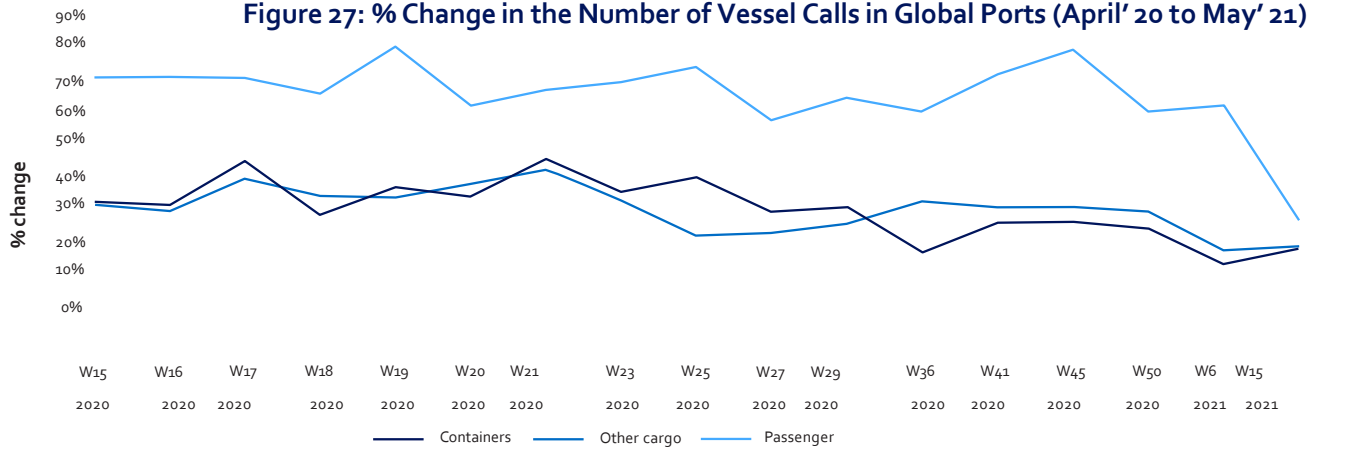


Figure 28: % of Ports with >5% Decrease in Container Vessel Calls (April' 20 to May' 21)

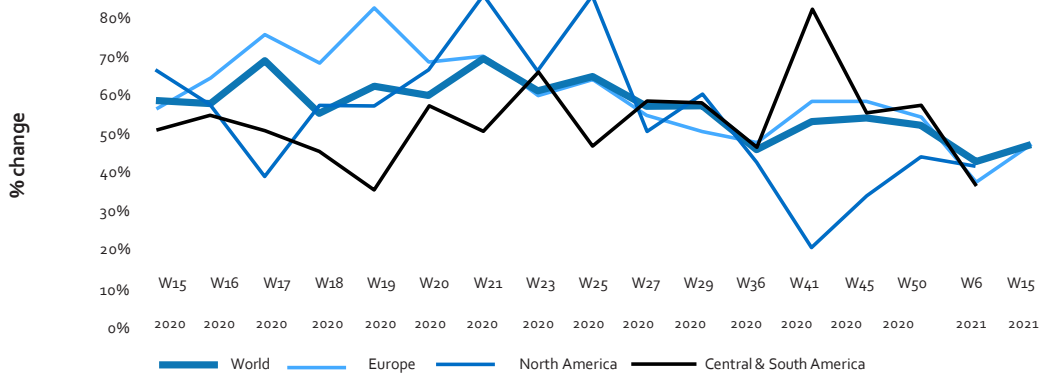
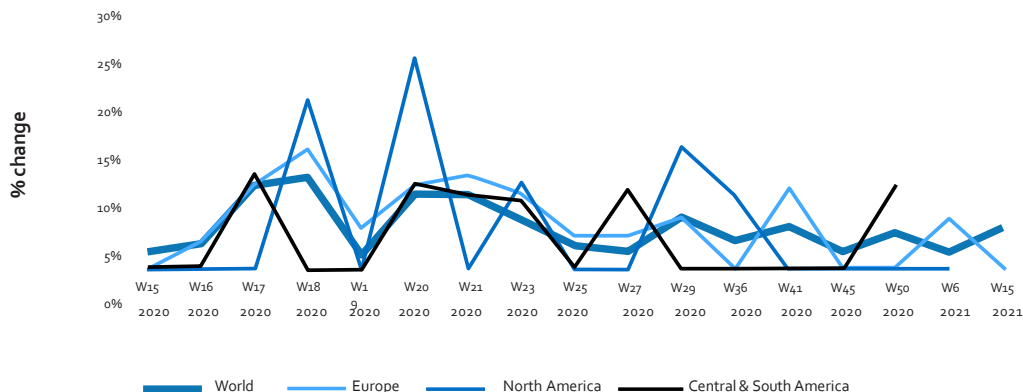


Figure 29: % of Ports with >25% Decrease in Container Vessel Calls (April' 20 to May' 21)



Source: IAPH-WPSP Port Economic Impact Barometer One Year Report (13), UNCTAD (5,6,25)

Throughout the first half of the survey period (April 2020 to May 2021), blank sailings, mostly on trade routes to the Far East, had a significant impact on weekly container vessel outcomes. Between early April and mid-July 2020, 40% to slightly more than 50% of the ports reported that container vessel calls were reduced by more than 5%. However, by September 2020 (week 36), the situation had improved significantly to a much lower 28%. In April 2021, 29% of ports reported that the number of container vessel calls had decreased by more than 5% compared to a normal situation. The share of ports facing a significant drop (over 25%) in container vessel calls reached 4.8% in April 2021, a figure that is about half of the results of weeks 17, 18, and 20. About two-thirds of ports report that vessel calls are similar or even higher compared to the same period the year before.

## Key Traded Commodities; Insights and Outlook

### → Decreased Chinese Export and Impact on Metals, Automotive

When it comes to the high reliance on foreign intermediate inputs, Europe is more vulnerable than the US due to a lack of investment in manufacturing and shipping capacities. A shock projected to be the impact of the Chinese slowdown (i.e., a 10% decline in Chinese exports) on EU sector outputs. Metals (basic metals and fabricated metal products) and Automotive industries are expected to be affected the most.

This impact of decreased exports from China will have significant impact on the output of key commodities. The figure below describes the impact in terms of %.

**Figure 30: % of Commodity Output Affected in EU sectors by Decreased Chinese Exports (2022F)**

Sectors	Impact
Basic Metals	-2.5%
Beverages	-0.6%
Chemicals & Chemical Products	-0.8%
Computer, Electronic & Optical Products	-1.2%
Electrical Equipment	-0.8%
Fabricated Metal Products	-6.3%
Machinery and Equipment	-0.3%
Motor Vehicles, Trailers, Semi-Trailers	-3.3%
Transport Equipment	-3.2%

Source: Euler Hermes Global, Allianz Research

### → Increased Regional Interaction in Asia

Looking specifically at US-China ties, a low chance of escalation in the trade tariff conflict is predicted when the Phase One Deal purchase commitments expire in 2022, as long as supply-chain obstacles persist. This is especially relevant given that the Regional Comprehensive Economic Partnership (among ASEAN+5) entered into force on January 1, 2022 and has the potential to increase regional integration in Asia at the expense of the US and Europe.

### → Dependency on Intermediate Inputs

Household equipment, consumer electronics, automotive, and machinery and equipment sectors are the most sensitive to input shortages. Food and Beverages, textiles, paper, machinery and equipment and automotive in France, Germany and the US and Automotive, paper, chemical products, mining and air transport sectors in the UK, are significantly affected by intermediate inputs. (OECD, Euler Hermes 2021). The automotive industry, which has been severely impacted by shortages, has been in recovery mode on both sides of Atlantic. However, household equipment, machinery and equipment, and consumer electronics, are profiting from the post-pandemic boom, while the automotive sector's recovery may be jeopardized by the input shortage.

### → Container Dislocation and Building Safety Stock

Container factories were expected to produce a record 5.4 mln 20-foot-equivalent (TEU) shipping containers in 2021, but 'container dislocation' continued to push prices up and hamper global shipping efforts. As per Wall Street Journal, inventories were not broadly distributed across the globe. The companies are continuing to build up some safety stock as new variants emerges (Food Institute, 2021).

Figure 31: Largest ports worldwide, in total throughput (mln tons)

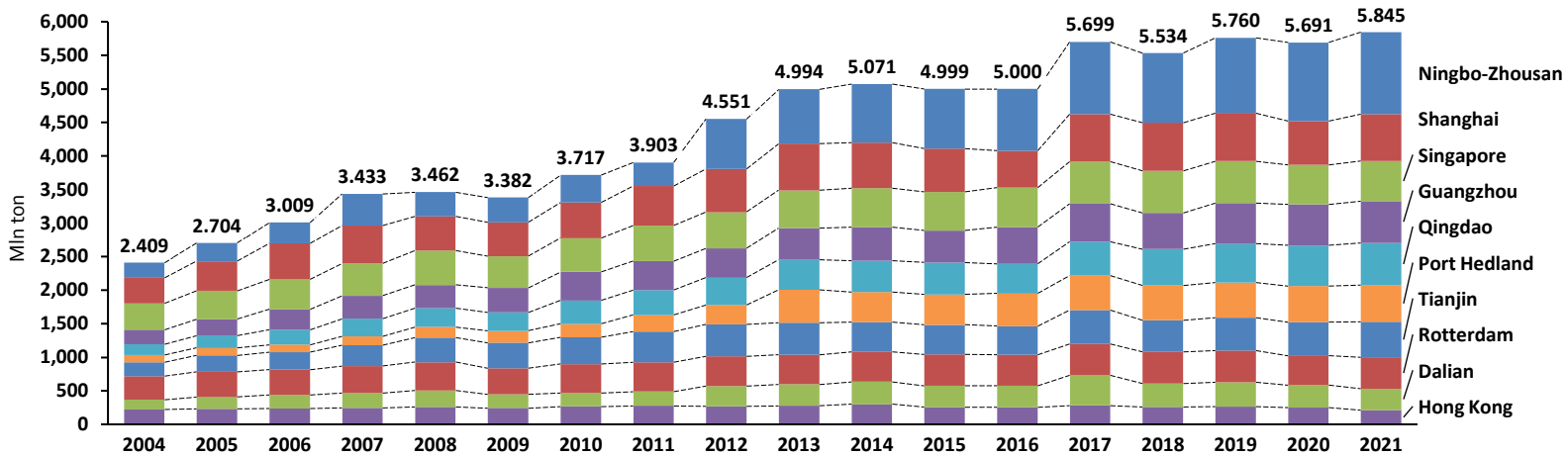
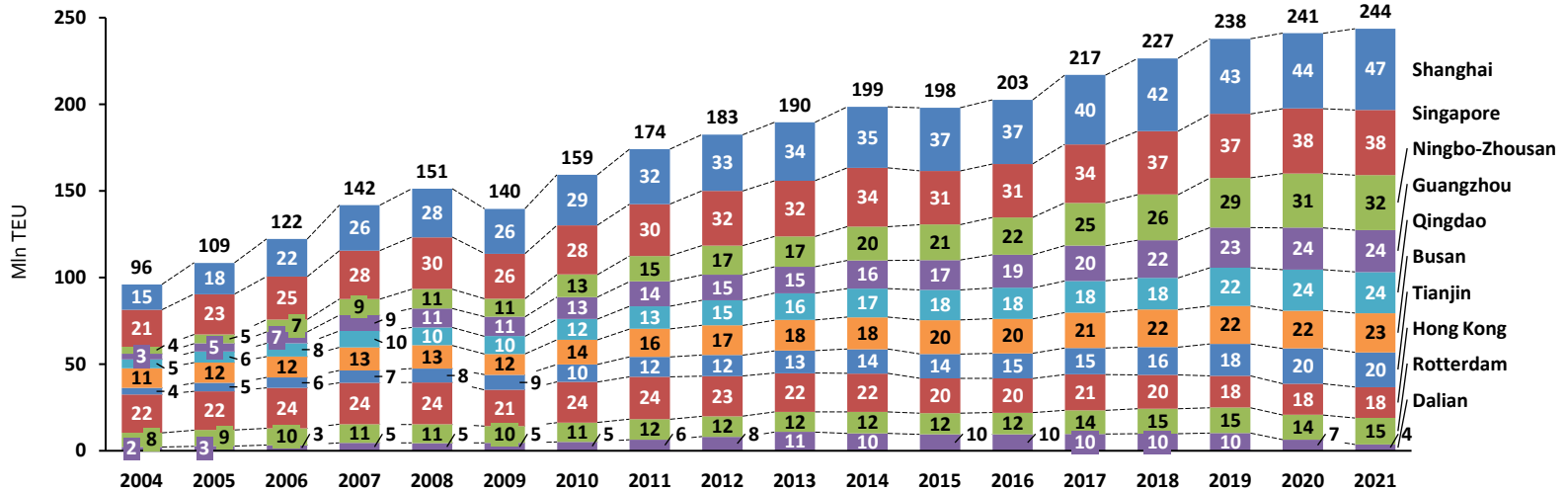


