

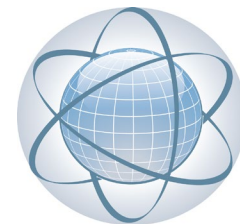
Global Shippers Forum/ MDS Transmodal Container Shipping Market Quarterly Review

2021: Quarter 2

Reporting data published in September 2021



MDS Transmodal Ltd.



global
shippers
forum

GSF/MDST Container Shipping Market Quarterly Review

MDS Transmodal overview

In association with Global Shippers Forum, MDS Transmodal has decided to produce a new quarterly review of the trends and performance of the global container shipping market for four main reasons:

1. We have over the last 35 years been developing a wide range of databases that describe global liner shipping; on the fleet and its deployment, on demand, performance, costs and revenues. Over the last 15 years we have brought these together using standard coding systems so that the industry could be readily described and modelled, largely to support our consultancy work. We felt it was time to now share these resources with a wider market so that decision making can be based on sound evidence.
2. Over the last 15 years, since the decision that was made by the EU to effectively bring an end to the conference system, the liner shipping sector, its suppliers and clients have been in flux as the size of ships, performance and levels of integration and consolidation have changed radically while its market has grown remorselessly. The need for sound regulation and informed investment has never been greater and is attracting the concern of global authorities such as OECD, UNCTAD and trade associations such as GSF, CLECAT and FEPORT.
3. The urgency for the liner shipping sector, its suppliers and clients to address the issue of climate change. The process whereby sustainable solutions are agreed upon and invested in will be complex and require a collaborative approach if global connectivity and prosperity are to be maintained.
4. Global Shippers Forum represents an ideal partner for our initiative because of its reach and membership. However, GSF will have its own perspectives and arguments which MDST will remain independent of. MDST's commentary will be limited to noting statistical change (comments in blue) while GSF will focus on the implications for its members (comments in brown).

In each edition a different trade lane will be examined in turn.

GSF/MDST Container Shipping Market Quarterly Review

GSF Overview

The Global Shippers' Forum represents the interests of importers and exporters as cargo owners in international supply chains. As such global shippers are the customers of the container shipping industry. The trends and performance of the container shipping market are crucial to the interests of shippers around the world who are reliant upon services for the safe, timely, cost-effective and sustainable movement of unitised world trade.

GSF's partnership with MDS Transmodal arose from a common interest in understanding better this fast-changing market and how it is responding to the multiple factors shaping its future. GSF's focus is on five key measures that monitor the outputs of the sector:

1. **Competitiveness:** is the regulatory environment and the ownership structure contributing to an open and responsive market where the benefits of scale are experienced fairly by customers?
2. **Capacity:** how is the availability and utilisation of shipping capacity responding to the external factors given the market structure and the legal permissions granted to competing entities to co-ordinate sailings and services?
3. **Costs:** how are the underlying and incidental costs of the industry affecting advertised spot rates and the high levels of surcharging experienced by customers?
4. **Service performance:** is the predictability, reliability and connectivity of services providing an offer that shippers can depend on in their supply chain planning and forecasting and in the commitments they make to their customers?
5. **Carbon emissions:** how is the response of the shipping industry to climate change affecting the greenhouse gas emissions attributable to the cargo that it carries?

The distinctive feature of these indicators is that they assess the market from a shipper's (customer's) perspective and offer a description based on experience of service rather than advertised performance. Over time these data will build into comprehensive and authoritative evidence bank to support our representations and advocacy. in support of global shippers

As well as Quarter-on-Quarter fluctuations, MDST's extensive data holdings also permit longer term trends to be observed. These will be presented to provide context for short-term changes and to assess the overall direction of the industry.

The GSF/MDST Container Shipping Market Review Indicators

1 Trade Volumes

- 1.1 Total trade, global
- 1.2 Unitised trade, global
- 1.3 Maritime Loaded TEU, routes
- 1.4 Maritime Loaded TEU, Far East to North Europe
- 1.5 Maritime Loaded TEU, North Europe to Far East

2 Shipping Capacity

- 2.1 Deployed capacity, global
- 2.2 Deployed capacity, routes
- 2.3 Deployed capacity, Far East - North Europe
- 2.4 Services on Far East - North Europe by alliance member

3 Capacity Utilisation

- 3.1 Utilisation through Suez & Far East - North Europe & Med

4 Carrier Costs & Revenues

- 4.1 Costs & revenue, Global
- 4.2 Unit costs & unit revenue, Global
- 4.3 Unit costs & unit revenue, Far East - North Europe

5 Market Competitiveness (MDST/OECD-ITF)

- 5.1 Market concentration – East China Sea- Europe

6 Port Connectivity (MDST/UNCTAD LSCI)

- 6.1 Top 10 container ports, global
- 6.2 Top 10 container ports, North Europe
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7 Services performance

- 7.1 Consistency, reliability & port calls, global
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8 Carbon Emission Factors

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Glossary

More about MDS Transmodal & contacts

More about Global Shippers Forum & contacts

Global Shippers' Dashboard

Quarter 2 2021

KPI	Indicator	Status & Overview
1	Trade volumes	After stalling in Q1, global trade volumes increased 4% in Q2, returning close to pre-Covid levels of trend growth.
2	Shipping capacity	Some new capacity was returned to the market, especially in the VLCC and ULCC ranges (10,000+ TEU), providing 8% more capacity on the trades served by these sizes of ships during Q2 2021. This was still insufficient to meet demand.
3	Capacity utilisation	Nearly all container ships are effectively full, with utilisation exceeding 90% on most trades. The data does not record the cargoes un-booked, rolled-over, or simply left behind.
4	Carrier costs & revenues	Unit operating costs for ships (\$/teu) have barely moved over the past 18 months despite stronger charter rates and a recovered oil price. Earnings per container moved have doubled over the same period for no discernible increase in costs.
5	Market competitiveness	New analysis is revealing the numbers of shipping lines whose market shares exceed the threshold for application of the EU Consortia Block Exemption Regulation and they should operate under general competition rules
6	Port connectivity	Port connectivity remains relatively stable despite the fluctuations in service patterns over the period, which saw many patterns disrupted due to the closure of the Suez Canal for six days.
7	Service performance	Predictability of services remains poor with the number of skipped port calls increasing in Q2, mainly due to the impact on Asia-Europe services from the closure of the Suez Canal for six days at the end of March.
8	Carbon dioxide emissions	CO ₂ emissions per TEU have remained broadly flat since 2016, and remained so throughout the pandemic, despite the frenetic activity in the market. New global measures were adopted by IMO in June 2021 effective from 2023. This indicator will be used to monitor their effectiveness in reducing shippers' Scope 3 emissions of CO ₂ .

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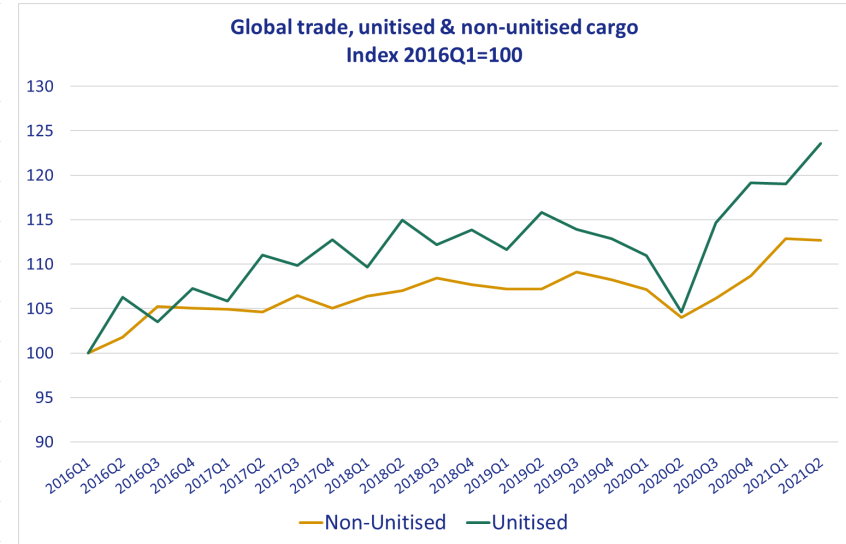
Red = adverse development or trend (from shippers' perspective); **Amber** = neutral or concerning trend (from shippers' perspective)

Green = improving development or trend (from shippers' perspective)

1. Trade Volumes

1.1 Total trade, global (mTonnes)

	2021Q2	Year To Date (YTD)	Previous Quarter (PQ)	Previous Year (PY)
Agricultural	207	411	1.8%	3.6%
Metals	12	24	3.7%	18.3%
Oils & fats	24	46	3.2%	-0.8%
Chemicals	168	336	0.6%	6.0%
Ores	505	1,002	1.7%	5.9%
Forest products	127	244	7.7%	-1.4%
Energy:				
- Coal	294	592	-1.6%	-0.4%
- Oil & gas	1,100	2,258	-5.1%	11.1%
Other	495	956	7.5%	16.9%
Total Non-Unitised	2,931	5,868	-0.2%	8.3%
Unitised	638	1,252	3.8%	18.1%
TOTAL Tonnes	3,569	7,120	0.5%	10.0%



Note: Unitisable traffic is estimated on the basis of long run ratios of unitization based on country x country x commodity flows and the scale of traffic available and explains long-run trends in unit load volumes derived from other sources.

