Trends and Outlooks in the Development of Global Container Liner Shipping Industry

Maritime trade was hit hard by the impact of the COVID-19 pandemic, however, the sector managed to navigate through the crisis. In 2021, maritime trade rebounded but faced several challenges such as the Suez Canal blockage and the Ukraine- Russia war.

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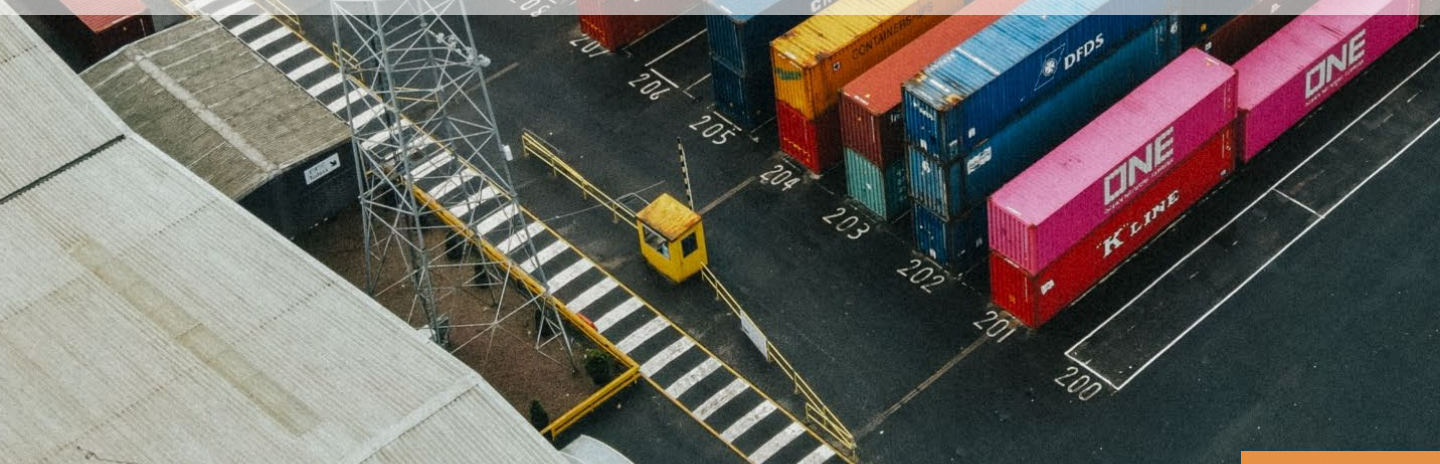

Maritime trade was hit hard by the COVID-19 pandemic. However, for a brief, the sector managed to navigate through the crisis. Though global maritime shipments fell by 3.8%, to 10.65 billion tons, it is expected to recover in the short term. Medium and long-term prospects would also depend on governments' local restrictions, though.

In 2021, maritime trade rebounded but faced several challenges, such as the Suez Canal blockage and the Ukraine- Russia war. These events have highlighted the need for better preparedness and resilience and have called for the urgency of reorganizing the sector.

Black swan events like the COVID-19 pandemic, blockage of the Suez Canal, and the ongoing Ukraine-Russia war brought entire businesses and supply chains to a halt or drastically reduced their efficiency.

Container shipping, with its complex and transcontinental nature, was significantly affected.

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Container Unavailability and Price Surge

Since the beginning of 2020, an unfortunate set of events has led to the world facing container shortages. It can be termed a 'crisis' as the lack of availability of containers had a ripple effect on the entire supply chain, hence disrupting the global trade.

Inefficient manufacturing activities due to a series of lockdowns, limited consumer demand (mostly limited to critical goods), and the inability of western world countries to send back non-empty containers together created bottlenecks at the ports. Shortage of the containers with the shipping companies in the eastern world eventually has led to price surges along key routes.

Trends in Flow of Containerised Cargo

Tanker trade shipments (oil, gas, and chemicals), accounted for 29% of total maritime trade volume in 2019, is down from 55% nearly five decades earlier, reflecting the constrained petroleum consumption in main consumer countries. Over the same period, major bulks, including iron ore, grain, and coal, increased by more than half. Containerized cargo expanded at the fastest rate, with volumes rising at an annual average rate of 8% between 2000 and 2019.

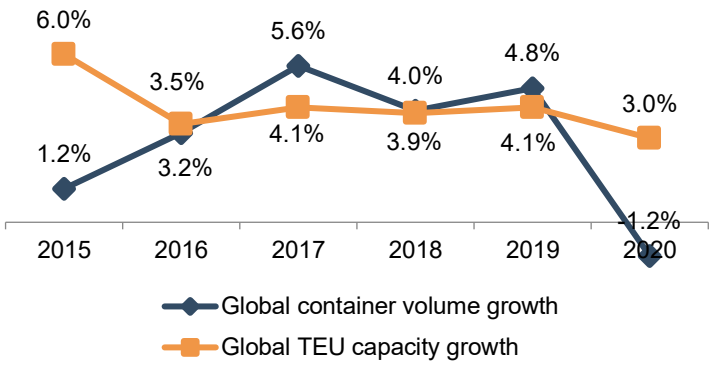
As per the World Trade Organization (WTO), world merchandise trade volumes decreased by 1.1% in 2019, owing to its decline to weaker trade and the US-China trade war.