Figure 32: Largest ports worldwide, in total container throughput (mln TEUs)



Source: Shanghai Institute of Shipping; World Shipping Council; AAPA; website

Most of the largest ports are located in the Asian region. Only Port Hedland and Rotterdam are part of the largest ports in terms of tonnes. Port Hedland, being an iron ore port, does not appear in the top container ports. The total throughput in the largest ports has more than doubled since 2004, reaching almost 5.9 bln tons. Container throughput, in terms of TEU, reached 244 mln tons in these top ports, coming from 96 mln tons in 2004.



## Outlook

Enhancing port and shipping operations are predicted to be used as one of the major ways to reduce Greenhouse Gas (GHG) emissions. If ports can maximize their availability, ships can schedule their itineraries such that they arrive in port the minute their berth becomes available, minimizing wasteful speed and fuel usage.

The global energy revolution will also have a significant impact on maritime transport as well as the ports and terminal industry. It is predicted that there will be increasing shipping prices and slowing average shipping speeds. Logistics expenses will rise faster in underdeveloped countries than in developed countries.

In terms of export gains, Asia-Pacific is predicted to be ahead in the race in the coming few years, with gains adding up to more than USD 3 trl over 2021-2023, the gains are predicted to be USD 630 bln in 2022 and USD 710 bln in 2023. European exporters' performance in aggregate terms over 2021-2023 are expected to be similar to that of Asia-Pacific. North America's export gains are expected to reach close to USD 800 bln over 2021-2023 (after a close to USD 500 bln loss in 2020).

# Key Prevailing Trends in the Global Ports and Terminals

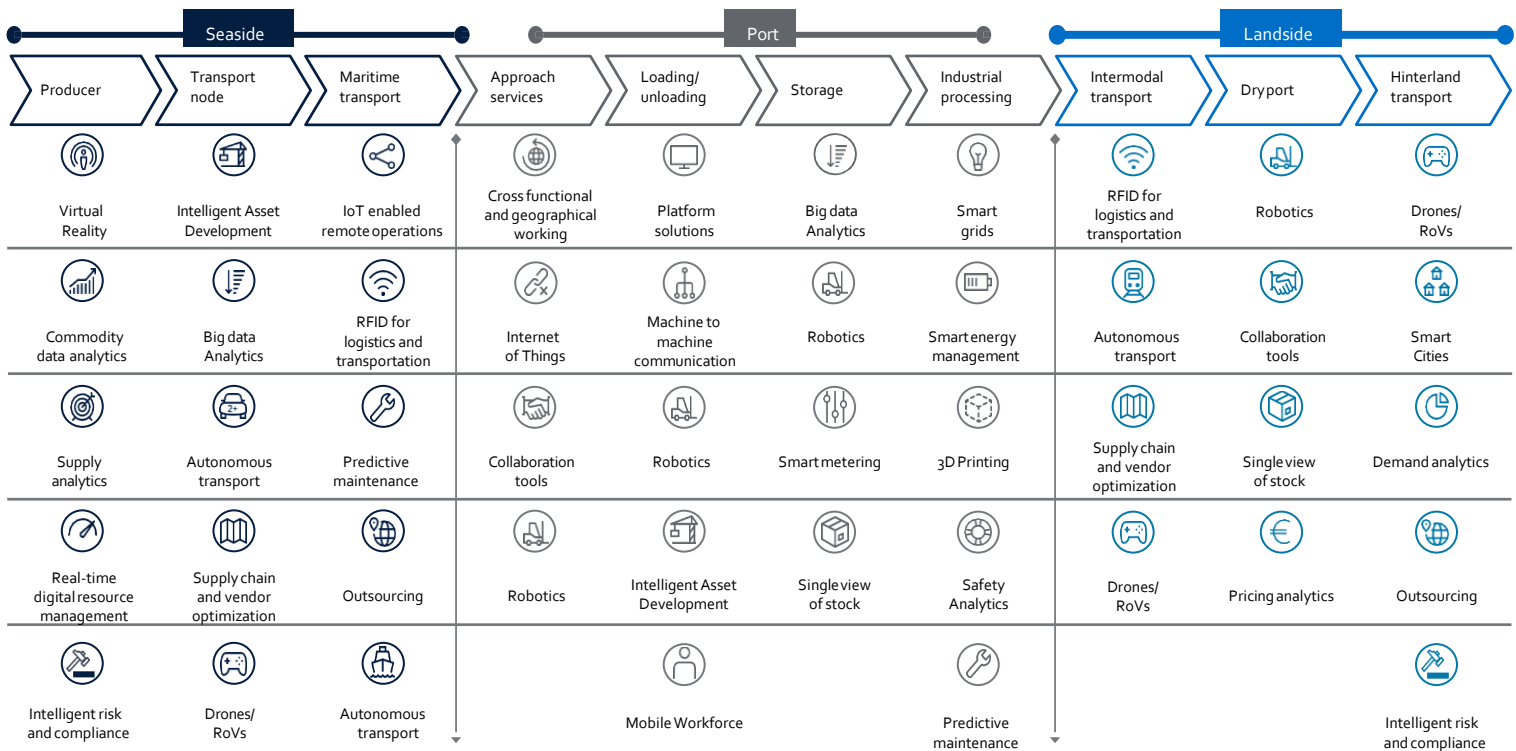


## Key Prevailing Trends in the Global Ports and Terminals

### Diverse and Advanced Use of Technology in the Industry

Ports are increasingly implementing innovations across the entire value chain, by using a diverse set of technologies. Increased global IoT market spending and decreasing cost of advanced technology in the industry are increasing technological implementation. Some of the major technologies used in the sector are shown in the figure below.

Figure 33: Technologies used in the Industry



Source: Deloitte

### Increased Awareness to Reduce Carbon Footprints

Efforts to reduce the carbon footprint and improve the environmental performance seem to be on trend for the industry and this trend is expected to continue considering current environmental situations.

## Diverse Land Use, Waterfront Renovation

The increasing complexity of port operations leads to diversity and intensification of land use, necessitating the increased focus on the spatial strategy. Space scarcity and technological improvements have resulted in an opportunity to adapt land that was formerly used for maritime purposes into a more diverse type of land use. The trend of waterfront renovation is growing in order to establish ecosystems that mix social and economic components, resulting in regional added value and employment that benefit both the city and the port.

## Search for Newer Trade Channels due to Rising Demand for Low-cost Production

The demand for low-cost production is increasing, which will result in new trade channels. On the input side, the new low-cost production destinations are seeking greater raw material inputs. On the output side, finished goods are increasingly being exported from various origins. Asian ports are becoming increasingly essential for both product import and export. European ports are anticipated to respond by fortifying their clusters, for example, by enhancing their digital supply chains.

Because of growing port traffic, there is a greater demand for shorter routes. According to ITF transport, using the Northern Sea Route for maritime freight between Northern Europe and Asia could reduce voyage distances by **37%** for Japan, **31%** for South Korea, **23%** for China, and **17%** for Taiwan when compared to using the Suez Canal.

## Increased Need of Protection from Cyber Attacks for Ports

The increased usage of automated, digitalized, and networked supply chains makes these more vulnerable to cyber attacks. Ports have long been essential infrastructure; thus, attempts to protect against cyber threats are on the rise.

## Decrease in the Need of Physical Labour

Robotics and the Internet of Things (IoT) are being used to boost productivity, which will lead to a decrease in the requirement of physical labor force. It is expected to assist in the transformation of the port ecosystem from a simple logistics and transportation node to an open and efficient community capable of participating in the global landscape of integrated international trade.

## Continuing Overcapacity of the Container Market and Growth Trend Shown by the Cruise Market

Reduced demand and an increase in the available capacity are allowing the trend of container market overcapacity to continue for several years. The cruise market is expected to show a growing trend in the coming years, driven by rising demand from Europe and the rest of the world (especially Australia/New Zealand and Asia).

## Growing Use of Alternative Fuel

The use of LNG appears to be the most promising alternative to more traditional fuels at this moment, and it is expected to grow in popularity. However, many pilots are starting with sustainable fuels, like methanol, biofuels, ammonia and batteries for smaller vessels.

## Increased Horizontal and Vertical Collaboration

Port authorities are becoming more interested in horizontal collaboration, which can range from ad-hoc cooperative ventures to mergers. The recent growth of Port Community Systems is a prominent illustration of vertical collaboration inside ports. These impartial and open digital platforms enable the optimization, management, and automation of seaport activities through single data inputs, enabling intelligent and secure information sharing among all stakeholders.