Source: MDS Transmodal, World Cargo Database August 2021

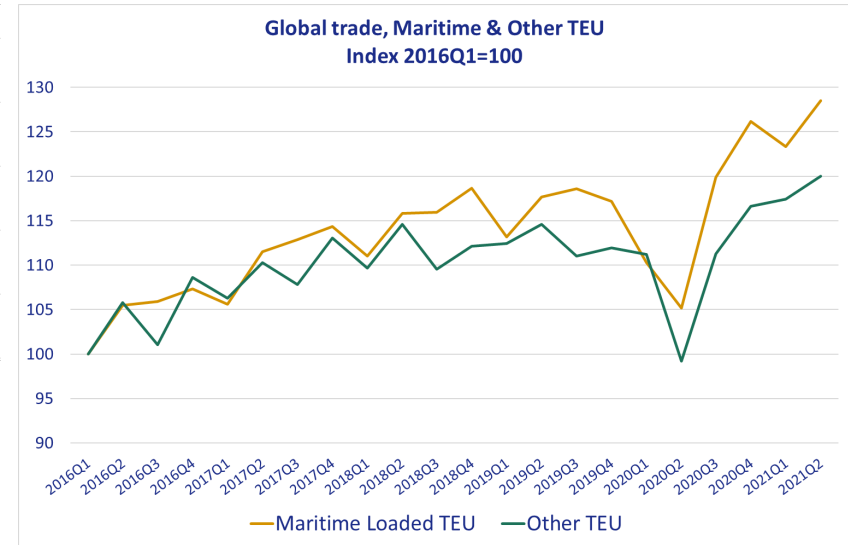
Conclusions & Commentary

- Measured when received at the importing country, global trade in 2021Q2 recovered strongly compared to 2020Q2, up 10%, but only 0.5% over the previous quarter.
- Stronger growth rates are estimated for unitisable traffic available (including regional and overland international freight).
- After stalling in Q1, global trade volumes increased significantly in Q2, returning to pre-Covid levels of trend growth.

1. Trade Volumes

1.2 Unitised trade, global (mTEU)

	2021Q2	YTD	PQ	PY
Maritime containers	41	81	4.2%	22.2%
'- of which deep-sea (inter-continental)	30	59	4.3%	24.4%
'- of which short-sea (intra-regional)	11	22	4.0%	16.5%
Other (overland & ro-ro)	36	71	2.2%	20.9%
Total TEU	77	152	3.3%	21.6%



Source: MDS Transmodal, World Cargo Database August 2021

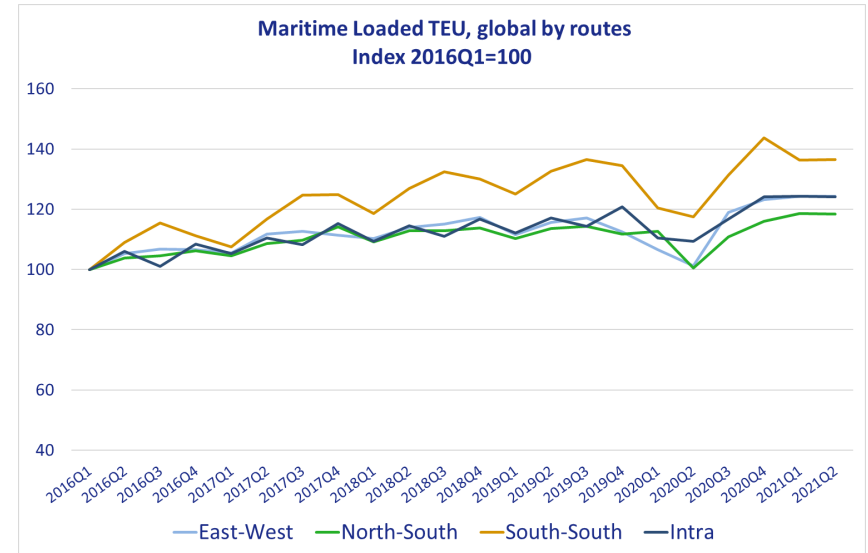
Conclusions & Commentary

- In 2021Q1 the volume of cargo moved in containers by sea increased by more than 4% compared to 2020Q4 and more than 22% compared to 2020Q2 with deepsea flows growing at a faster rate than intra-regional flows showing that intercontinental trade remains attractive despite the disruptions characterising the global supply chain.

1. Trade Volumes

1.3 Maritime Loaded TEU, routes (mTEU)

	2021Q2	YTD	PQ	PY
East-West	22.1	43.3	4.3%	26.1%
North-South	3.3	6.4	4.2%	21.2%
South-South	5.0	9.7	4.4%	19.3%
Intra	11.1	21.8	4.0%	16.5%
Grand Total	41.5	81.3	4.2%	22.2%



Source: MDS Transmodal, World Cargo Database August 2021

Conclusions & Commentary

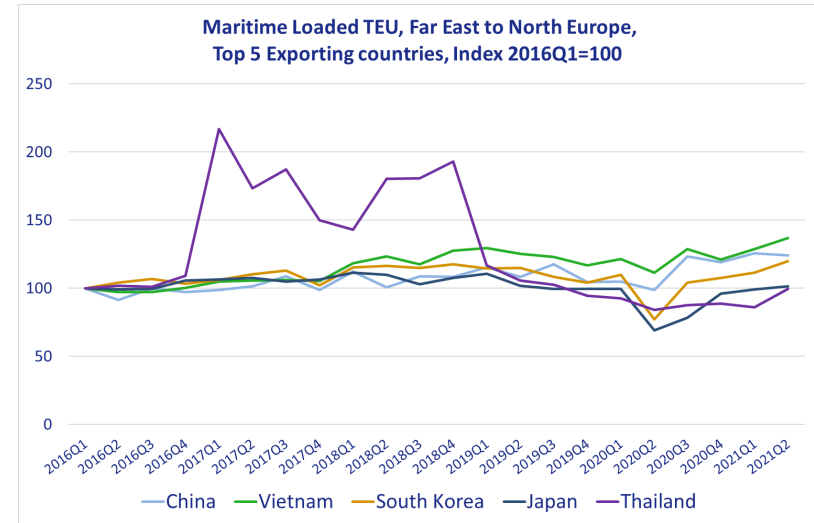
- Compared to 2021Q1, in 2021Q2 all markets have been experiencing a growth in the region of 4% whereas, on a year-on-year comparison we estimate that the growth has been driven mainly by cargo moved on the East-West routes.
- Chinese exports have led the global recovery in shipping demand driven by the re-stocking of inventory in importing nations to meet resurgent consumer demand and resumption of manufacturing.
- Demand remains depressed in the southern hemisphere reflecting the later arrival of the pandemic and subsequent restrictions.

1. Trade Volumes

1.4 Maritime Loaded TEU, Far East to North Europe (mTEU)

Top 5 Exporting countries	2021Q2	YTD	PQ	PY
China	2.041	4.106	-1.2%	25.7%
Vietnam	0.168	0.327	6.2%	22.9%
South Korea	0.137	0.264	7.4%	54.8%
Japan	0.094	0.187	2.3%	46.6%
Thailand	0.081	0.150	15.9%	18.8%
All others	0.276	0.538	5.3%	20.9%
Grand Total	2.797	5.571	0.8%	26.6%

NOTE: Russia excluded given long land border



Source: MDS Transmodal, World Cargo Database August 2021

Conclusions & Commentary

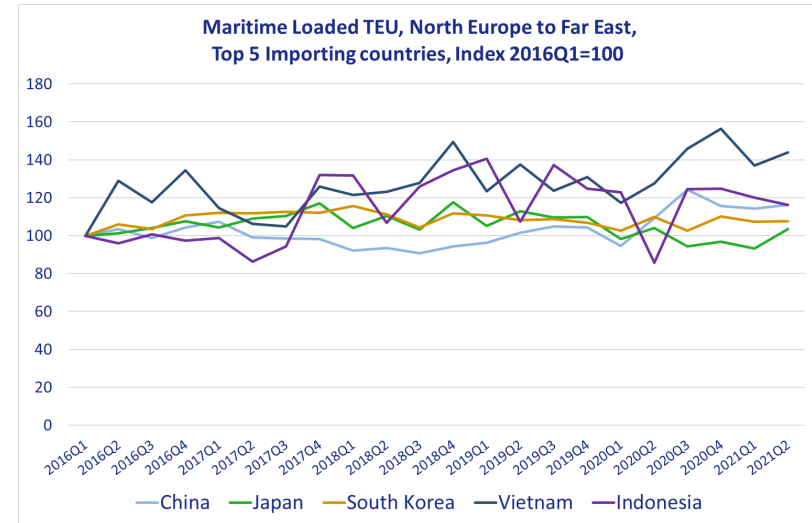
- In 2021Q2, Far East exports to Europe were approximately 1% higher than in 2021Q1, with exports from China showing a contraction, mainly due to a reduced containerised volume of cargo exported via sea to Germany.
- Compared to 2020Q2, however, China shows a strong 25.7% increase with all Northern European countries reporting an increase in their imports from this market.