Container volumes, as measured in 20-feet equivalent units (TEUs), declined at -1.2% in 2020, with y-o-y growth rate down from 4.8% in 2019.

In 2020, 815.6 MTEUs were handled in container ports worldwide, reflecting a decline of 9.7 MTEUs over 2019. This is primarily due to the COVID-19 pandemic and impending Supply chain disruption.

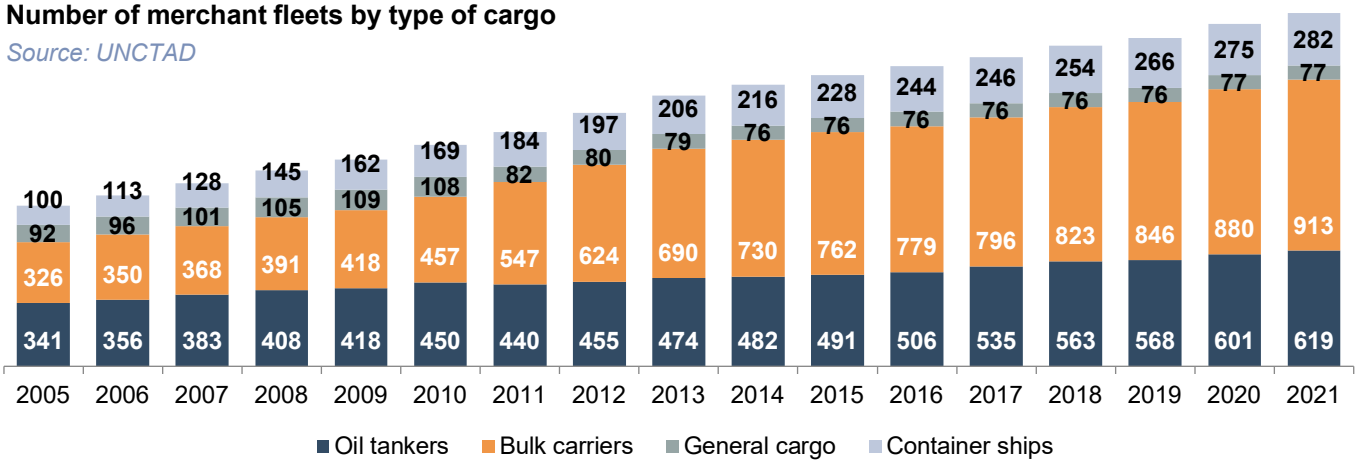
Y-o-y growth in global container volumes handled by shipping lines versus capacity

Source: Alphaliner



Number of merchant fleets by type of cargo

Source: UNCTAD



> Since almost all manufactured goods are shipped in containers, container rates impact global trade. Businesses don't bear the brunt of the higher rates but pass them on to their customers.

Pre Pandemic Trends

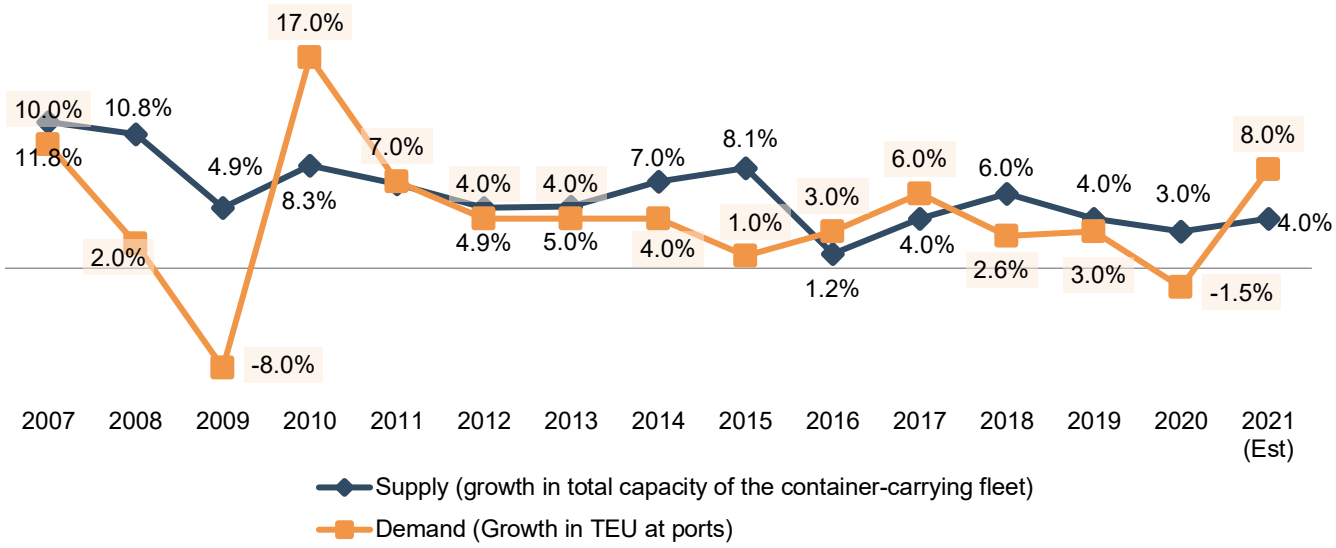
Between 2000-2007, the growth in container demand, i.e., TEU lifts at ports, was ~10%, whereas the supply, i.e., the total capacity of the container carrying fleet, was growing at an average of 9.5%. Between 2007-2009, lower demand for container shipping due to the 2008 economic crisis translated into less activity at container ports. Some shipyards slashed prices to preserve their order book and this, in turn, fueled a race to build mega vessels.