## Increasing Port Congestion

As per the Danish maritime data analysis, a total of **11.5%** of the global capacity is blocked from the market, owing to the vessel delays in November 2021. This is a slight improvement from **12.3%** back in October 2021, but the prediction is that the congestion will get even worse in 2022.



# Recent Developments



## Recent Developments

### USD 1.3 bln Investments in the UK in 2021

January 2022

As per the British Ports Association (BPA), the country's ports attracted investments close to USD 1.3 bln in 2021. DP World has announced a new intention to invest USD 404.7 mln in the construction of an additional berth at its London Gateway port. The fourth berth will increase the container port's capacity by one-third and allow it to accommodate the world's largest vessels.

### Australia to Invest USD 580 mln in PNG

January 2022

Australia has signed an agreement with Papua New Guinea to upgrade the country's ports by investing USD 580 mln. By expanding its ability to service specialized cargo ships from Southeast Asia, the investment will position Lae Tidal Basin, Papua New Guinea's main port, to become a regional hub to the Pacific.

### Privatisation of El Salvador Port

December 2021

In El Salvador, the government is planning to privatize the La Unión Port in 2022, presumably for Chinese management.

### Bipartisan Infrastructure Deal in the US

November 2021

The United States has announced a USD 1 trl infrastructure plan, the single largest federal investment in American history, including USD 17 bln set aside for the Bipartisan Infrastructure Deal. It is intended to improve infrastructure at border ports, inland ports and waterways, and land ports of entry.

### Largest Foreign Investment in Sri Lankan Port Sector

October 2021

India's Adani Group entered into a USD 700 mln deal to build a strategic deep-sea container terminal in Sri Lanka and is said to be the largest foreign investment ever in the port sector of Sri Lanka.

### Need of USD 7.9 bln for European Ports

May 2021

According to a recent analysis by industry body WindEurope, European ports will require new infrastructure and significant investment over the next few years to handle the region's offshore wind sector's expansion. As per the analysis, Europe's ports will need to invest EUR 6.5 bln (USD 7.9 bln) by 2030 to accommodate the rise of offshore wind.

### USD 82 bln Investment in India

March 2021

India has announced plans to invest USD 82 bln in port projects by 2035 in order to increase the share of clean renewable energy in the maritime industry, develop waterways, expand seaplane services, boost tourism around lighthouses, and create 2 mln employment.

## Chinese Investments in Africa

January 2021

China Merchants Group (CMG) and Great Horn Investment Holding (GHIH) agreed to a USD 3 bln expansion to transform the Port of Djibouti into a regional hub, which is expected to serve as East Africa's primary transshipment destination along China's Maritime Silk Road (MSR) route.

The Djibouti International Free Trade Zone (DIFTZ) project, worth USD 3.5 bln which is expected to be finished by 2028, will be Africa's largest free trading zone. DPFZA (Djibouti Ports and Free Zones Authority) and a consortium of Chinese enterprises, including CMG, Dalian Port Authority, and IZP Group, are leading its development.

## Ocean Alliance adding new Asia services into US, Canada

January 2022

Members of the Ocean Alliance outline has announced to add new Asia services to the US West and East coasts as part of a series of 2022 network changes.

## Shippers transferring cargo from COVID-affected Ningbo to Shanghai and Xiamen

January 2022

Cargo is being redirected from China's Ningbo port as shippers struggle with trucker shortages and warehouse closures, which have made it impossible to transfer products to and from enterprises in restricted areas.

## Intra-Asian liners extend Indian ties to capitalize on volume growth

December 2021

The recent initiative by intra-Asian regional carriers and feeder operators to build additional connections to India comes in the wake of a booming export market and a shift in sourcing toward Vietnam.

## Samudera intends to target the Indian transshipment flow via the JNPT-Singapore shuttle

December 2021

Samudera has launched a new shuttle service between India's busiest public container port and Singapore, with a focus on transshipment cargo as merchants rush for any available capacity.

## DP World's Boxbay terminal storage idea is taking shape

October 2021

Following successful trials at Dubai's Jebel Ali Port, terminal operator DP World intends to roll out its unique Boxbay storage system at up to four of its facilities.

## The Savannah project reflecting the rising demand for US berth space

January 2022

Savannah's USD 250 mln berth extension is expected to boost the port's capacity and reflect the rising strain on major US ports to maximize dock capacity in the face of increased demand from both regular services and extra-loaders.

## Virginia's inner harbor dredging project gets a boost from federal funding

January 2022

A USD 69 mln government infusion is predicted to allow the Port of Virginia to begin work on the second phase of its dredging project, which, combined with other improvements, will allow the port to handle up to six post-Panamax vessels at the same time in the coming years.

## TradeLens' expansion gives shippers direct access to China port data

June 2021

TradeLens, the visibility and shipment data platform co-developed by Maersk and IBM, has made another step forward with its expansion into China.

# Outlook

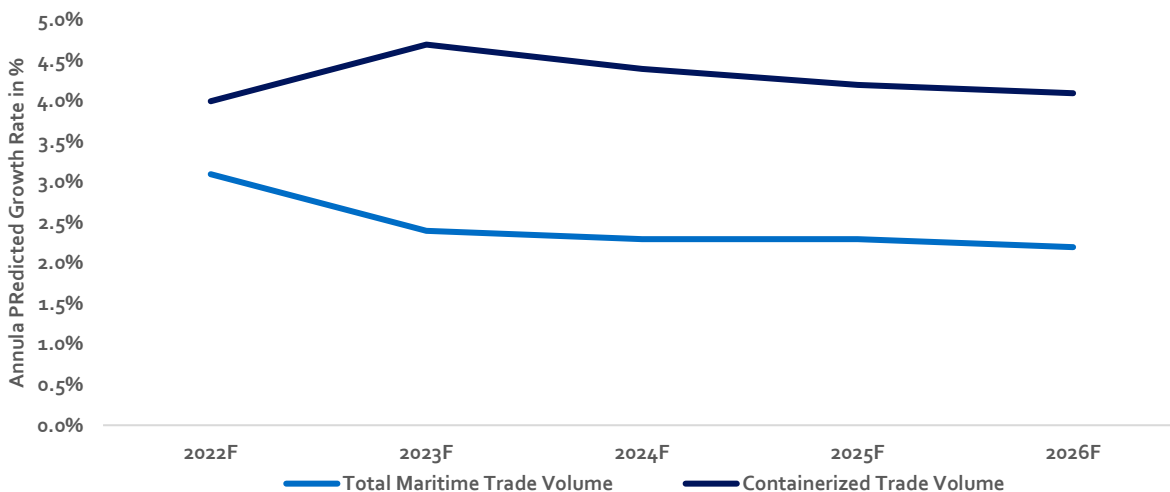


## Outlook

### Increase in Trade Volume

By late 2020 and beginning of 2021, global economic prospects strengthened, thanks to the vaccine rollout in advanced regions, the possibilities of extra spending in some major economies, and the relaxing of containment measures and restrictions in some parts of the world. While emerging trends are positive, uncertainty persists because of the emergence of various new strains of COVID-19. Total maritime trade is predicted to expand at an annual rate of 2.4% between 2022 and 2026, compared to 2.9% over the previous two decades. Maritime trade is expected to decline in tandem with GDP (IMF, 2021).

**Figure 34: Predicted Annual Growth Rate for Trade Volume (2022P-2026P)**



Source: Clarksons Research, Seaborne Trade Monitor, June 2021, UNCTAD (22,23,25)

### Disruption in the Supply Chain

Rising prices, inefficiencies, and instabilities in the marine supply chain, aggravated notably by the COVID-19 disruption and its knock-on effects on shipping and ports, will continue to disrupt supply chains, rising both production costs and consumer prices. As per Euler Hermes Global, the global supply-chain disruptions is expected to remain high until H2 2022. However, these pressures are projected to reduce as global demand patterns settle, manufacturing capacity comes back up, and logistical assets are optimized to improve the supply-demand balance. Ultimately, it is possible that vessels will adapt to disruptions and critical products, like semi conductors or metals necessary for energy transition, will be transported on special vessels, which can circumvent the disruptions in ports, by using specialized terminals.

### Trade Protectionism

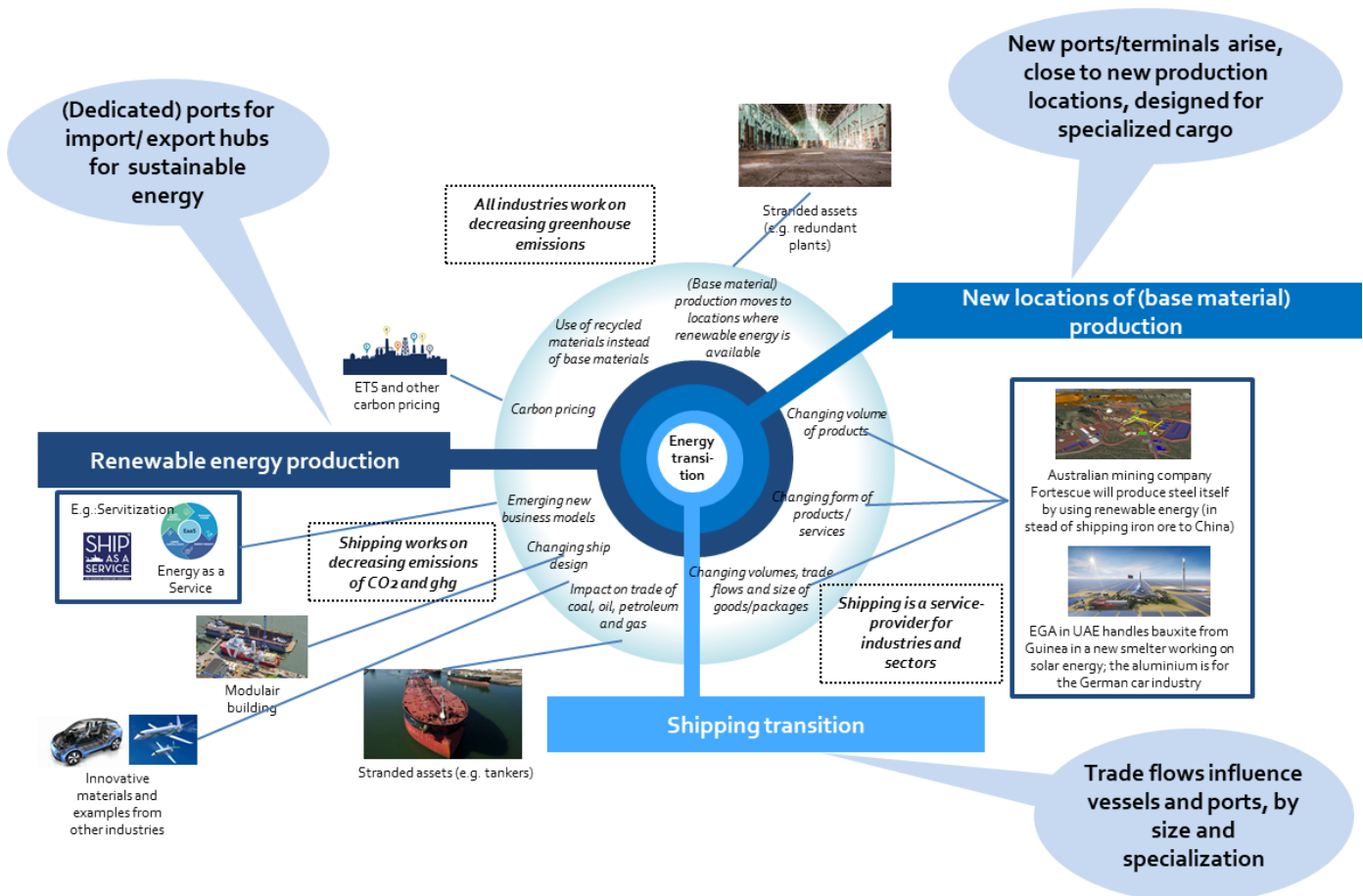
Protectionism, driven by growing inequalities and the shift in power balance, may result in the reshoring of industries, negatively affecting trade and increasing process complexity. Trade protectionism and trade conflicts between China and its trading partners, especially the United States and Australia, are further causes for concern. Governments may also use trade protectionism to alleviate unhappiness and social tensions caused by COVID-19's impact on employment and social disparities.