1. Trade Volumes

1.5 Maritime Loaded TEU, North Europe to Far East (mTEU)

Top 5 Importing countries	2021Q2	YTD	PQ	PY
China	0.555	1.101	1.6%	6.3%
Japan	0.107	0.204	11.0%	-0.6%
South Korea	0.078	0.156	0.3%	-2.0%
Vietnam	0.058	0.113	5.1%	12.9%
Malaysia	0.045	0.094	-10.8%	28.6%
All others	0.227	0.465	-4.7%	12.3%
Grand Total	1.069	2.133	0.6%	7.2%

NOTE: Russia excluded given long land border



Source: MDS Transmodal, World Cargo Database August 2021

Conclusions & Commentary

- On the eastbound direction, for 2021Q2 we estimate an increase of circa 1% over the previous quarter and a stronger growth of more than 7% compared to the same quarter of 2020.
- China, accounting for more than 50% of the traffic exported from the Northern European countries to the Far East, experienced an annual growth of more than 6%

2. Capacity

2.1 Deployed capacity*, global

	Ship size (TEU)	2021Q2		PQ		PY
Deployed capacity (mTEU)	<5,000	28.6		2.5%		7.4%
	5,000-7,499	6.1		-0.8%		3.2%
	7,500-9,999	6.2		-2.4%		8.9%
	10,000-12,499	2.6		10.1%		36.7%
	12,500-14,999	4.5		7.5%		15.9%
	15,000+	4.2		4.9%		34.1%
Total deployed capacity (mTEU)		52.2		2.4%		10.7%
No of vessels	<5,000	3,386		2.7%		5.5%
	5,000-7,499	491		-1.0%		4.7%
	7,500-9,999	478		-1.4%		6.5%
	10,000-12,499	161		8.8%		21.1%
	12,500-14,999	242		3.0%		11.5%
	15,000+	197		4.8%		28.8%
Total No of vessels		4,955		2.2%		7.0%

* Note: analysis carried out on individual IMOs rather than services as done in our previous documents.

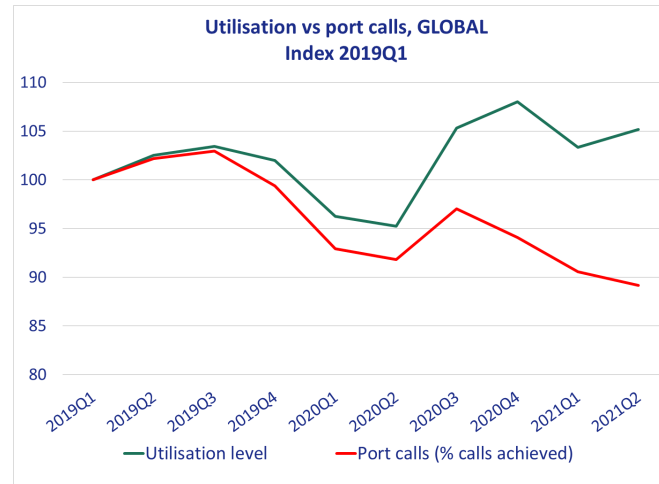
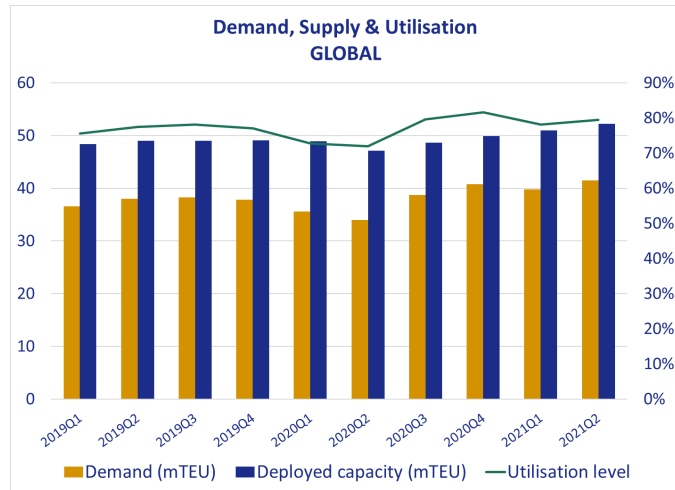
Source: MDS Transmodal, Containership Databank August 2021

Conclusions & Commentary

- Global scheduled capacity in 2021Q2 was 10% higher than in 2020Q2 as compared with a 22% increase estimated on the demand side.
- Some new capacity was returned to the market, especially in the VLCC and ULCC ranges (15,000+ teu), providing 8% more capacity on the trades served by these sizes of ships during Q2 2021. This was still insufficient to meet demand.

2. Capacity

2.2 Deployed capacity, routes (mTEU)



	2021Q2	PQ	PY
East-West	22.2	4.1%	20.1%
North-South	4.0	0.8%	0.2%
South-South	3.3	-1.2%	12.8%
Intra	22.8	1.6%	4.3%
Grand Total	52.2	2.4%	10.7%

Source: MDS Transmodal, World Cargo Database & Containership Databank August 2021

Conclusions & Commentary

- Capacity scheduled on the EW routes increased faster than those on other markets, however not as fast as demand moved on these trade lanes.
- The increase in utilisation levels from 2020Q2 has been accompanied by a deterioration in the number of calls actually made – as we will illustrate in the following sections, consistency and reliability also deteriorated.

2. Capacity

2.3 Deployed capacity*, Far East - North Europe (all routes)

	Ship size (TEU)	2021Q2	PQ	PY
Deployed capacity (mTEU)	<5,000	0.0	111.0%	-1.1%
	5,000-7,499			
	7,500-9,999	0.2	-9.4%	-9.3%
	10,000-12,499			
	12,500-14,999	0.9	-3.5%	-2.4%
	15,000+	3.0	8.9%	31.4%
Total deployed capacity (mTEU)		4.2	3.2%	17.6%
No of vessels	<5,000	21	75.0%	0.0%
	5,000-7,499			
	7,500-9,999	32	-3.0%	-5.9%
	10,000-12,499			
	12,500-14,999	65	-7.1%	-3.0%
	15,000+	140	7.7%	25.0%
Total No of vessels		259	3.6%	8.4%

* Note: analysis carried out on individual IMO's rather than services as done in our previous documents.

Source: MDS Transmodal, Containership Databank August 2021

Conclusions & Commentary

- In 2021Q2, the level of capacity scheduled on the Far East and N Europe trade lane grew by more than 17% compared to 2020Q2 while demand, on the westbound direction, has been increasing by more than 26% during the same period.

2. Capacity

2.4 Services on Far East - North Europe by alliance member

Alliances	Members	Number of ships			Deployed capacity (mTEU)			Avg size of ship (TEU)			Number of services		
		2020Q2	2021Q2	% change	2020Q2	2021Q2	% change	2020Q2	2021Q2	% change	2020Q2	2021Q2	Change in abs terms
2M Alliance	Maersk	24	30	25%	0.4	0.6	42%	19,113	18,937	-1%	2	4	2
	MSC	5	18	260%	0.1	0.3	272%	19,871	15,638	-21%	2	3	1
Ocean Alliance	CMA-CGM	12	12	0%	0.2	0.3	21%	17,856	21,638	21%	1	1	0
	COSCO	31	32	3%	0.7	0.7	3%	18,479	18,753	1%	3	3	0
The Alliance	Hapag-Lloyd	6	11	83%	0.1	0.2	39%	18,709	16,746	-10%	1	2	1
	HMM	1	10	900%	0.0	0.2	711%	23,964	22,328	-7%	1	2	1
	ONE	5	7	40%	0.1	0.1	7%	20,170	18,550	-8%	1	2	1
Others		2	5	150%	0.0	0.0	0%	1,928	1,928	0%	1	2	1
TOTAL		86	125	45%	1.7	2.4	43%	18,443	18,026	-2%	8	12	4