After the recovery from the global financial crisis in 2009, the container market grew steadily until 2018, after which the trade tensions between China and the USA began.

As measured in TEUs, container volumes declined by 1.2% in 2020, y-o-y growth rate down from 4.8% in 2019. In 2020, 815.6 MTEUs were handled worldwide in container ports, compared to 825.3 MTEUs in 2019.

Year-on-year percentage changes in supply and demand of container cargo

Source: Review of Maritime Transport 2019 & 2021, UNCTAD



Post Covid Impact on Containerised Trade

In 2020, with the lockdown measures and other impacts of COVID-19, including consumers' urge to buy only the most essential commodities in times of financial uncertainty, the demand for containerized goods lowered. As per Clarkson Research conducted in 2021, 2.7 MTEUs or 12% of global container capacity were inactive by May 2020. The container demand, which was already growing at a y-o-y growth rate of 3% in 2019, after being impacted by the China-US trade war, further reduced to 1.5% in 2020. In 2020, 758 MTEUs were handled in container ports worldwide, short by 52 MTEUs from 2019. Shipping companies responded with measures to mitigate costs, manage capacity and sustain freight rates.

By the second half of 2020, the situation had reversed with increased growth in demand for containers. In 2021 the year-on-year demand for containers increased by 9.5% from 2020. However, this sudden boost in demand stumbled in the limited capacity of the container carrying fleet and congested ports. The gap in the demand-supply scenario of containers caused container availability in the market and, correspondingly, a surge in the price.

Why we should be discussing it?

While demand for consumer goods picked up, more container supply was constrained by other factors, notably port congestion and equipment shortages which kept vessels waiting, especially on the West Coast of North America. The result was exacerbated market disruption and inefficiency at the port, which impacted consumers in the end!

Market Disruptions

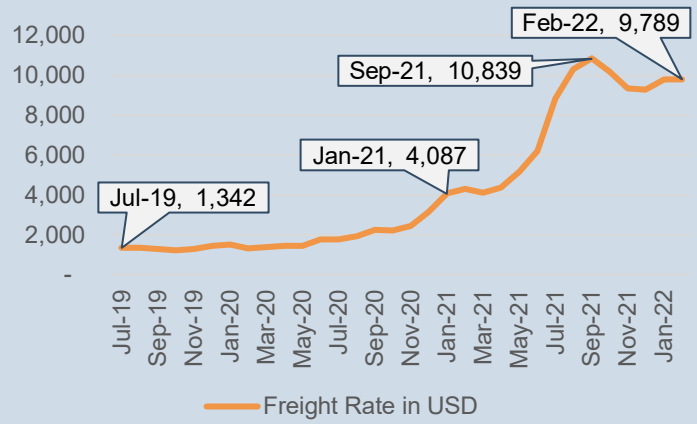
Container shortages, port congestion and delays result in higher freight rates, fees and surcharges

Global Trends

1 Freightos Baltic Global Container Index (FBX)

Global container freight rate index Jul 2019 to Feb 2022

Source: Statista.com



- Freightos Baltic Global Container Index reflects ocean container transport spot freight rates across 12 global trade lanes.
- The value of individual FBX routes is the median all-in price for an FEU in a spot booking with a carrier based on the carrier's rolling tariffs and related surcharges.
- Container freight rates increased dramatically between July 2019 and February 2022.
- In September 2021, containers reached a record price of over 10,800 USD.
- Between July 2019 and February 2022, the container prices increased at an average of 7% per month.

2 Contract freight rates, inter-regional, 2018–2020, USD per 40 ft. container (FEU)

Containerized trade is conducted at contract rates negotiated between shippers and shipping lines. Prevailing market conditions influence these rates, so in 2021 when spot rates were high, contract rates were correspondingly increased, and some were negotiated quickly to secure deals. Further, Shipping lines typically prioritized larger and more established shippers – leaving out smaller ones who were often unable to renegotiate.

Table: Contract freight rates, inter-regional, 2018–2020, USD per 40 ft. container (FEU)

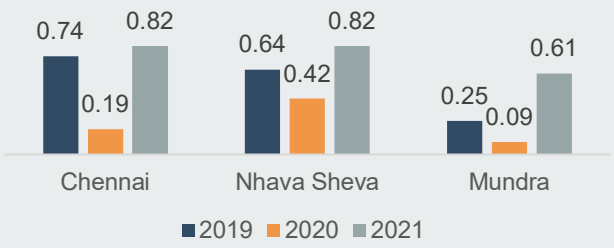
From	To	Average	2018	2019	2020	% diff between 2018-2020
Africa	Africa	1,862	1,812	1,849	1,924	6%
	Asia	758	748	750	775	4%
	Europe	1,607	1,431	1,643	1,747	22%
	Latin America	1,950	2,010	1,860	1,979	-2%
Asia	Africa	1,946	1,800	1,927	2,112	17%
	Asia	768	737	747	821	11%
	Europe	1,848	1,782	1,847	1,916	8%
	Latin America	2,198	2,290	2,075	2,230	-3%
	North America	2,580	2,426	2,603	2,711	12%
	Oceania	1,803	1,770	1,790	1,850	5%
Europe	Africa	1,701	1,595	1,650	1,858	16%
	Asia	947	967	870	1,004	4%
	Europe	887	804	881	976	21%
	Latin America	**1,232**	**1,019**	**1,302**	**1,376**	**35%**
	North America	**1,838**	**1,518**	**1,742**	**2,256**	**49%**
	Oceania	2,002	1,996	1,933	2,077	4%
Latin America	Africa	1,910	1,778	1,951	2,000	12%
	Asia	1,796	1,623	1,963	1,802	11%
	Europe	**1,751**	**1,313**	**1,977**	**1,961**	**49%**
	Latin America	1,529	1,349	1,699	1,539	14%
	North America	1,716	1,521	1,882	1,745	15%
North America	Africa	2,994	2,890	3,112	2,981	3%
	Asia	1,129	1,009	1,111	1,269	26%
	Europe	**1,097**	**858**	**1,109**	**1,323**	**54%**
	Latin America	1,353	1,254	1,318	1,486	19%
	North America	1,516	1,534	1,429	1,584	3%
	Oceania	2,722	2,538	2,634	2,996	18%