Energy transition will influence shipping and port activities

Industries in all sectors are working on a decrease of their emissions. Many countries already have implemented a way of carbon pricing, as tax or as ETS. The awareness of using sustainable energy for production is growing, with as ultimate solution relocating production to locations with renewable energy available. Examples are the new smelter in the UAE for supplying aluminum for the German car industry and the changing business model of Australian iron ore mining company Fortescue. Fortescue has plans to produce steel itself using renewable energy, instead of shipping ore to China. In this last example the iron ore ports of Australia won't handle iron ore anymore, but (smaller) vessels for the transport of steel products – the ports have to adapt the terminals and are to handle smaller vessels and vessels will have more destinations.

Also, ports become the import/export hub for sustainable energy, as they already were for fossil energy. Renewable energy produced in countries with abundant solar or wind power will be transported to countries who are in demand of the renewable energy (and not able to produce sufficient renewable energy themselves) – on the supplying side export ports will arise and on the demand side import hubs will arise. Already many initiatives for cooperation between export and import ports have started, even with the foundation of new dedicated renewable energy export ports (e.g. Port Anthony in Australia).

Ships are also in a transition – as a service provider for industries and sectors, vessels will follow the demand of the market. Probably, more specialized vessels will be deployed. Furthermore, with changing trade flows and probably more regionalization, vessels will be smaller. Another transition is the need to comply to increasing environmental conditions; this will be revealed in the use of other fuels than fossil ones, the use of innovative materials and methods by building vessels, new business models.



Source: JBR Research

## Fiscal Support Measures

On the bright side, fiscal support measures should drive recovery. However, there is uncertainty about the longevity of present stimulus packages and government spending, while poor countries remain under pressure with limited fiscal policy flexibility. Fiscal supports from governments are expected to contribute to the overall development of ports and terminals. Other promising developments include the signing of the Regional Comprehensive Economic Partnership (RCEP) in 2020 and the entry into force of the African Continental Free Trade Area (AfCFTA) in 2021. AfCFTA is predicted to increase intra-African trade by roughly 33% while decreasing Africa's trade deficit by 51%. AfCFTA also has significant consequences for maritime transportation and trade in services.

## Ecommerce Growth

Ecommerce growth has been fueled by pandemic-induced adjustments in consumption and purchasing behaviors, as well as digitalization. Ecommerce fulfillment opens new business prospects, particularly for warehouse and distribution facilities located near seaports, inland rail hubs, and airports. This can lessen supply chain uncertainty, allowing shops to stock more products. Retailers are looking for sites with huge container yards as well. Ports near or well connected to major population centers may be able to capitalize on this business opportunity (Drewry Maritime Research, 2021). Some container shipping companies and ports are already positioning themselves to become door-to-door service integrators (e.g., Maersk and DP World).

## Rapid Transition toward Digitalization

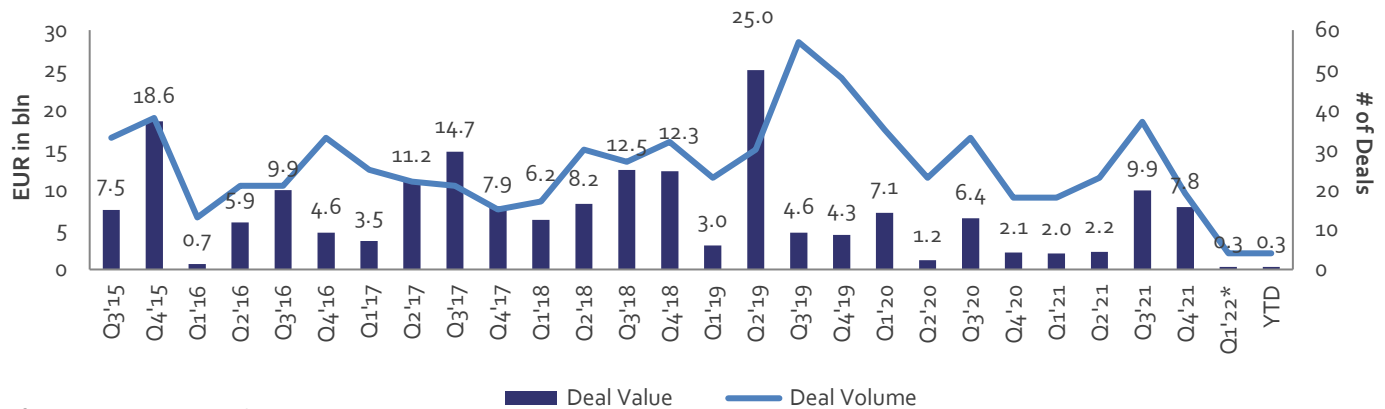
It is projected that a rapid transition toward digitization will boost the market positions of a few digital mega platforms. If the transition to digitization does not happen quickly enough, the chasm between under-connected and hyper-digitalized countries will expand, aggravating disparities. Investing in digital infrastructure is critical for successful resource planning and information sharing. Many of the industry's issues, such as how to process more cargo in an environmentally sustainable manner, are likely to be solved by automation and smart technology, including artificial intelligence. Developing countries should be encouraged to use digital tools to enhance environmental sustainability, economic efficiency, and resilience.

## Conclusion

The future of the global ports and terminal industry is still uncertain, but five important aspects are expected to change: trade routes, the competitive position of ports, energy production and use, ecosystems, and cargo distribution. Several ongoing structural developments will also shape the long-term prognosis. These include shifting globalization patterns, the push for more resilient supply chains, and changes in consumer spending, which are some of the factors that are going to play major roles in the future of ports and terminals market. Prioritization of preparedness, risk management, digitization, environmental sustainability, and data and forecasting improvement will help the players in the industry. End-to-end visibility will boost resilience while also improving efficiency and production. Resilience includes supplier diversification, dual-sourcing, and backup production sites, which are some of the factors that will help in the growth of the ports and terminal industry.

# Global Maritime and Offshore M&A Transactions

## Deal Value and Volume



\*from January 1, 2022 to February 9, 2022

Source: Merger Market

## Recent M&A Transactions

Ann. Date	Target	Country Code	Target Description	Buyer	Deal Value (EUR mln)	EV (EUR mln)	EV/Rev (x)	EBITDA (x)
07-Feb-22	Sado Steam Ship	JP	Listed Japan-based company engaged in shipping, ferry services	Michinori Holdings, Inc.	71	-	-	-
26-Jan-22	L.V. Overseas	FR	France-based company engaged in ships consignment and chartering activities	MML Capital Partners LLP; Bpifrance SA	220	220	-	-
05-Jan-22	Zhaoqing Runqing Shipping	CN	China-based company engaged in providing shipping services and selling construction materials	CIMC Shilianda Logistics Technology (Group) Co., Ltd.	5	-	-	-
30-Dec-21	Yidu Ningtong Logistics	CN	Chinese company engaged in port loading and unloading	Hubei Xingfa Chemicals Group Co., Ltd.	33	33	2.2x	-
27-Dec-21	Daelim Co Ltd	KR	Shipping business of South Korea-based Daelim Co Ltd	Dong-A Tanker Co., Ltd.	161	161	-	-
23-Dec-21	Trafuco NV	BE	Belgium-based company engaged in the transportation of liquids in tanks	Altea Logistics NV	-	-	-	-
21-Dec-21	Guangzhou Zhenhua Shipping	CN	China-based shipping company	COSCO Shipping Technology Co., Ltd.	6	-	-	-
17-Dec-21	K Line Offshore AS	JP	K Line Offshore is a supply shipping company serving the offshore oil and gas sector.	Undisclosed bidder	-	-	-	-
13-Dec-21	Shipyard ATG Giurgiu s.r.l.	RO	Romanian shipyard on the Danube River	Chantiers Piriou SAS	-	-	-	-
10-Dec-21	SKS Tankers Holding AS	NO	Norway-based 10 LR2 product tankers.	Hayfin Capital Management LLP	-	-	-	-
03-Dec-21	Esvagt A/S	DK	Denmark-based provider of offshore safety and support at sea primarily in and around the North and the Barents Sea	3i Infrastructure plc	303	-	-	-
15-Nov-21	Freeport LNG Development	US	US-based company that operates a liquefied natural gas receiving and regasification terminal	JERA Co., Inc.; JERA Americas Inc	2,188	-	-	-
11-Nov-21	Chemical Tankers Inc	DK	Denmark-based owner and operator of oil product tankers	Hafnia Tankers Limited	184	184	-	-
05-Nov-21	Adria Ferries SpA	IT	Italy-based company operating maritime passenger and vehicle services between Italy and Albania	Eurizon Financial Group Spa	-	-	-	-