Note: table above includes only services calling at Far East – North Europe trade lane

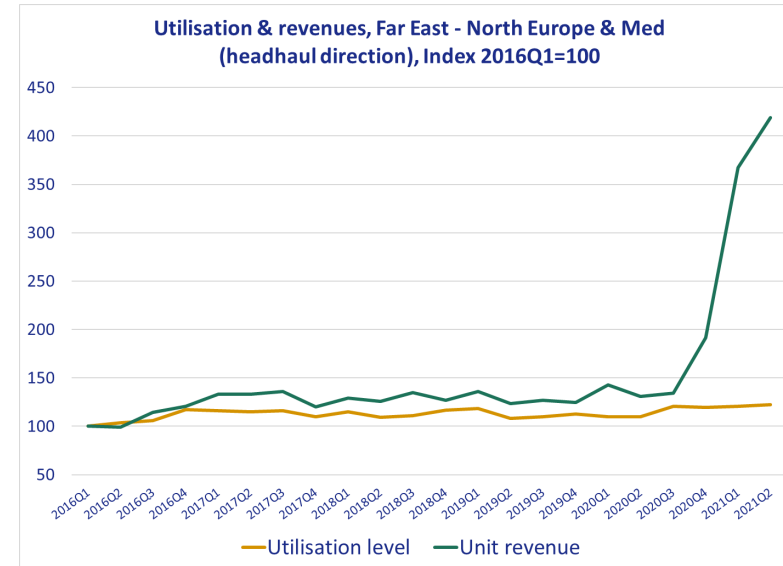
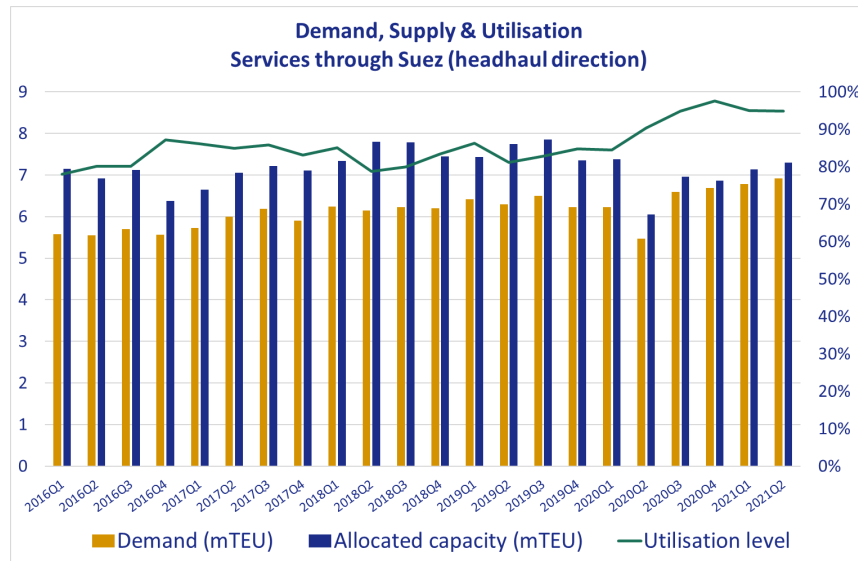
Source: MDS Transmodal, Containership Databank August 2021

Conclusions & Commentary

- The level of capacity scheduled on the direct services between the Far East and North Europe increased by circa 43% in 2021Q2 compared to the same quarter of 2020 with all alliances increasing their capacity scheduled on this trade lane.
- The faster growth rate estimated for this trade lane as compared to the growth estimated for all the routes calling at Far East and North Europe is mainly due to the reduction in capacity scheduled on the 'round the world' services.

3. Utilisation

3.1 Utilisation through Suez & Far East - North Europe & Med



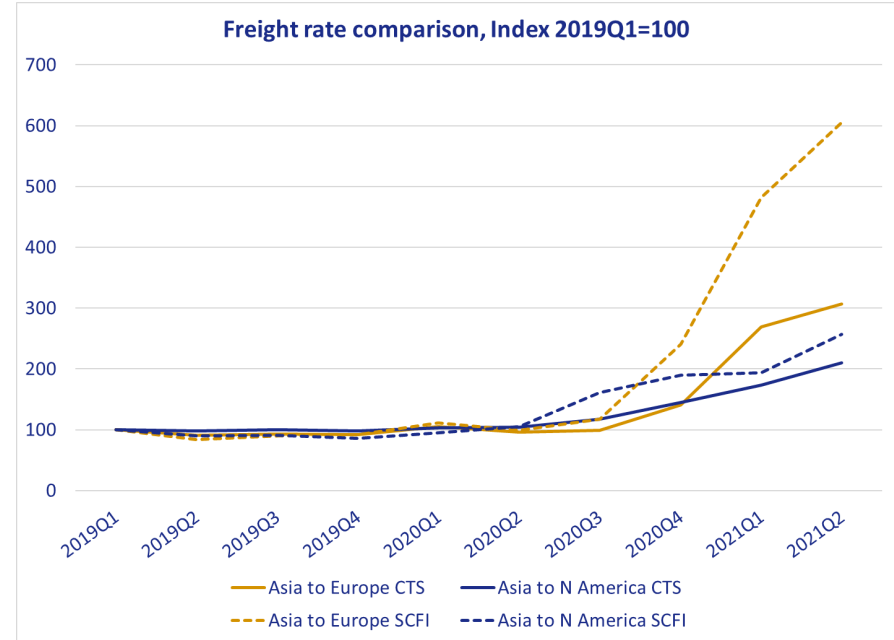
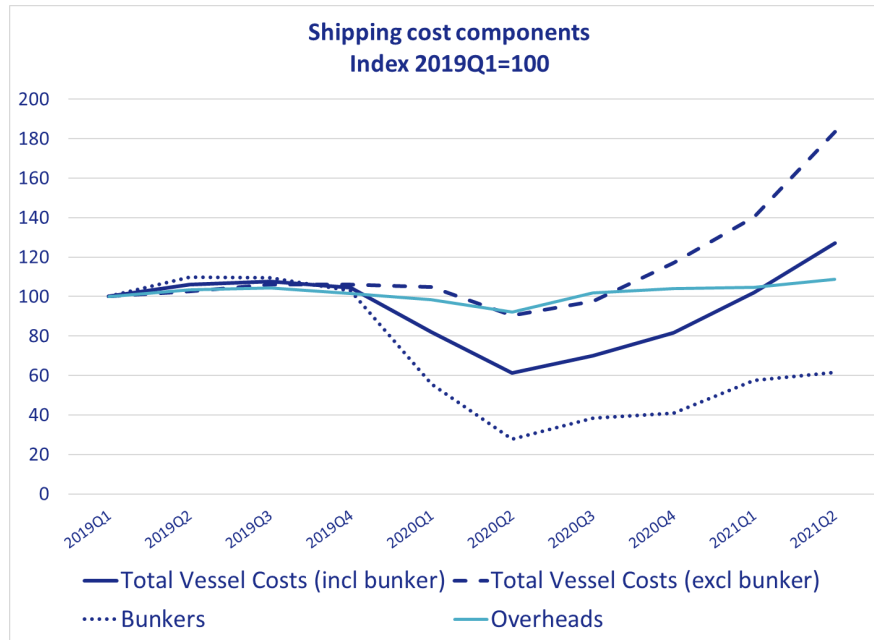
Source: MDS Transmodal, Container Business Model August 2021

Conclusions & Commentary

- Utilisation level measured for the vessels passing through the Suez Canal WB (busiest point for the shipping routes), reached its highest level for several years in 2020Q3 and has remained high since.
- Utilisation level measured on the Far East – Europe trade lane is also estimated to be in the region of 90%.
- With utilisation levels remaining high, unit revenues (calculated based on the price indices reported by CTS) have carried on increasing: on the Far East to Europe routes, we estimate an increase of more than 220% in 2021Q2 as compared to same quarter of 2020.
- Most container ships are effectively full, with utilisation exceeding 90% on most trades. The data does not record the cargoes un-booked, rolled-over, or simply left behind.