** Figures highlighted in Orange signify differences with more than 30%*

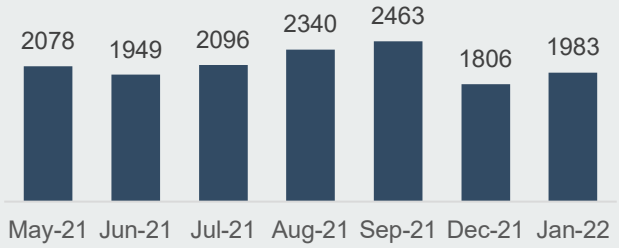
Source: Review of Maritime Transport 2021, UNCTAD, based on data provided by TIM Consult Market Intelligence

Trends in India

Container Availability Index (CAx)



Average Prices of 20ft. Containers in India (in USD)



- Container Availability Index allows monitoring of import and export moves of full containers around the key ports. A CAx value of 0.5 means that the same amount of containers leaves and enter a port in the same week. CAx values of > 0.5 mean that more containers enter, and CAx values of < 0.5 mean more containers leave a specific port.
- Growing imbalance of inbound and outbound containers experienced at major Indian ports is an indication of two critical market conditions
  - Exports are being impacted immensely,
  - More containers are getting cumulated at the ports due to restrictions.

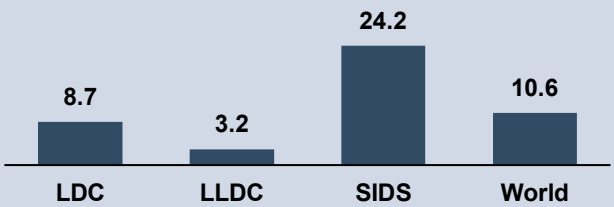
- Growing imbalance of availability of containers is negatively impacting and creating a surge in container prices.
- Compared to May, prices for 20ft. dry containers have risen by 18% in September, and the prices for 40ft. containers have been increased by 37%. In September, the average price of a 20ft. dry container in India is USD 2,463 (around INR 181,300), up from USD 2,078 in May 2021.
- The pre-pandemic price of the same specification container was approximately USD 1,000 for 20ft. and 2,000 for 40ft.

Source: Container xChange; Stakeholder Discussions

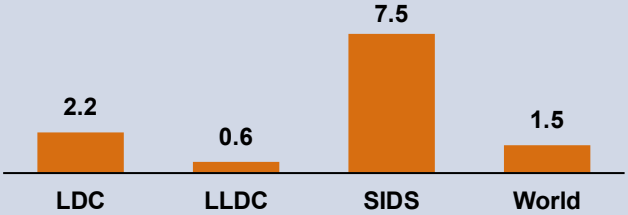
Impact on Consumers: High freight rates increase import and consumer prices

- A surge in container freight rates will add to production costs, which will feed through consumer prices. This can slow national economies, particularly the structurally weak ones such as Small Island Developing States (SIDS), Least developed countries (LDCs), and Landlocked developing countries (LLDCs) – whose consumption and production patterns are highly trade-dependent.
- UNCTAD has simulated the impact of the current surge in container freight rates by taking an average of 200 economies, concluding that import price levels will rise by 10.6% at the global level. The impact is most significant in SIDS, wherein, in 2019, 79% of the import traffic arrived by sea compared to the worldwide average of 27%. The situation is reversed for LLDCs, wherein only one percent of imports are transported by sea on average.
- On average, for 198 economies, the global increase in consumer prices between 2020 and 2023 is simulated at 1.5%. Consumer prices are less affected than import prices due to the lower proportion of international shipping products in the consumer basket.
- Further, the extent to which wholesalers and retailers pass on the price increases; concerned about market share, they may choose to absorb the import price increases by reducing their profits.

Import price increases (average)



Consumer price increases (average)



Source: Review of Maritime Transport 2021, UNCTAD

Industrial Overview

Why there was a shortage of Containers?
What caused port congestion, delays, and price surge?