01-Nov-21	Boreal Norge AS	NO	Norway-based company providing transportation services through bus, rail, and ferries	Vauban Infrastructure Partners SCA	-	-	-	-
20-Oct-21	Eurolineas Maritimas S A	ES	Spanish passenger ferry operator	Adolfo Utor	-	-	-	-
12-Oct-21	DP World Limited	SN	Senegal-based ports owned by DP World Limited	CDC Group plc	277	-	-	-
07-Oct-21	Marinvest AB	SE	Sweden-based shipping company that specialized in methanol-powered commercial vessels	Clean Sea Transport LLC	-	-	-	-
04-Oct-21	Teekay LNG Partners	US	Bermuda-based company engaged in ship transport of gas, oil, and other utilities	Stonepeak Infrastructure Partners	3,838	3,838	7.5x	12.5x
28-Sep-21	X Caliber Container, LLC	US	US-based company engaged in providing shipping containers sales and rent.	Longwater Opportunities LLC	-	-	-	-
24-Sep-21	Sea Connect UAB	LT	A Lithuanian shipping company	Samskip Holding B.V.	-	-	-	-
23-Sep-21	GreenSteam	DK	Vessel performance management software	Lloyd's Register Group Limited	-	-	-	-
22-Sep-21	Tasucu Limani	TR	Turkey-based port.	Ceynak Lojistik ve Ticaret A.S.; Ceyport Tekirdag Uluslararası Liman İşletmeciliği AS	68	68	-	-
13-Sep-21	Complete Transport System	US	a US-based company offering bonded container freight station and trucking services	Expolanka Holdings Plc	5	-	-	-
13-Sep-21	Ocean Yield ASA	NO	Norway-based ship owning company with investments within oil-service and industrial shipping	KKR & Co. Inc.	1,830	1,831	8.3x	9.0x
07-Sep-21	KNOT Offshore Partners	GB	UK-based company that owns and operates shuttle tankers under long-term charters	Knutsen NYK Offshore Tankers AS	151	1,365	5.8x	7.6x
31-Aug-21	MT SMITI vessel	IN	India-based dry dock vessel	Ocean Park Trading Limited	27	27	-	-
26-Aug-21	Tup Porto Sao Luis S.A.	BR	Brazil-based owner and operator of ports	Cosan S.A. Industria e Comercio	117	117	-	-
26-Aug-21	Navios Maritime Acquisition Corporation	GR	Greece-based owner and operator of tanker vessels in the transportation of petroleum products and bulk liquids	Navios Maritime Partners L.P.	913	913	3.0x	5.6x
20-Aug-21	Beijing Fuyi Shipping Consultation Services	CN	Beijing, China-based company engaged in providing shipping-related consultation services	Dongfang Xinhuang Beijing Applied Software Development Co., Ltd.	5	-	-	-
20-Aug-21	Avance Gas Holding Ltd	NO	Norway-based company engaged in the transportation of natural gas	Hemen Holding Limited	351	560	3.2x	4.9x
13-Aug-21	U.S. Shipping Corp	US	US-based provider of long-haul marine transportation services, coastwise transportation of petrochemical, and commodity chemical products	SEACOR Holdings Inc.	-	-	-	-
12-Aug-21	Huarui Wind Technology (Jiangsu) Lingang	CN	China-based cargo transportation company	Dalian Huarui Heavy Industry Group Co., Ltd.	40	-	-	-
10-Aug-21	Norspan LNG 17 AS	NO	Norway-based shipping company	CapeOmega AS	-	-	-	-
09-Aug-21	Terminal Marítimo Gerdau	BR	Brazil-based port terminal	Intermarítima Portos E Logística S/A	-	-	-	-
05-Aug-21	Seajacks International Ltd	GB	UK-based company engaged in owning and operating self-propelled jack-up vessels	Eneti Inc.	433	433	-	-
28-Jul-21	C.Hartwig Gdynia SA	PL	Poland-based company engaged in providing freight and transportation services	Rhenus Beteiligungen International GmbH	-	-	-	-
27-Jul-21	Marsa Maroc	MA	Government agency that manages all nine of Morocco's most important ports	Tanger Med	519	-	-	-
26-Jul-21	Island View Shipping International	SG	Singapore-based company operating as a bulkcarrier owner and operator, owning 32 bulk carriers, 13 ships	Grindrod Shipping Holdings Ltd.	39	-	-	-
23-Jul-21	Smilesun Co Ltd	TH	Thailand-based holding company having interest in companies engaged in container port business	JWD InfoLogistics Public Company Limited	13	-	-	-
15-Jul-21	Compagnia Portuale Monfalcone	IT	Italy-based provider of terminal services and cargo traffic management through Monfalcone port	F2i SGR SpA	-	-	-	-
15-Jul-21	Waterfront Shipping Company	CA	Canada-based Marine transportation company specializing in the transport of bulk chemicals and clean petroleum products	Mitsui O.S.K. Lines, Ltd.	123	-	-	-
15-Jul-21	Compania Trasmediterranea, S.A.	ES	Spain-based company including five ships, the two terminals in the ports of Valencia and Barcelona	Grimaldi Group SpA	375	375	-	-

14-Jul-21	China Merchants Port Group	CN	China-based company is engaged in development, construction and operation management of container, bulk cargo terminal and port	Zhejiang Port Group	1,429	-	-	-
09-Jul-21	Logen Co., Ltd.	KR	South Korea-based company engaged in providing logistics services	Cowell Fashion Co., Ltd.	263	263	0.7x	7.2x
08-Jul-21	Imperial Logistics Limited	ZA	South Africa-based company providing of logistics and supply chain management services.	DP World Limited	1,429	1,429	-	-
02-Jul-21	Clemaco Trading N.V.	BE	Belgium-based company engaged in support and maintenance of the ships	Serco Group Plc	-	-	-	-
01-Jul-21	Alliance Technical Services, Inc.	US	US-based company provides broad-scale logistics services to the federal government	Valiant Integrated Services LLC	-	-	-	-
01-Jul-21	Gemini Shipholdings Corporation	GR	Greece-based ship fleet operator	Danaos Corporation	99	169	-	-
30-Jun-21	Piriou ATG Romania	RO	Romania-based company engaged in shipping business	ATG Marina SRL; Shipyard ATG Giurgiu SRL; ATG Hydro-Technica Systems SRL	-	-	-	-
30-Jun-21	HMM Company Limited	KR	Listed South Korea-based marine transportation and logistics company operated via container segment and bulk segment	Korea Development Bank	223	5,125	1.0x	4.2x
29-Jun-21	Ningbo Beilun Shipping Co., Ltd.	CN	China-based company engaged in shipping business	Nanjing Iron and Steel Co., Ltd.	25	-	-	-
28-Jun-21	Camions Logistics Solutions	IN	India-based logistic service provider	Aavishkaar Venture Management Services; Paragon Advisor Partners LLP	17	-	-	-
22-Jun-21	Songa Container AS	NO	Norway-based company engaged in owning and operating a fleet of container vessels	MPC Container Ships AS	176	176	6.1x	49.5x
18-Jun-21	Vesterhavet A/S	NO	Norway-based holding company engaged in providing shipping services	Oddvar Nes AS	40	40	-	-
11-Jun-21	GlobalTranz Enterprises, Inc.; Worldwide Express Global Logistics	US	US-based provider of supply chain management solutions; US-based company engaged in providing logistics and shipping services	CVC Capital Partners Limited; Providence Equity Partners L.L.C.	-	-	-	-
08-Jun-21	Borealis Finance LLC	US	US-based company engaged in operating fleet of container ships	Global Ship Lease, Inc.	192	192	-	-
03-Jun-21	MMC Corporation Berhad	MY	Listed Malaysia-based investment holding company with interests in transport and logistics, energy, utilities	Seaport Terminal (Johor) Sdn Bhd	586	2,679	2.9x	4.4x
27-May-21	Taumar AS	NO	Norway-based company that owns and operates the aquaculture service vessel "Taumar"	Hofseth International AS	-	-	-	-
19-May-21	Datang Qingdao Port Affairs	CN	China-based port operator	Undisclosed bidder	13	-	-	-
18-May-21	Suezmax Filikon	BE	Belgium-based shipping vessel of 149,989 dwt capacity	Undisclosed bidder	13	13	-	-
12-May-21	Quality Carriers, Inc.	US	US-based transportation company specializing in transport of bulk liquid chemicals	CSX Corporation	-	-	-	-
11-May-21	Qingdao Haiye Oil Terminal	CN	China-based company engaged in providing terminal facilities for ships	Qingdao Port International Co., Ltd.	134	-	-	-
10-May-21	UP Offshore (Uruguay) S.A.	UY	Uruguay-based company having interest in shipping vessels and in providing ship transportation services	OceanPact Servicios Maritimos S.A.	25	25	-	-
10-May-21	APM Terminals Rotterdam B.V.	NL	Netherlands-based operator of port, terminal and inland service network	Hutchison Port Holdings Limited	-	-	-	-
01-May-21	LaserShip Inc.	US	US-based provider of parcel shipping, supply chain solutions and delivery management	American Securities LLC	-	-	-	-
16-Apr-21	Imperial Logistics Limited	PR	Shipping business of Imperial Logistics	Hidrovias do Brasil	73	73	2.4x	9.3x
12-Apr-21	Geest Line Limited	UK	Provider of shipping services	Jamaica Producers Group	-	-	-	-
05-Apr-21	Krishnapatnam Port Company Ltd	IN	Engaged in the business of handling containers	Adani Ports and Special Economic Zone Ltd	316	1,543	-	-
31-Mar-21	Shanghai Port Chemical Logistic Co., Ltd.	CN	China-based company engaged in shipping and air freight services	Milkway Chemical Supply Chain Service Co., Ltd.	11	-	-	-
23-Mar-21	Gangavaram Port Limited	IN	India based company handling various types of Dry bulk and Break bulk cargo	Adani Ports and Special Economic Zone Ltd	365	662	5.3x	9.1x
19-Mar-21	Boustead Cruise Centre Sdn Bhd	MA	Malaysia-based provider of port facilities and services to vessels	MMC Corporation Berhad; Westports Holdings Berhad	46	46	-	-
09-Mar-21	Zhejiang Port Shipping Co Ltd	CN	China based shipping company	Ningbo Zhoushan Port	51	-	-	-
02-Feb-21	Thessaloniki Port Authority	GR	Operation and management of port	Belterra Investments Limited	77	187	-	-
	Mean						4.1x	11.6x
	Median						3.1x	7.2x





## Key M&A Transactions (2020 - YTD)

### Michinori Holdings acquires Sado Steam Ship Co.

In February'22, Michinori Holdings acquired Sado Steam Ship Co., a Japan-based company which provides shipping, road, and harbor transportation services in Japan. The company's services include passengers, cars, and freight transportation. Sado Steam Ship company aims to reconstruct its operations, which have been hit hard by the novel coronavirus pandemic, under the lead of Michinori Holdings. The total consideration for the deal was EUR 71 mln.