4. Costs & Revenues (Index 2019Q1=100)

4.1 Costs & revenue, Global



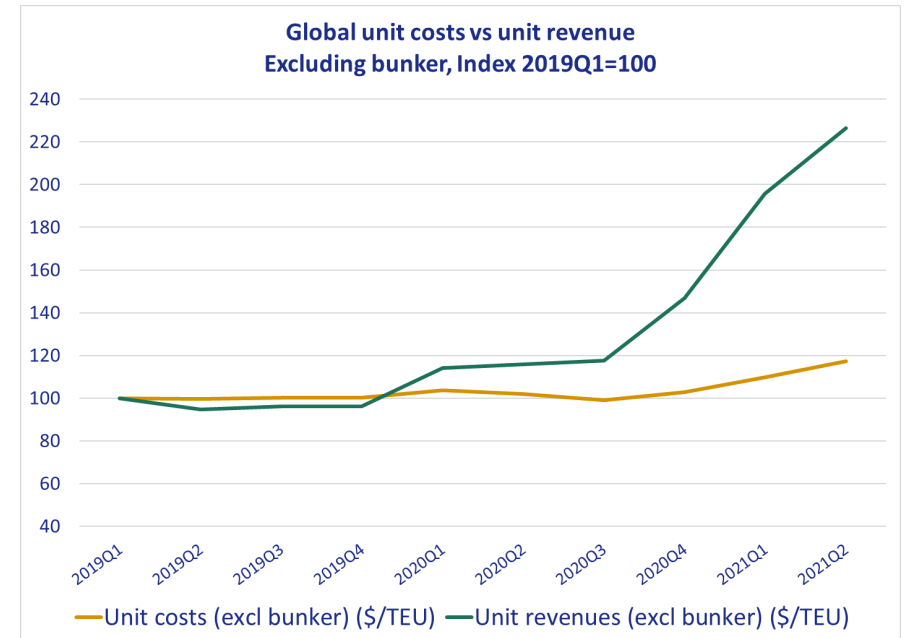
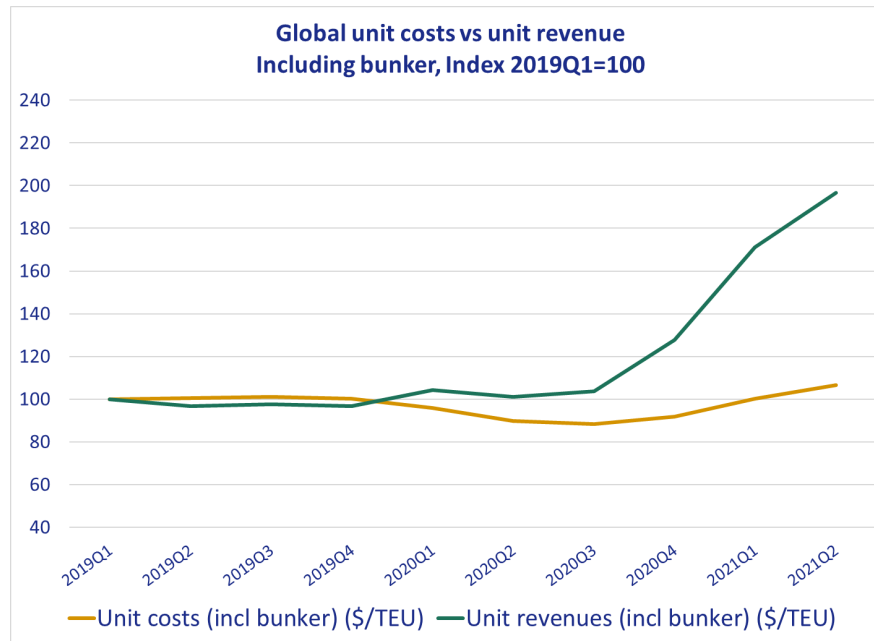
Source: Costs: MDS Transmodal, Container Business Model August 2021; freight rates: MDS Transmodal elaboration on various sources

Conclusions & Commentary

- Total shipping costs are increasing mainly due to increases charter rates as bunker costs are estimated to have increased only marginally in 2021Q2. By contrast, freight rates have been increased substantially with spot rates on the Asia to Europe routes experiencing a six-fold increase in 2021Q2 as compared to 2019Q1.
- The rapid increase in short-term charter costs has had little impact because the major lines overwhelmingly now own or long-term charter their vessels. MSC has recently been buying second-hand tonnage in large quantity.

4. Costs & Revenues (Index 2019Q1=100)

4.2 Unit costs & unit revenue, Global



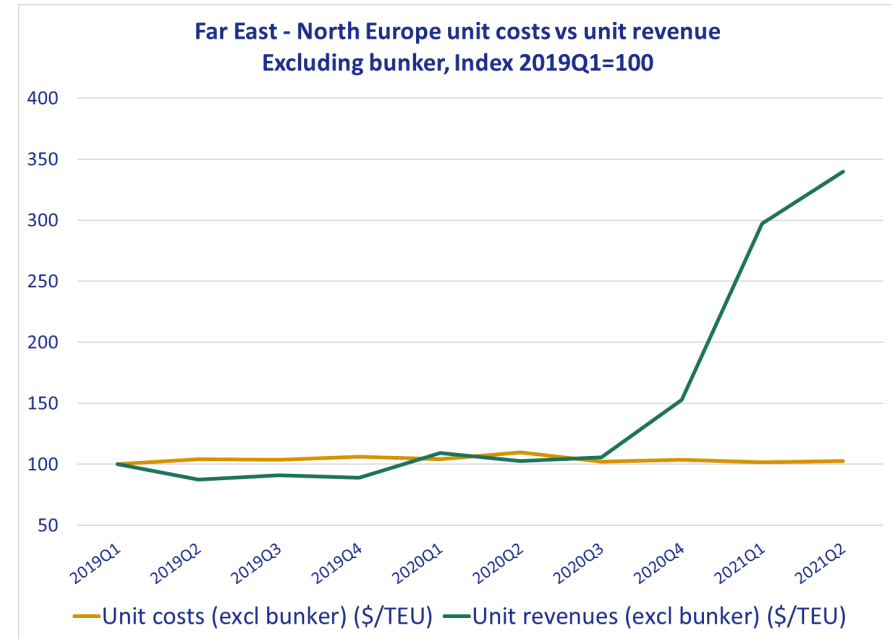
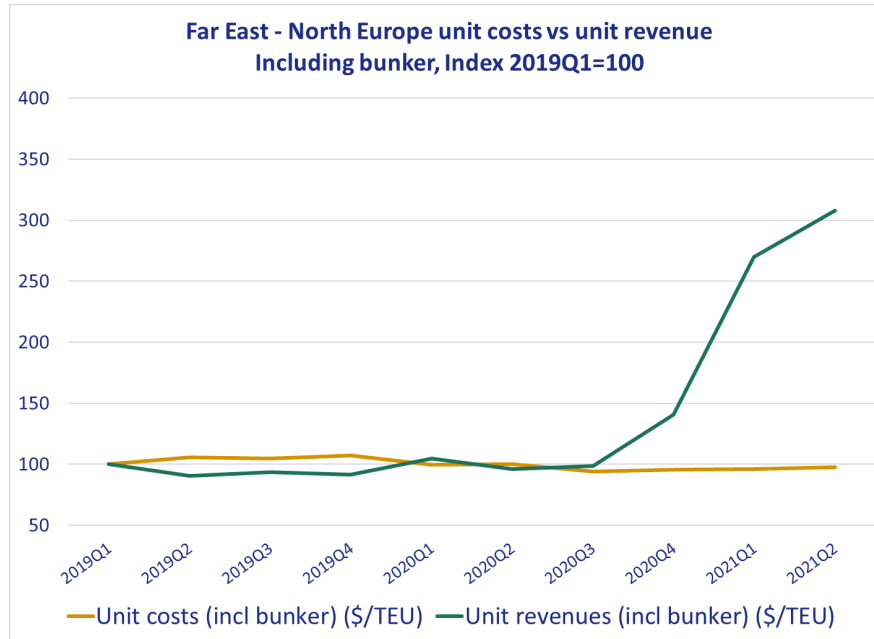
Source: MDS Transmodal, Container Business Model August 2021

Conclusions & Commentary

- With 2019Q1 equal to 100, global unit costs fell during the first half of 2020, as bunker costs declined, and started to increase from 2020Q3.
- 2020Q3 is the quarter where we start observing an increase in the divergence between unit costs and unit revenue, with the gap wider when bunker cost is subtracted from both unit revenues and unit costs.
- Unit operating costs for ships (\$/teu) have barely moved over the past 18 months despite stronger charter rates and a recovery in oil price. Earnings per container moved have doubled over the same period for no discernible increase in costs.

4. Costs & Revenues (Index 2019Q1=100)

4.3 Unit costs & unit revenue, Far East - North Europe



Source: MDS Transmodal, Container Business Model August 2021

Conclusions & Commentary

- A focus on Far East to North Europe demonstrates a similar pattern to the global picture, except that the lines probably made larger (relative) losses in 2019 followed by increasing gains from 2020Q4.