COVID-19 pandemic

Closure of Ports due to Lockdown

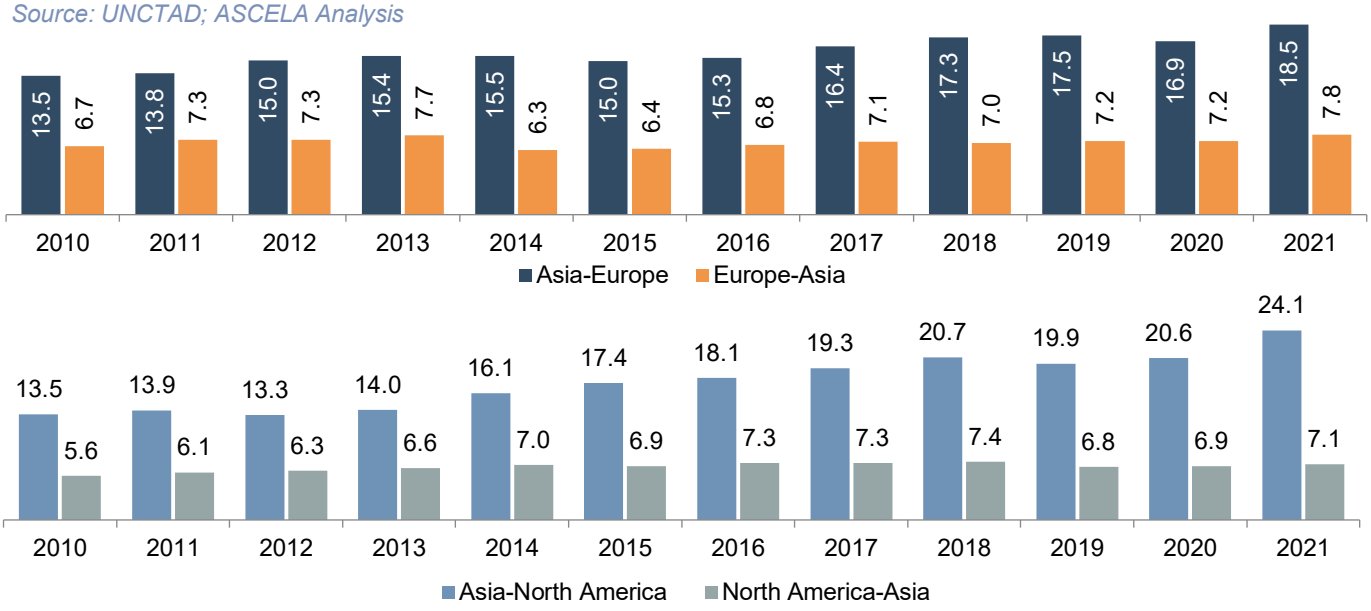
As the pandemic spread out from its Asian epicenter, countries implemented lockdowns, halting economic movements and production. Carriers reduced the number of vessels out at sea to stabilize costs, meaning empty containers were not picked up. This was especially significant for Asian traders, who couldn't retrieve empty containers from North America.

Then, a unique scenario developed. Being the first hit by the pandemic, Asia was also the first to recover.

A consequence of this is that almost all of the remaining containers in Asia headed out to Europe and North America, but those containers did not come back quickly enough. Massive workforce disruptions due to the COVID-19 restrictions in North America affected ports and cargo depots all across the country and inland transport lines. Without adequate staffing, containers started to pile up. As borders tightened, customs became more complicated to clear, worsening congestion.

Year-wise trend of trade between Asia and Europe and Asia and North America (in MTEU)

Source: UNCTAD; ASCELA Analysis



Increase in Consumer Demand

- There were changes in consumption and shopping patterns, including a surge in electronic commerce and lockdown measures, which led to an increased import demand for manufactured consumer goods, a large part of which is moved in shipping containers.
- Contrary to expectations, demand for container shipping had grown during the pandemic, bouncing back quickly from an initial slowdown.
- Increase in demand was more substantial than expected and not met with sufficient supply of shipping capacity.

The increased demand for goods with the changes in the consumption pattern and local COVID-19 restrictive measures in various parts of the world led to the accumulation of empty containers in places where they were not needed. In contrast, empty repositioning was not planned for. This led to skyrocketing prices of various commodities.

Suez Canal Blockage- 23 – 29 March 2021

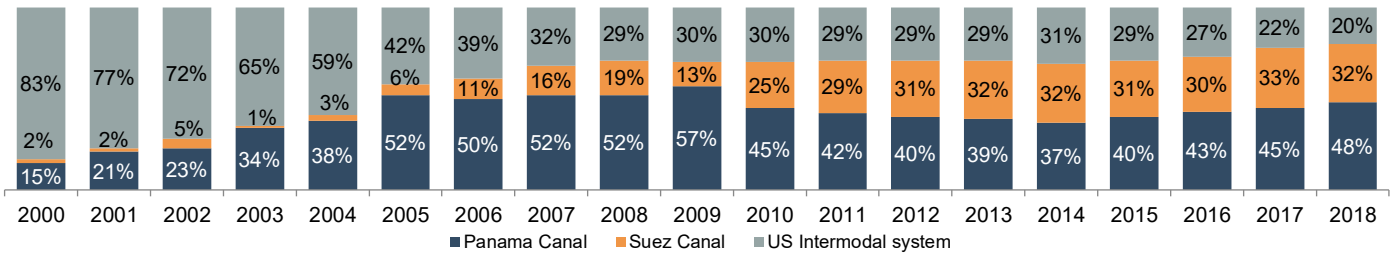
The Suez Canal is an artificial sea-level waterway in Egypt, connecting the Mediterranean Sea to the Red Sea through the Isthmus of Suez and dividing Africa and Asia. The canal is a route of trade between Europe and Asia.