### MML Capital Partners and Bpifrance together acquired L.V. Overseas

In January'22, MML Capital Partners and Bpifrance acquired L.V. Overseas, a France-based company engaged in ships consignment and chartering activities. It offers maritime freight services, such as conventional/container; and LCL/LCL, LCL/FCL, and FCL/FCL. The company also offers air freight services that include carrying out the reservations and confirming the loading, and groupage services to or from the French West Indies and many countries of Africa. They look ahead to reinforce its position in the French overseas territories while expanding its geographical coverage as well as services range both organically and through the roll-out of an ambitious platform strategy with the new partners.

### Dong-A Tanker acquired 100% stake in Daelim Co's shipping business

In December'21, Dong-A Tanker, the South-Korea based shipping company that focuses on providing oil and chemical tanker transportation services, has agreed to acquire the shipping business of Daelim Co Ltd, the South Korea based international trading company that specializes in petrochemical product sales and raw and processed material supplies. Daelim offers logistics and shipping services, including general and project cargo, storage, and ISO tank container, as well as gas tanker and bulk carrier vessels services. The consideration is USD 182 mln.

### 3i Infrastructure acquired the remaining 50% stake in Esvagt

In December'21, 3i Group plc, the UK-based listed investment company focused on infrastructure, has acquired the remaining 50% stake in Esvagt A/S, a Danish provider of offshore rescue and support by vessels, from AMP Ltd, an Australian listed provider of wealth management products, investment management, and commercial banking services. The consideration is USD 258 mln. The transaction is completed as on February 9, 2022.

### Jera Co has acquired stake in Freeport LNG Development

In November'21, Jera Co, a Japan-based company engaged in fuel procurement, transportation, trading and construction of power plants as well as energy generation has acquired 25.7% stake in Freeport LNG Development, a US-based company that operates a liquefied natural gas receiving and regasification terminal. Freeport is a company engaged in design, construction, and operation of a natural gas liquefaction and LNG export facility on Quintana Island and operating a regasification terminal. Jera focuses on geographic expansion by acquiring Freeports LNG Development .

### MPC Container Ships acquired Songa Container

In June'21, MPC Container Ships acquired Songa Container, a Norway-based company engaged in owning and operating a fleet of container vessels. This transaction will have an immediate accretive impact on MPC Containers earnings in a surging container market. Growing fleet reinforces MPC's industry-leading position as an intra-regional trade tonnage provider. The visibility of strong cash generation for the years ahead combined with an extremely low residual value risk makes MPC's an attractive and unique investment opportunity during these exciting times in container shipping

## Key M&A Transactions (2020 - YTD)

### Adani Ports acquires remaining 25% stake in Krishnapatnam Port Company for USD 381 mln

In April'21, Adani Ports acquired 25% stake in Krishnapatnam Port for USD 281 mln from Vishwa Samudra Holdings. With this investment, Adani group now has 100% stake in Krishnapatnam Port. The company has invested at an EV/ FY21 EBITDA multiple of 10.3x. The port is an all-weather, deep water port and has a multi-cargo facility with a current capacity of 64 MMTPA. With a waterfront of 20 km and 6,800 acres of land.

### Jumbo Shipping and SAL Heavy Lift

In April'21, Jumbo Shipping and SAL Heavy Lift completed their previously announced joint venture. Jumbo Shipping is a Dutch heavy lift transport company while SAL Heavy lift is a German breakbulk and project cargo specialist. The two companies combined their fleets and commercial activities into a single operation and will be known as Jumbo-SAL-Alliance.

### Rhenus acquired 60% stake in Arkon Shipping & Projects from MD – Torsten Westphal

In April'21, Rhenus Maritime Services acquired 60% stake in Arkon Shipping & Projects. Rhenus Maritime Services is a Germany-based short-sea shipping company and Arkon Shipping & Projects specializes in commercial ship management and maritime consultancy with a special focus on the bulk, project and heavy-lift market segments. RMS Projects will function as the commercial manager for a fleet of 20 multi-purpose heavy-lift cargo vessels from Arkon.

### Milkway Chemical Supply Chain Service acquires Shanghai Port Chemical Logistic

In March'21, Milkway Chemical Supply Chain Service acquired Shanghai Port Chemical Logistic, a China-based company engaged in chemical supply chain service provision. The acquisition will expand Shanghai Port reach to the mainland China region. As per Merger market the deal was closed at USD 12.8 mln.

### Adani Ports to acquire controlling interest of additional 58.1% In Gangavaram Port

In March'21, The Adani Ports and Special Economic Zone (APSEZ) Ltd., India's largest private Ports & Logistics Company, has acquired the 58.1% stake held by DVS Raju and family in Gangavaram Port Limited (GPL). GPL is an all-weather, deep water, multipurpose port capable of handling fully laden super cape size vessels of up to 200,000 DWT. GPL is the gateway port for a hinterland spread over 8 states across eastern, southern, and central India.

### Boustead Cruise acquired by MMC Corporation Berhad & Westports Holdings for USD 56 mln

In March'21, MMC Corp. acquired 100% stake in Boustead Cruise, the Malaysia-based company offering cruise and port facility to commercial and naval vessels. The sale of port will allow Boustead to focus on core business activities of the firm. Westport acquisition provides the group with an opportunity to expand to the cruise terminal business.

### Belterra investments Limited acquires significant minority stake in Thessaloniki Port

In February'21, Belterra Investments Limited acquired ~32% stake in Thessaloniki Port Authority S.A. from Deutsche Invest Equity Partners GmbH. Thessaloniki Port Authority S.A, is the listed Greece-based company engaged in operation and management of port, headquartered in Thessaloniki. The new owners inherited the second biggest container port in Greece and the major dry bulk and break bulk port of the country inherited an operating port with six piers, 6,150 m. of docks, 1.55 mln square meters of port land, and several buildings and warehouses along.



## Key M&A Transactions (2020 - YTD)

### Crestline and Blue Ocean Capital Partners acquire Rotterdam Short Sea Terminals

In January'21, Blue Ocean Capital Partners Limited and Crestline Investors, Inc. acquired Rotterdam Short Sea Terminals B.V. (RST), a Netherlands-based container terminal for short sea shipping, from C. Steinweg Handelsveem B.V., for an undisclosed consideration. The transaction is in line with Steinweg's strategy to focus on core business of global forwarding and warehousing for commodities. It will also help RST to upgrade the terminal and continue growing business. Rotterdam Short Sea Terminal has direct services to Western Europe, Scandinavia, Southern Europe and North Africa. From its location at the Port of Rotterdam, RST processes around 1.3 mln TEU per year via its tri-modal connections.

### JT Perle raises stake to majority stakeholder in Discovery World

In October'20, JT Perle invested USD 6.3 mln in Discovery World, the listed Philippines-based owner and operator of cruise lines, beachfront resorts, hotels and restaurants. Discovery World's expansion plans this year include investments in Balay Holdings (for the purchase of Boracay properties to be used for staff housing) and investments in Cay Islands. Discovery World's aims to expand its hotel brands with new cash influx.

### QTerminals acquires Akdeniz Liman Ports for USD 140 mln

In October'20, QTerminals acquired Akdeniz Liman Ports, a Turkish operator of ports from Global Ports Holdings for USD 140 mln. This allows Global Ports to focus time and resources on continued investment into further growth opportunities in the global cruise port market. With this acquisition the Qatar-based company gets expansion opportunities around the Middle East.

### NMT Shipping Services acquires Hansen Shipping for an undisclosed value

In October'20, NMT Shipping Services invested in Hansen shipping, a provider of shipping services for construction and mining industries. The company offers various services including international freight, trucking heavy haul services, dismantling and packing, cargo insurance, cleaning and fumigation, consular services, helping its customers to move their cargo from one place to another efficiently. The transaction will enable NMT to grow and expand its operation in the mining and construction equipment shipping segment.

### Zhuhai Port Co, Ltd acquired Xinghua Port Holdings, for USD 271 mln

In July'20, Zhuhai Port Co., Ltd., a China-listed state-controlled port operator, acquired Xinghua Port Holdings Pte. Ltd., a Singapore-based Hong Kong-listed port operator. Zhuhai Port reckons the acquisition of Xinghua Port would help the company complete its logistics network on the Yangtze River and Xi River.

### Rhenus Signs Contract to Acquire Controlling Interest in Deutsche Binnenreederei

In July'20, Rhenus Partnership GmbH & Co. acquired an ~81% stake in Deutsche Binnenreederei AG, a Germany-based provider of inland shipping transport and logistics services, from OT Logistics S.A for USD 20.6 mln. The transaction will reinforce Rhenus presence in the eastern German canal network and in Poland, France and along the Danube. It will allow OT Logistics to focus primarily on developing its port activities and forwarding services.

### Royal Caribbean Cruises raised stake in Silversea Cruises to 100%

In July'20, Royal Caribbean Cruises Ltd. acquired the remaining 33.3% stake in Silversea Cruises Ltd, a Monaco-based cruise company, from Mr. Manfredi Lefebvre D'Ovidio, for a consideration of USD 260.4 mln. The Royal Caribbean Group now owns and operates four major brands: Azamara, Celebrity Cruises, Royal Caribbean International and Silversea Cruises.

# M&A Activities in Port and Terminal Industry

## Key M&A Transactions

### Rakiza Fund acquires stake in Hutchison Ports Sohar

In January'22, Rakiza Fund acquired stake in Hutchison Ports Sohar, an Oman based company which operates as a container-handling facility. The company was formerly known as Oman International Container Terminal. Hutchison Ports Sohar operates as a joint venture between Hutchison Port Holdings Limited (HPH) and the Government of the Sultanate of Oman. The stake acquisition represents one of Rakiza's first major investments in the Sultanate of Oman's strategic infrastructure sector.

### Hubei Port Group acquires China Infrastructure & Logistics Group

In January'22, Hubei Port Group acquired China Infrastructure & Logistics Group from China Tongshang Investment Group. China Infrastructure & Logistics Group develops, operates, and manages container and other ports in the People's Republic of China. The company operates through five segments. The Terminal & Related Business segment provides terminal, container handling, storage and other, and general and bulk cargo handling services. Hubei Port Group acquired 74.8% stake in the company which will add value to its port operations.

### SOCAR Turkey Enerji acquired 30% stake in Petlim Limancilik Ticaret from Goldman Sachs International

In December'21, SOCAR Turkey Enerji acquired 30% stake in Petlim Limancilik Ticaret group, a Turkey based company that produces petrochemicals and owns and operates ports in Turkey. Petlim terminal began commercial activity on December 6, 2016 within the first phase and received the first vessel. The port's capacity at the first stage was 800,000 containers per year, and after the commissioning of the second stage, this figure reached 1.5 mln containers.