5. Market Competitiveness (MDST/OECD-ITF)

5.1 Market concentration – East China Sea*- Europe

Period	Trade corridor	Total number of services	Number of services operated by at least one consortium	MAX market share relevant for CBER by consortia/alliance	Max of Independents total market share	Demand (TEU) sum of both directions	% of global trade
2006Q2	Mediterranean to/from East China Sea	29	10	22%	34%	532,913	2.3%
2021Q2	Mediterranean to/from East China Sea	25	15	43%	0%	999,984	2.6%
2006Q2	North Europe to/from East China Sea	20	6	17%	44%	311,178	1.3%
2021Q2	North Europe to/from East China Sea	18	7	44%	1%	403,024	1.1%

* We wanted to analyse the level of concertation for the trade corridor linking Shanghai to Europe

Source: MDS Transmodal Consortia & Alliances Database, May 2021 – table produced in collaboration with Olaf Merk (ITF/OECD)

Conclusions & Commentary

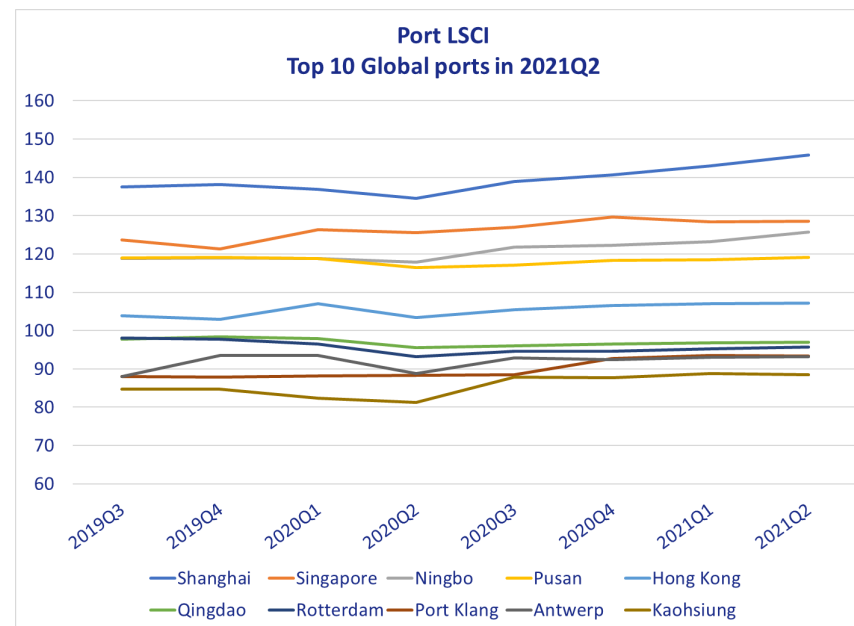
- Based upon the new MDST Consortia Market Shares Database developed in collaboration with ITF/OECD, we estimate that:
 - compared to 2006, in 2021 the combined market share relevant for the CBER on the North Europe and Mediterranean to/from East China Sea increased by more than 20 percentage points with the market shares of the independent lines down to 1% or less;
 - during the same period, we observe a decline in the overall number of services offered on both these two trade corridors accompanied by an increase in those operated by consortia/alliances.

6. Port Connectivity (MDST/UNCTAD LSCI)

6.1 Top 10 container ports, global

Liner Shipping Connectivity Index, Hong Kong 2006Q1=100

	2021Q2	PQ	PY
Shanghai	145.9	2.9	11.3
Singapore	128.5	0.1	3.0
Ningbo	125.7	2.5	7.9
Pusan	119.2	0.7	2.8
Hong Kong	107.2	0.2	3.7
Qingdao	97.0	0.2	1.5
Rotterdam	95.7	0.5	2.5
Port Klang	93.3	-0.2	5.0
Antwerp	93.2	0.1	4.5
Kaohsiung	88.5	-0.2	7.3



Source: MDS Transmodal, Containership Databank August 2021 (www.portlsci.com)

Conclusions & Commentary

- Generally speaking, the level of connectivity estimated for 2021Q2 improved compared to 2021Q1 as well as compared to 2020Q2 driven by an increased level of scheduled calls.
- Port connectivity remains relatively stable despite the fluctuations in service patterns over the period, which saw many patterns disrupted due to the closure of the Suez Canal for six days

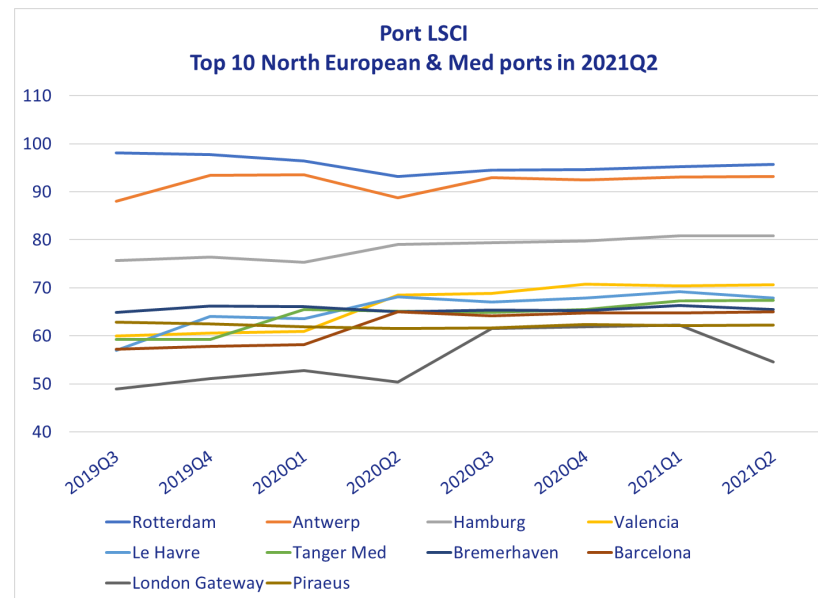
6. Port Connectivity (MDST/UNCTAD LSCI)

6.2 Top 10 container ports, North Europe

Liner Shipping Connectivity Index, Hong Kong 2006Q1=100

Rotterdam, Netherlands

	2021Q2	PQ	PY
Port LSCI	96	0.5%	2.7%
Number of services	124	0.8%	7.8%
Number of port calls	129	3.2%	12.8%
Max ship capacity (TEU)	23,964	0.0%	0.0%
Number of operators	40	0.0%	2.6%
Deployed annual capacity (mTEU)	27.9	0.4%	9.0%
Number of direct calls	259	0.8%	-1.9%



Source: MDS Transmodal, Containership Databank August 2021 (www.portlsci.com)

Conclusions & Commentary

- Rotterdam, the best connected Northern European port, experienced an improvement in its LSCI in 2021Q2 as compared to 2021Q1 as well as compared to 2020Q2 mainly thanks to more calls being scheduled.
- Looking at the other major ports in the Northern European region, the LSCI remained substantially flat in 2021Q2 with the exception of London Gateway, down compared to 2021Q1 with all the six components underpinning the LSCI showing a contraction.

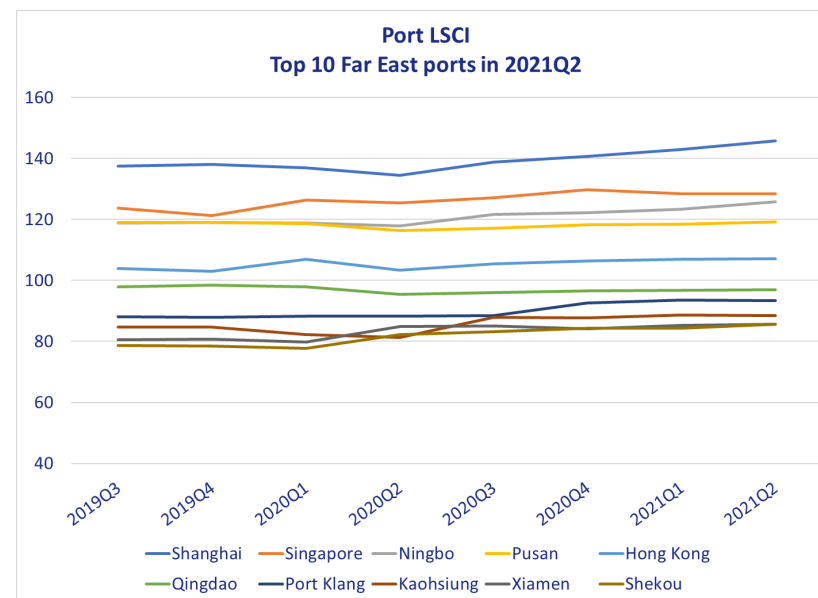
6. Port Connectivity (MDST/UNCTAD LSCI)

6.3 Top 10 container ports, Far East

Liner Shipping Connectivity Index, Hong Kong 2006Q1=100

Shanghai, China

	2021Q2	PQ	PY
Port LSCI	146	2.0%	8.4%
Number of services	291	5.8%	16.4%
Number of port calls	285	4.9%	16.3%
Max ship capacity (TEU)	23,964	0.0%	0.0%
Number of operators	69	4.5%	3.0%
Deployed annual capacity (mTEU)	73.4	0.6%	17.2%
Number of direct calls	299	2.0%	3.8%