In 2015, the "New Suez Canal" was opened after one year of construction. Under the project, the existing canal was widened and deepened, and a 35 kilometers (22-mile) new canal was added parallel to the old one.

In early 2021, many nations were recovering from the first wave of the COVID-19 pandemic. Amidst this, on March 23, 2021, the containership Ever Given, measuring 400m long with a beam of 59m and a capacity of over 20,000 TEU, ran around in the Suez Canal, and its bow got lodged in the eastern bank of the Canal. The vessel was refloated six days later, on March 29, 2021. However, within a short span of just nearly a week, the incident demonstrated the international nature of the shipping industry and its volatility and vulnerability.

Growing Importance of Suez Canal: Share of traffic along major trade routes

Source: Panama canal website

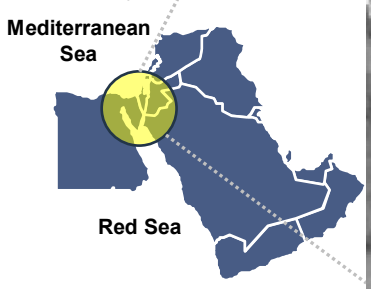


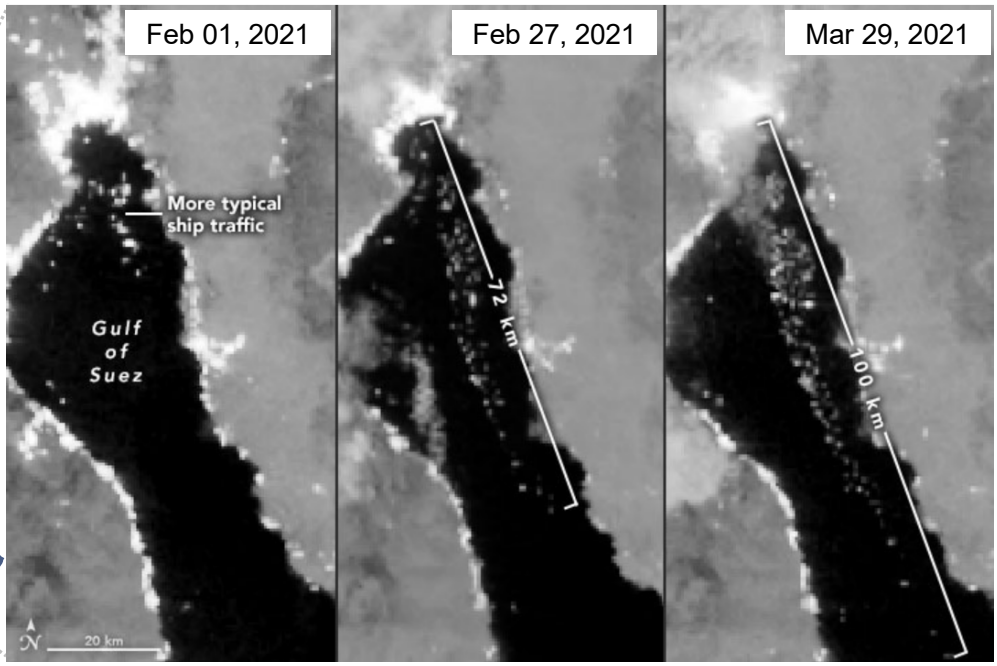
Impact of Suez Canal Blockage

Suez Canal Blockage

Source: NASA Earth Observatory

The left image shows typical ship traffic in the Gulf of Suez on February 1, 2021. By March 27, the line of waiting ships stretched 72 kilometers. Two days later, ships waited as far as 100 kilometers from the canal entry.





1. **Revenue Los:** Loss of revenue for the Suez Canal authority, including salvage cost was in the range of USD 100 million

2. **Vessel Traffic Blockage:** Vessel Traffic was blocked at both ends of the canal, where more than 430 ships were forced to wait. Each additional day of delay incurred an additional 0.5% of the global shipping capacity waiting in queues

3. **Supply Chain Disruptions:** Weeks after the canal opened, European ports experienced peaks in vessel arrivals, further increasing the pressure on seaport terminals caused by the pandemic.

Outlook

Black swan events like the COVID-19 pandemic, the blockage of the Suez Canal, and the current war situation between Ukraine and Russia have shone a spotlight on the complex and transcontinental relationship of the global trade; consequently, the fragility and vulnerability of the supply chain networks.

It is critical to assess factors that had caused an unprecedented shortage of containers and hampered trade's recovery; so are the solutions that can help avoid a similar situation in the future. Since the pandemic started and in relevance to the in-between hurdles, ports worldwide took various actions to keep the supply of critical goods between countries uninterrupted. Addressing the operational and cost effects at port facilities caused by challenging situations requires a cross-industry effort. A broad list of such possible actions with relevant examples has been prepared for the reader.

Broadly these actions can likely be divided across three groups:

1. **Facilitation/simplification of trade processes to make transportation of goods less time-consuming and cost-effective**
2. **Improvising trade tracking for stakeholders to be prepared in case of any disruptions and be prepared with a proactive strategy rather than being reactive**
3. **Providing insight and strengthening port authorities of developing countries who often lack resources and expertise in international container shipping**

Global Outlook

Faster Facilitation of Trade Processes

Almost all manufactured goods are today shipped in containers. COVID-19 times have demanded a continuous supply of critical goods like medical equipment, medicines, and thermally controlled vaccines. Ports and shipping industries should now be more prepared than ever with the least time-consuming and hassle-free trade transportation practices.