### Mitsui O.S.K. Lines acquires Utoc Corporation

In November'21, Mitsui O.S.K. Lines acquired 30% stake in Utoc Corporation, a Japan based company which provides ports, terminal handling, and logistics services. The company offers ship loading and unloading services for container ships, car carriers, conventional ships, roll-on/roll-off (RO/RO) vessels, and heavy goods ships; operates container and RO/RO vessel terminals; and provides ship space booking and import/export customs clearance services. The total consideration for the stake was EUR 68.1 mln. With the acquisition, the company plans to create further corporate value through the global social infrastructure businesses including but not limited to the shipping business as well as expand its portfolio.

### Canada Pension Plan Investment Board agrees to acquire Ports America from Oaktree Capital

In September'21, Canada Pension Plan Investment Board agreed to acquire an undisclosed stake in Ports America, a USA based operator of ports and terminals. The company provides infrastructure solutions for ports, cargo carriers, and cargo owners in the United States. Its operations include container, bulk, breakbulk, and project cargo handling; cruise terminals; intermodal facilities and RoRo operations. The company provides various services in the areas of terminal management and stevedoring, labor, and management services. The acquisition will give CPP an opportunity to continue to invest in a high-quality operator that plays an important role in global trade, and capitalize on its long-term infrastructure investment strategy.



## Key M&A Transactions (Contd.)

### Bulls AD acquires Industrial Holding Bulgaria

In Aug'21, Bulls acquired an additional 25% stake in Industrial Holding Bulgaria increasing its stake to 58%. Industrial Holding Bulgaria is a Bulgaria-based company which provides ports services, such as loading, unloading, and warehousing services; transport and forwarding services, as well as issues related documents; and ancillary services, including electricity, water, acceptance of household and hazardous waste, sweeping, washing of cargo spaces, and strengthening of cargo. Increase in shareholding interest aims to allow Bulls to take more active part in the decision-making process in the company in terms of strategy, policy, investments, and business development.

### JWD Transport (Thailand) Company acquires Eastern Sea Laem Chabang Terminal Company from PSA International

In July'21, JWD Transport Company acquired Eastern Sea Laem Chabang Terminal Company, a Thailand-based company which provides seaport and inland container terminal services between Laem Chabang and Lard Krabang ports. The company provides services such as warehousing, transportation, and clearance for the goods being imported or exported. With this deal, JWD will work with PSA for the development of new sustainable cargo solutions. This investment by JWD is in line with the firm's five-year strategic plan to improve its multimodal transportation services.

### European Bank for Reconstruction and Development acquired ICS Danube Logistics SRL

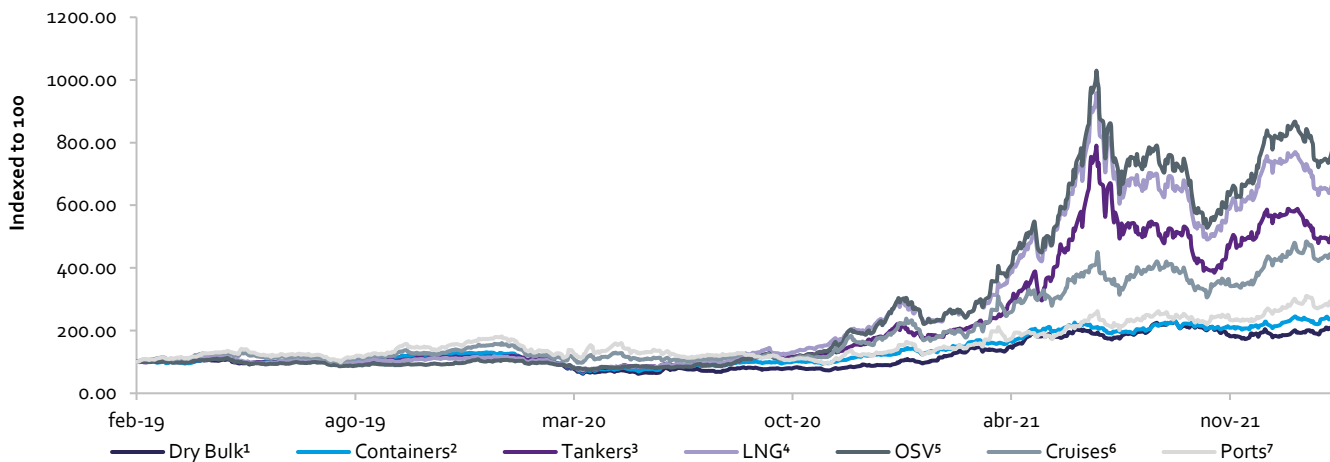
In May'21, European Bank for Reconstruction and Development acquired ICS Danube Logistics, a Moldova based company which operates as a general investor and operator of Giurgiulesti International Free Port in Moldova. The company operates a marine port; a grain and oil product terminal; and a vegetable oil terminal, a bulk cargo terminal, a container and general cargo terminal, an RORO terminal, and a mixed-gauge rail terminal. EBRD aims to promote a continuation of the successful operation and development of the port and will seek to attract international investors to further support and develop the port.

### Ventus and Sky Logistica acquires Skyport from Czechoslovak Group GROUP

In Apr'21, Ventus and Sky Logistica acquired Skyport from Czechoslovak Group. Skyport, based in Czech Republic, owns and operates a cargo terminal in Czech Republic. It handles cargo in Prague, Bratislava, and Košice airports. The investors believe that Skyport has huge potential for growth and are focused on optimizing the existing facilities and unlocking additional capacity by deploying technology to enhance operations.

# Share Price Performance

(% Change)	Dry Bulk	Containers	Tankers	LNG	OSV	Cruises	Ports
<b>3Y</b>	118.8%	143.8%	433.9%	602.5%	717.8%	368.7%	206.8%
<b>1Y</b>	109.4%	81.3%	189.5%	203.9%	254.8%	167.3%	120.7%
<b>6m</b>	17.7%	27.2%	(1.7%)	2.6%	9.1%	26.5%	33.9%



Notes:

1. Includes Pacific Basin Shipping, Star Bulk Carriers and Great Eastern Shipping
2. Includes A.P. Moller – Maersk, Evergreen Marine, Cosco Shipping and Orient Overseas
3. Includes Frontline, Euronav and Tsakos Energy Navigation
4. Includes GasLog, Teekay LNG Partners and Golar LNG
5. Includes Solstad Offshore, Tidewater and SEACOR Marine Holdings
6. Includes Royal Caribbean Cruises, Carnival Corp and Norwegian Cruise Line Holdings
7. Includes Shanghai International Port, China Merchants Port Holdings, Adani Ports & SEZ, Dalian Port and International Container Terminal Services

## Stock Performance

The overall maritime segment witnessed a growth spike post April 2021 owing to the relaxation in lockdown restrictions paving the way for free movement of goods. The offshore supply vessel industry has been the best performer in the whole market in the past year.

The LNG stocks experienced a sharp rise post April 2021 due to the rise in the supply of LNG during Q1 to Q3 2021 predominantly from US and Australia. In terms of demand, China continued to dominate growth in imports with an increase of 22% between Q1 to Q3 2021 compared to the same period in 2020. This increase in supply and demand gave a sharp uptick in the performance of LNG stocks.

The tanker industry experienced a significant increase in demand for Very Large Crude Carriers, whereas the last quarter of 2021 experienced a downward movement for the stocks in the tanker industry. The downward movement was primarily due to the slowing in demand in December ending owing to the surge in Omicron cases.

## Peer Analysis

Company Names	Country	Country	Share Price (€)	% of 52-Week High	Market		LTM		Net Debt/ EBITDA (x)
					Cap (€m)	EV (€m)	Enterprise Value	EBITDA (x)	
<b>Dry bulk</b>									
Star Bulk Carriers	Greece	GR	22.05	100.0	2,254	3,312	3.7x	6.6x	2.1x
Pacific Basin Shipping	Hong Kong	HK	0.40	85.7	1,840	2,700	1.7x	9.6x	1.8x
Great Eastern Shipping	India	IN	3.76	77.3	551	660	1.7x	4.2x	0.7x
<b>Mean</b>							<b>2.4x</b>	<b>6.8x</b>	<b>1.6x</b>
<b>Median</b>							<b>1.7x</b>	<b>6.6x</b>	<b>1.8x</b>
<b>Containers</b>									
A.P. Moller - Maersk A/S	Denmark	DK	2,794.43	89.9	51,730	60,443	0.8x	na	na
COSCO SHIPPING Holdings	China	CN	1.69	88.7	27,238	36,118	1.2x	4.0x	0.4x
Orient Overseas	Hong Kong	HK	23.82	99.5	15,609	13,396	1.4x	3.9x	Na
Evergreen Marine	Taiwan	TW	4.06	59.8	21,470	22,493	1.9x	3.3x	0.0x
<b>Mean</b>							<b>1.3x</b>	<b>3.7x</b>	<b>0.2x</b>
<b>Median</b>							<b>1.3x</b>	<b>3.9x</b>	<b>0.2x</b>
<b>Tankers</b>									
Euronav	Belgium	BE	8.22	85.8	1,652	3,031	8.5x	nm	42.5x
Frontline	Bermuda	BM	6.22	74.7	1,229	3,119	5.4x	nm	18.3x
Tsakos Energy Navigation	Greece	GR	6.58	65.8	138	1,227	2.7x	12.2x	10.9x
<b>Mean</b>							<b>5.6x</b>	<b>12.2x</b>	<b>23.9x</b>
<b>Median</b>							<b>5.4x</b>	<b>12.2x</b>	<b>18.3x</b>
<b>LNG</b>									
Golar LNG	Bermuda	BM	12.39	93.2	1,362	3,517	9.7x	15.8x	nm
Teekay LNG Partners	Bermuda	BM	14.87	97.6	1	3,851	7.6x	11.7x	6.7x
GasLog	Greece	GR	3.48	68.6	182	1,052	3.8x	5.4x	4.5x
<b>Mean</b>							<b>7.0x</b>	<b>11.0x</b>	<b>5.6x</b>
<b>Median</b>							<b>7.6x</b>	<b>11.7x</b>	<b>5.6x</b>
<b>OSV</b>									
SEACOR Marine Holdings	United States	US	3.52	69.5	91	357	3.2x	nm	589.7x
Tidewater	United States	US	12.09	87.1	499	501	1.7x	17.7x	0.1x
Solstad Offshore	Norway	NO	0.76	83.4	54	1,895	3.9x	13.4x	13.0x
<b>Mean</b>							<b>2.9x</b>	<b>15.5x</b>	<b>6.5x</b>
<b>Median</b>							<b>3.2x</b>	<b>15.5x</b>	<b>6.5x</b>
<b>Cruises</b>									
Carnival Corporation	United States	US	19.75	77.0	22,447	44,794	nm	nm	nm
Royal Caribbean Cruises	United States	US	75.55	90.3	19,250	35,652	nm	nm	nm
Norwegian Cruise Line Holdings	United States	US	19.92	72.0	8,305	17,012	nm	nm	nm
<b>Mean</b>							<b>nm</b>	<b>nm</b>	<b>nm</b>
<b>Median</b>							<b>nm</b>	<b>nm</b>	<b>nm</b>
<b>Ports</b>									
Shanghai International Port (Group)	China	CN	0.83	98.2	19,215	22,735	5.5x	na	na
Adani Ports & SEZ	India	IN	8.58	86.7	17,162	21,391	11.9x	19.3x	3.1x
China Merchants Port Holdings	Hong Kong	HK	1.74	100.0	6,362	12,158	10.7x	22.8x	6.8x
International Container Terminal Service	Philippines	PH	3.76	100.0	7,466	11,467	7.5x	12.9x	4.2x
Dalian Port	China	CN	0.08	87.3	1,881	3,053	2.3x	na	Na
<b>Mean</b>							<b>7.6x</b>	<b>18.3x</b>	<b>4.7x</b>
<b>Median</b>							<b>7.5x</b>	<b>19.3x</b>	<b>4.2x</b>
<b>Overall Mean</b>							<b>4.6x</b>	<b>10.8x</b>	<b>7.7x</b>
<b>Overall Median</b>							<b>3.7x</b>	<b>11.7x</b>	<b>4.2x</b>