Source: MDS Transmodal, Containership Databank August 2021 (www.portlsci.com)

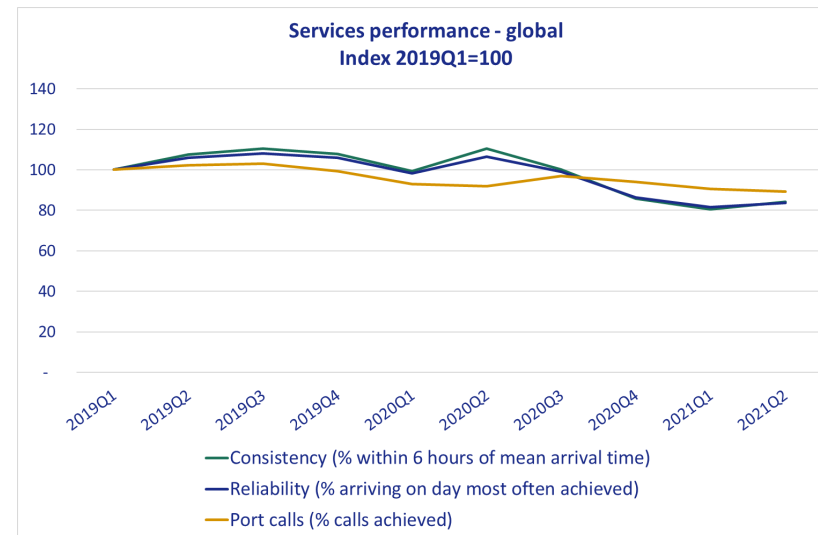
Conclusions & Commentary

- LSCI generally improved for Far East container ports during the second quarter of 2021 compared to the same quarter of 2020 with Shanghai, the best connected port in the region, achieving an increase both on the quarter on quarter comparison as well as on the year on year comparison mainly thanks to higher number of scheduled services and calls.

7. Services performance

7.1 Consistency, reliability & port calls, global

	2021Q2	YTD	PQ (% points)	PY (% points)
Consistency (% within 6 hours of mean arrival time)	44%	43%	1.9	-13.7
Reliability (% arriving on day most often achieved)	52%	51%	1.4	-14.1
Port calls (% calls achieved)	70%	71%	-1.1	-2.1



Source: MDS Transmodal based on AIS (Automatic Identification System) data

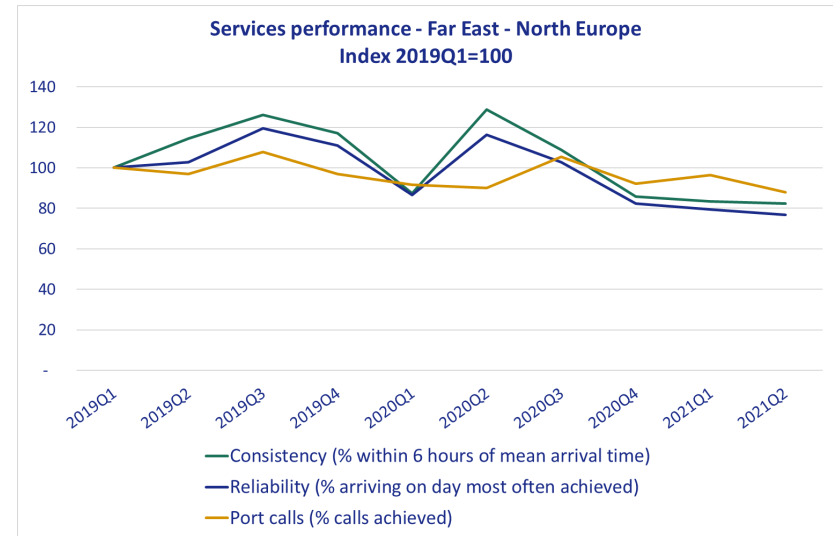
Conclusions & Commentary

- Despite an improvement estimated in the timetabling consistency and reliability in 2021Q2 compared to the previous quarter, these indicators are estimated to be worse than they were in 2020Q2.
- Number of port calls is down in 2021Q2 compared to 2021Q1 as well as 2020Q2.
- The deterioration of these indicators is mainly due to the temporary closure of the Suez Canal at the end of March and to reduction in port activity in various ports mainly Yantian.
- Predictability of services remains poor with the number of skipped port calls increasing in Q2, mainly due to the impact on Asia-Europe services from the closure of the Suez Canal for six days at the end of March.

7. Services performance

7.2 Consistency, reliability & port calls, Far East - North Europe

	2021Q2	YTD	PQ (% points)	PY (% points)
Consistency (% within 6 hours of mean arrival time)	38%	38%	-0.4	-21.3
Reliability (% arriving on day most often achieved)	47%	48%	-1.5	-24.1
Port calls (% calls achieved)	78%	82%	-7.7	-1.9



Source: MDS Transmodal based on AIS (Automatic Identification System) data

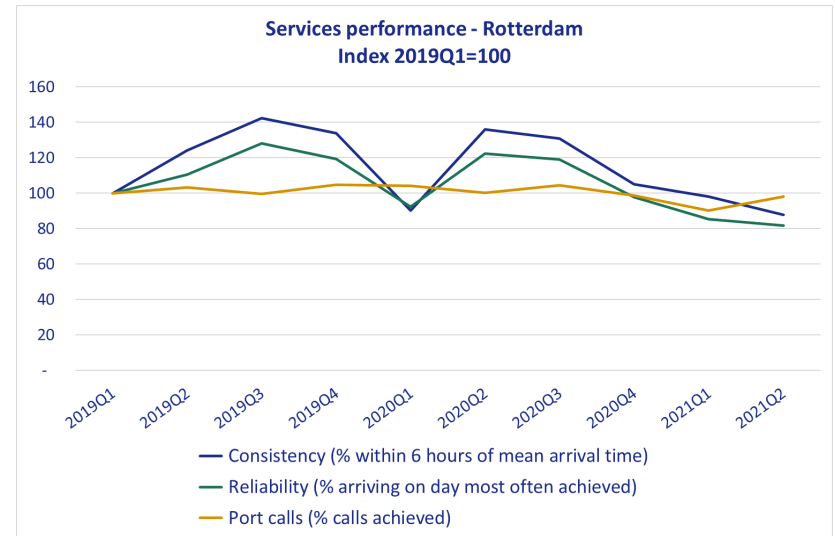
Conclusions & Commentary

- The levels of consistency, reliability and port calls achieved by the services on the Far East - North Europe trade lane experienced a deterioration in their level during the second quarter of 2021.

7. Services performance

7.3 Consistency, reliability & port calls, Rotterdam

	2021Q2	YTD	PQ (% points)	PY (% points)
Consistency (% within 6 hours of mean arrival time)	33%	35%	-3.9	-18.4
Reliability (% arriving on day most often achieved)	43%	44%	-2.0	-21.2
Port calls (% calls achieved)	77%	74%	6.3	-1.6