Continuous and Uninterrupted Regional trade movement

- Container movement was impacted due to the delay in fulfillment of consignments and offloading.
- Trucks and trains should be allowed to function to transport commodities, especially the essential ones, across the regions.
- All countries must maintain their access to seaports. Transit countries and landlocked developing countries may avail support through programs like UNCTAD Empowerment Programme for National Transit Coordinators.

Speedy custom clearances for supply of critical goods

Reducing the administrative time during the clearance of containers can be one of the effective ways to reduce dwell time.

- Adherence to the Harmonized Systems Codes by the World's Customs Organization for critical goods by port authorities for faster clearances
- Special provisions like assigning an authorized economic operator and pre-arrival processing essential tools should be used if available or installed on an urgent basis.
- De-materialisation of processes, including automation, electronic payments, and the acceptance of digital copies.

- Automated System for Customs Data (ASYCUDA) of UNCTAD identifies acceptance of digital copies for faster clearance, as well as separation of release from clearance as effective tools for faster clearance

Information Flow Transparency

Governments play an important role in effectively communicating information during critical times. They must guarantee that trade/port operating instructions are available to all players and stakeholders.

- It must be ensured that online trade information and help desks are updated and operational at all times.
- Trade information systems should provide remote access to all administrative forms and answers to usual queries, so that anyone working with the government may find out what they need to know without having to physically go looking for it.
- Government can also support industry/trade associations in sharing relevant information on their platforms.

Improvising Trade Tracking

Digitalization of Containers

- Traditionally, logistics managers have tracked containers by verifications at each point. However, the last two years have highlighted the need for real-time cargo and container tracking solutions.
- The tracking systems shall be in constant touch with the freight vessels and shall provide all updates on delays or re-routing.
- Advanced machine learning could identify the most cost-effective routes and ports. Radiofrequency could assist in tracking the shipments end-to-end and streamlining operations across the supply chain.

Strengthening Port Authorities

Uninterrupted Shipping & Access to Ports

- Around 80% of the global trade takes place via commercial shipping, including transportation of critical goods like food and energy sources.
- To avoid irregularity in the supply of resources, it is essential that ports remain functional and provide necessary services like bunkering, health services to sailors, and telecommunication services to the ships.
- Staggered working hours to provide non-stop operations is one of the standard practices applied worldwide by ports as it helps in spreading workload with minimum physical contact.

Globally Recognised Practices

1. Observatory on Border Crossings Status due to COVID-19

To facilitate the works of transport operators and operate road supply chains smoothly, UNECE launched an online platform- the "Observatory on Border Crossings Status due to COVID-19," which gathers updated information regarding border crossing limitations worldwide. It provides the following assistance.

Information

Aimed to provide information on the situation, updated directly by countries - national customs' focal point and national members of the International Road Transport Union (IRU), the transport sector, and the European Commission.

Hotlines

To include links to "hotlines" (IRU, EU, etc.), in case users have urgent questions that need answers (expiration of VISA, etc.).

Policy

List the policy principles promoted by UN border crossing conventions, helping to ensure the efficient and effective transportation of goods and people in all regions.

Source: United Nations Economic Commission for Europe

2. Maqta Port Community System (PCS)

Established in 2016, Maqta Gateway is a subsidiary of Abu Dhabi Ports. It is a central pillar of the company's strategy to be a leader in developing integrated and digital global trade. It created the Maqta Community Port System or mPCS, an innovative online community-based system for exchanging information among port stakeholders, customers, and governmental authority entities.

mPCS was developed to standardize and secure all the information exchange among port stakeholders, customers, and governmental authority entities.

mPCS provides a single window to all port services with system-to-system integration. With real-time information and service accessibility on all digital platforms, mPCS accelerates business development and trade in the Emirate.

Source: Maqta Gateway

'mUnity', Abu Dhabi

- Hope Consortium is an Abu Dhabi-based public-private partnership that was launched to deliver large quantities of COVID-19 vaccines globally.
- The consortium relied on the 'mUnity' system to ensure complete visibility, safety, security, and tamper-proof distribution of the COVID-19 vaccines, despite the complexities of their transportation.
- 'mUnity' was developed by Maqta Gateway, a founding member of the Hope Consortium.
- mUnity is a custom-built digital system that uses blockchain technology to track and trace COVID-19 vaccine sourcing, storage, shipment, and relevant data throughout the vaccination journey. The technology provides complete end-to-end visibility of every vaccine, from the manufacturing facility to the vaccination centers in the UAE and other locations across the world. The system can track individual vaccine doses up until the moment of administration based on data availability.

3. Online Dashboard by Beacon, UK

A UK-based logistics firm has developed an online dashboard for various logistics solutions as illustrated below.

Online Services

It allows its customers to track and book shipments in real-time and also compare prices for different carriers

Paperwork

It allows the automatic updating of compliance paperwork for bills while avoiding expired license issues.

Efficiency

It ensures goods movement with transparency and accuracy, while also saving time.

Source: Beacon

4. Port Authorities Roundtable (PAR)

It is an event for leading port authorities to exchange ideas and learn best practices in today's evolving maritime landscape.