## Abbreviations

(ACFTA)	.....	African Continental Free Trade Area
(Bln)	.....	Billion
(BPA)	.....	British Ports Association
(CCFI)	.....	China Containerized Freight Index
(CMG)	.....	China Merchants Group
(CCTV)	.....	Closed Circuit Television
(CAGR)	.....	Compound Annual Growth Rate
(CPPI)	.....	Container Port Performance Index
(DWT)	.....	Deadweight tonnage
(DIFTZ)	.....	Djibouti International Free Trade Zone
(EBITDA)	.....	Earnings before interest, taxes, depreciation, and amortization
(GLP)	.....	Global Liner Performance
(GHG)	.....	Greenhouse Gas
(GHIH)	.....	Great Horn Investment Holding
(ICS)	.....	International Chamber of Shipping
(IMO)	.....	International Maritime Organization
(IoT)	.....	Internet of Things
(LDCs)	.....	Least Developed Countries
(Mln)	.....	Million
(MSR)	.....	Maritime Silk Road
(OSV)	.....	Offshore Supply Vessel
(PPS)	.....	Port Performance Scorecard
(SIDS)	.....	Small Island Developing States
(TCO)	.....	Trade Capacity Outlook
(TEU)	.....	Twenty-foot Equivalent Units
(Trl)	.....	Trillion
(UNCTAD)	.....	United Nations Conference on Trade and Development
(UNWTO)	.....	United Nations World Tourism Organization
(VLCC)	.....	Very Large Crude Carriers
(VLOC)	.....	Very Large Ore Carrier



# Global M&A Partners – Highlighted transactions

## Highlighted transactions



U\$ 34.2 million financing for a new fuel terminal in Mollendo - Peru



Macroinvest  
Advisor



Salaverry Port



Concession award to modernize the Salaverry Port with an estimated investment of US\$ 229 m



Macroinvest  
Advisor to the buyer








Blue Ocean Terminals acquired 100% of the shares in Rotterdam Short Sea Terminals

United Kingdom  
Netherlands




JBR  
Advisor to the seller






DIVESTITURE of a minority stake of Swissterminal Holding AG to DP World.

Switzerland  
United Arab Emirates



Zetra International  
Advisor to the seller





Sale of a Swiss customs service expert to a European customs support specialist

Netherlands  
Switzerland



Zetra International  
Advisor to the seller





Blue Ocean Capital acquired Danser Group, a leading independent container logistics solutions provider in Europe

United Kingdom  
Netherlands



JBR  
Advisor to the buyer



# Global M&A Partners – Maritime and Offshore Team



**Kees van Biert**

President Maritime and Offshore  
 Phone: +31 6 5314 4313  
 Email: k.vanbiert@jbr.nl



**Ben Vree**

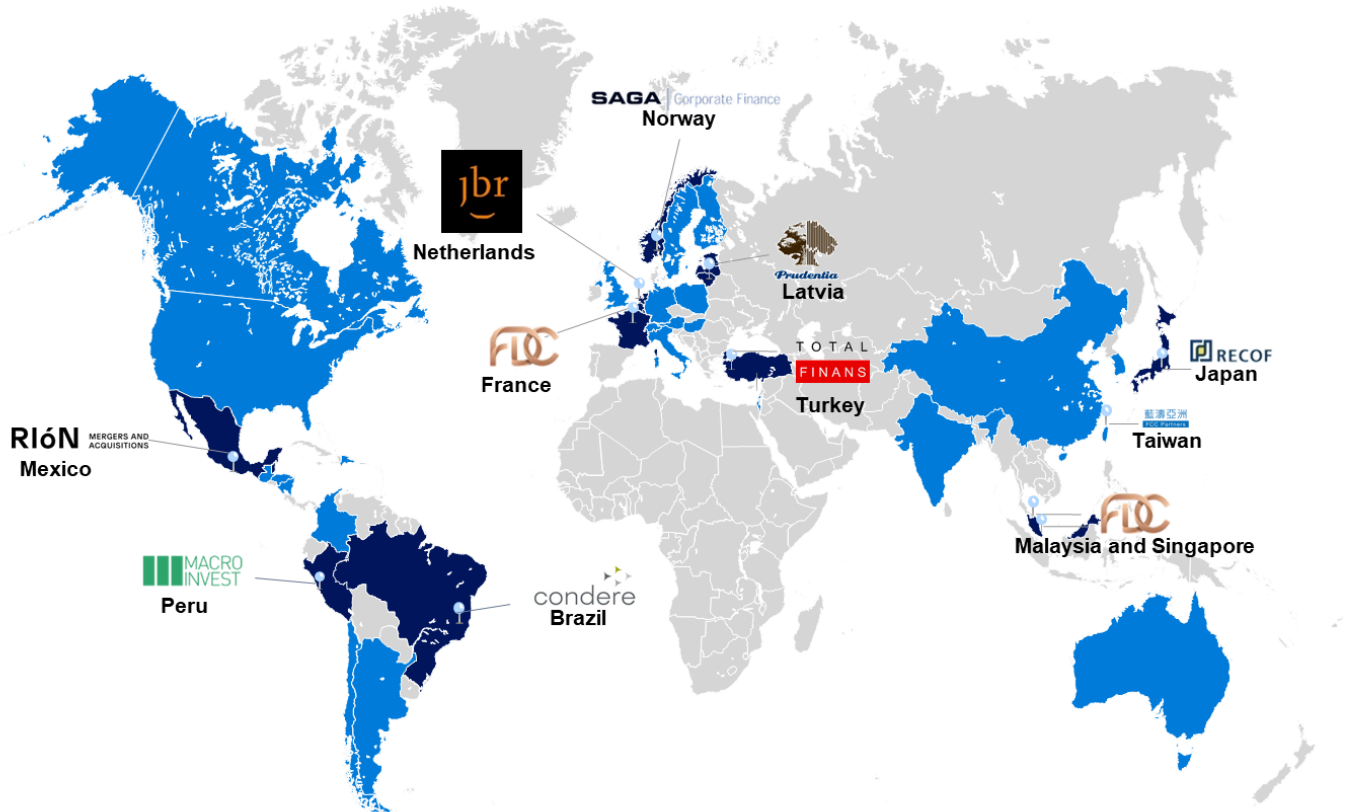
Ambassador Maritime and Offshore



**Rick ter Maat**

Partner JBR Maritime and Offshore  
 Phone: +31 6 2124 8827  
 Email: r.termaat@jbr.nl

Within the GMAP M&O Sector members work together to achieve premium results. Each transaction requires specific cooperation between members to combine in-depth knowledge with the specialist’s network within the maritime and offshore sector.



**SAGA** | Corporate Finance**Saga Corporate Finance**

Key contact:

Ivan Alver

Senior Partner

Phone +47 21 04 23 00

Cell +47 90 84 04 56

Email: [ialver@globalma.com](mailto:ialver@globalma.com)

## TOTAL

## FINANS

**Total Finans**

Key contact:

Metin Bonfil

Managing Partner

Phone +90 212 275 0175

Cell +90 532 236 3536

Email: [mbonfil@globalma.com](mailto:mbonfil@globalma.com)**Financieres de Courcelles**

Key contact:

Emmanuel Antmann

Managing Director

Phone +33 1 78 42 88 70

Cell +33 6 75 24 24 78

Email: [eantmann@globalma.com](mailto:eantmann@globalma.com)**Condere**

Key contact:

Paulo Cury

Phone +55 11 2619 0060

Cell +55 11 98303 2772

Email: [pcury@globalma.com](mailto:pcury@globalma.com)**Prudentia**

Key contact:

Kārlis Znotiņš

Cell +371 26317727

Email:

[kznotins@globalma.com](mailto:kznotins@globalma.com)**JBR**

Key contact:

Ronald Van Rijn

Phone +31 30 699 90 00

Cell +31 6 5334 0975

Email: [rvanrijn@globalma.com](mailto:rvanrijn@globalma.com)

## RIÓN MERGERS AND ACQUISITIONS

**Rion Mergers and acquisitions**

Key contact:

Martin Plettner

Phone ++52 55 5520 3144

Cell +52 1-55 5506 2009

Email: [mplettner@rionma.com](mailto:mplettner@rionma.com)**Macro Invest**

Key contact:

Mateo Moreyra

Phone +511 203 9800

Cell +511 99531 4793

Email: [mmoreyra@globalma.com](mailto:mmoreyra@globalma.com)**Fenix Partners**

Key contact:

Esteban Oliveira

Phone +54 11 2150 7185

Email:

[eolivera@globalma.com](mailto:eolivera@globalma.com)**RECOF**

Key contact:

Masataka Yoshida

Phone +81 3 3221 4948

Cell +81 80 1190 2587

Email: [myoshida@globalma.com](mailto:myoshida@globalma.com)**FCC Partners**

Key contact:

CY Huang

Phone + 886 2 2752 2855

ext. 201

Cell +886 938 055 255

Email: [chuang@globalma.com](mailto:chuang@globalma.com)



# RIÓN

MERGERS AND  
ACQUISITIONS

## *ABOUT Global M&A Partners*

Established in 1999, Global M&A Partners is a partnership of independent investment banking firms gathered together to offer to their respective client's premium services for their goals completion. Operating through over 200 M&A advisors, the company serves sectors including Consumer Products, Business Services, Energy & Mining, Healthcare & Pharmaceuticals, Industrials, Packaging, Leisure & Retail and IT. The company operates in over 50 countries and has completed over 1,500 transactions with a combined value in excess of EUR 4.2 bln over the last 5 years