1 **PAR 2021**

PAR2021 focused on the role of ports in the global supply chain and their impact in energy transition, climate change and digital evolution.

2 **PAR 2020**

In PAR2020, more than 50 port authorities globally declared their commitment to sharing the best practices to ensure that port operations can remain undisrupted.

3 **PAR 2019**

The theme for PAR2019 is "Managing Disruptive Changes and Risks for Future-Ready Port."

Source: Port Authorities Roundtable (PAR)

ASCELA's Viewpoints

The COVID-19 pandemic has proved to be massive disruption, bringing businesses and supply chains to a halt or drastically reducing efficiency. With its complex and transcontinental nature, the pandemic significantly affected container shipping.

In early 2021, many nations were only recovering from the first wave of the COVID-19 pandemic while others were fighting against a fatal second wave of the pandemic when the containership Ever Given ran on March 23, 2021, aground in the Suez Canal and blocked it for a week. Within a short span, the incident further demonstrated the international nature of the shipping industry and its volatility and vulnerability.

1 Shift of consumer spending from services to goods

During COVID-19, there was an increase in container demand due to faster than expected recovery of consumer demand and the shift of consumer spending from services to goods.
COVID highlighted consumers' dependence on goods and further the appreciation for complete supply chain management of goods, especially the critical goods.

2 Can digitalization, automation, and smart shipping ensure a resilient supply chain?

The supply chain was hampered due to the unavailability of the workforce during the times of COVID-19. With digitalization, automation, and intelligent shipping, the mechanical dependence for logistics operations on the workforce can be reduced, ensuring a resilient supply chain.

3 Would landside infrastructure be impacted by the seaside changes?

The rapidly evolving container vessel sizes and the consequent changes in the supply chain have put up a lot of strain on the landside infrastructure. As such, adequate attention must be paid to the rapid development of the landside infrastructure such as ports, ICDs, etc.

4 Is building more containers the right approach?

As there is an increase in container demand, shipping lines are charging excessively on specific routes. The shipping lines aim to build more container vessels out of the profits. But should making more containers be the priority of the shipping lines?
The surge in demand may be temporary, and once the situation improves, carriers may end up with container capacity exceeding the demand.

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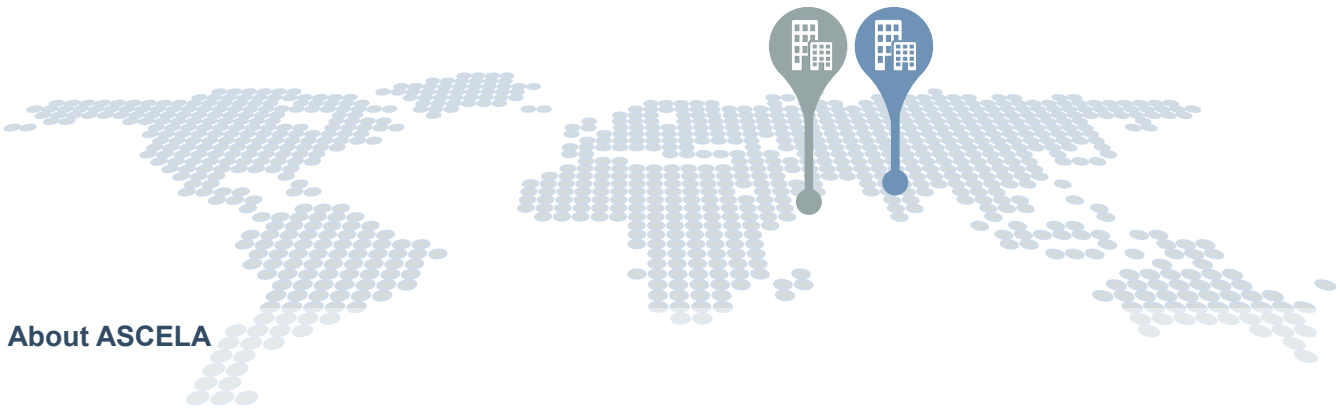
(CIN- U74999HR2018PTC072828)



About ASCELA

ASCELA is a professional service company providing advisory services to organizations to help them enhance efficiency through analysis of market potential, competitive landscape, operational, financial, economic, technical, and strategic challenges. The firm was established in 2018 with a vision to provide independent strategic insights into Infrastructure and build environments.

ASCELA is headquartered in India and has offices in India and United Arab Emirates (UAE). The firm is registered in India as ASCELA ADVISORS PRIVATE LIMITED (CIN- U74999HR2018PTC072828). In India, ASCELA is recognised by the Department for Promotion of Industry and Internal Trade (erstwhile DIPP), Ministry of Commerce and Industry, Government of India, under the Startup India initiative (Recognition ID - DIPP17959).

ASCELA is operating in UAE as a registered entity ASCELA Management Consultancies Est. (Professional License no 1000645).

About ASCELA Infrastructure Advisory

ASCELA's Infrastructure Advisory practice helps clients develop and leverage core competencies to deliver sustainable and tangible returns. We define strategies that help clients gain market share, enter new markets, regions, and products, improve the bottom line and reconfigure organizational/ operational structures. ASCELA is well placed to provide strategic inputs and analysis for assessing potential development opportunities in Infrastructure design and development space. Our in-depth knowledge of our focus transportation sectors, backed by intensive research and analysis of our clients' specific contexts, helps define superior strategies, frameworks, and implementable action plans.