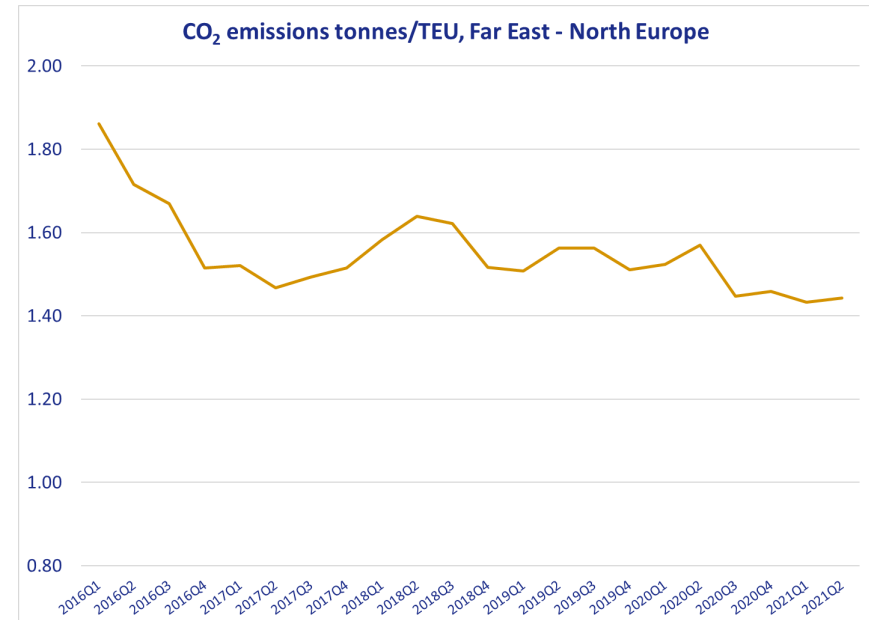
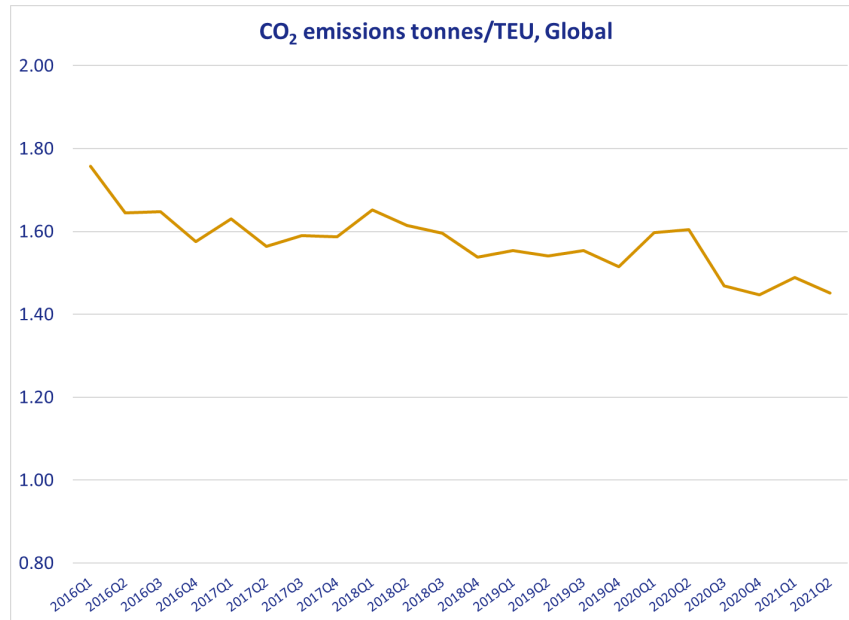
Source: MDS Transmodal based on AIS (Automatic Identification System) data

Conclusions & Commentary

- The proportion of calls actually made at Rotterdam compared to those scheduled improved in 2021Q2 compared to the previous quarter; however, the consistency and reliability both deteriorated during the same period.
- A deterioration in each of the three indicators is estimated when comparing 2021Q2 to 2020Q2.

8. Carbon Emission Factors

8.1 CO₂ emission tonnes/TEU, global & Far East - North Europe



Source: MDS Transmodal, Container Business Model August 2021

Conclusions & Commentary

- Emissions per unit of cargo (tonnes/TEU) reduced as the twin policies of slower vessel speeds ('slow steaming') and the introduction of larger vessels (VLCCs) took effect. The decreases were most marked on the Far East- North Europe route where these policies had greatest impact.
- CO₂ emissions per TEU have remained broadly flat since 2016, and remained so throughout the pandemic, despite the frenetic activity in the market. New global measures were adopted by IMO in June 2021 effective from 2023. This indicator will be used to monitor their effectiveness in reducing shippers' Scope 3 emissions of CO₂

The indicators explained (1)

- 1.1 Total trade:** Total goods exported and imported by all countries measured in millions of tonnes and distinguished between 'not unitised' and 'unitised'.
- 1.2. Unitised trade:** Cargo moved in units, measured in TEU and distinguished between Maritime containers (loaded containers shipped by sea, excluding RoRo) and Other (RoRo containers by sea, containers and road trailers across land borders).
Unitised maritime trade represents the total demand for container shipping services by cargo owners (shippers).
- 2.1 Deployed capacity:** Capacity offered on container-carrying vessels (containerships) deployed on services as scheduled by the shipping lines (mTEU).
Deployed capacity is the total supply of scheduled container-carrying capacity made available to shippers to meet the demand for unitised freight.
- 3.1 Allocated capacity:** Capacity estimated in the MDST model to calculate the level of utilisation; it represents, effectively, the available TEU capacity modelled on a global basis but taking each string and its precise port calls into account. MDST then allocates this capacity by taking into account the demand (region-to-region) making assumptions on direct services versus transshipment. In effect this is acknowledging the fact of way-port cargoes but at a region-to-region level rather than port-to-port level.
- 3.1 Utilisation:** Ratio of estimated cargo moved on identified routes to capacity allocated to those routes (e.g. services transiting the Suez Canal northbound – busiest location for the global container shipping industry)

Numbers refer to sections in which the term is used

The indicators explained (2)

- 4.2 Costs & Revenues:** Estimated operating costs and estimated revenues measured with and without fuel
- 5.1 Market competitiveness:** this analysis has been carried out using the MDST Consortia & Alliances Database, a subproduct of the MDST Containership Databank, which contains detailed information of the world's container carrying fleet also used by UNCTAD for the Liner Shipping Connectivity Index (LSCI) and by the World Bank for the Logistics Performance Index (LPI). The MDST Consortia & Alliances Database, developed in collaboration with ITF/OECD, is a dataset in which we have grouped the port pairs into trade corridors (e.g. a service calling, amongst other, at the port of Shanghai and at the port of Rotterdam, has been allocated to the East China Sea-North Europe trade corridor) and identified, for each vessel deployed on any given service, the shipping lines that operate them. This information has allowed us to identify the services operated by consortia and their members, by alliances and their members, by independent carriers.
- 6.1 Port LCSI:** Liner Shipping Connectivity Index produced in collaboration with UNCTAD and generated from the following 6 components: number of scheduled ship calls/week in the port; total scheduled container shipping capacity calling at the port; number of regular services calling at the port; number of carriers that provide services to/from the port; maximum average size of the ships deployed by the scheduled service; number of other ports that are connected to the port through direct services (more on www.portlsci.com)
The LSCI is a proxy for the frequency, reliability and direct access to markets experienced by shippers of cargo through that port and is a measure of the quality of service experienced by users of the ports services.

Numbers refer to sections in which the term is used

The indicators explained (3)

7.1 Services' performance indicators: Consistency (% within 6 hours of mean arrival time); **Reliability** (% arriving on day most often achieved); **Port calls** (% calls achieved after allowing for blanked sailings and ports skipped).

For shippers, Consistency is a measure of on-time arrival of vessels (will goods become available when they have normally been in the past?); Reliability is a measure of the regularity of service (same day of the week); Port Calls is a measure of whether the vessel arrives at all or the cargo is 'rolled' on to the next service. These are key factors in determining on-time delivery of exports to customers or availability of imports for domestic distribution.

8.1 Carbon Emission factors: Average amount of CO₂ emitted by each loaded container shipped by sea measured for the whole deep-sea shipping industry and selected trade lane (tonnes CO₂ /TEU).

Carbon emissions per cargo unit moved are the required inputs for manufacturers, retailers and other shippers to calculate the contributions that third parties make to the carbon footprint of their products and businesses (Scope 3 emissions). The shipping industry is under public pressure to deliver meaningful reductions in greenhouse gas emissions in the short and medium term. Current proposals target improvements through better ship design and maintenance and more efficient operation. Other actions include Emissions Trading Schemes, carbon taxes and the use of low-carbon fuels. Regardless of the means employed, this measure will track their net effectiveness on the carbon footprint of container shipping as experienced by users of its services.

Numbers refer to sections in which the term is used

The indicators explained (4)

Countries included in the two maritime regions indicated in this report:

North Europe: Austria, Belarus, Belgium, Czech Republic, Denmark, Estonia, Faroe Islands, Finland, France, Germany, Hungary, Iceland, Irish Republic, Latvia, Liechtenstein, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovakia, Svalbard Archipelago, Sweden, Switzerland, UK

Far East: Brunei, Cambodia, China, Hong Kong, Indonesia, Japan, Laos, Macau, Malaysia, Mongolia, Myanmar, North Korea, Philippines, Singapore, South Korea, Taiwan, Thailand, Timor-Leste, Vietnam

More about MDS Transmodal & contacts

MDS Transmodal (MDST, www.mdst.co.uk) is a firm of transport economists based in Chester (UK) which specialises in maritime and all other modes of freight transport. MDST works with senior management in the public and private sectors to provide strategic advice based on quantitative analysis, modelling and sectoral expertise. MDST's approach is based on being:

- Innovative – Constantly developing new ways to analyse strategic issues and opportunities
- Quantitative – Analysis based on best in class maritime databases and models
- Independent – More than 35-year track record of providing objective advice
- Expert – Consultants with an average of 20 years' consultancy experience
- Specialist – Focused on the economics of maritime transport and other freight modes.

MDST data, modelling and industry expertise can be applied to analyse strategic issues and opportunities wherever the client is based in the world. Clients include UNCTAD, the World Bank, the European Commission, government at all levels, ports and terminal operators, developers of distribution parks, financial institutions, global shippers and shipping lines and a wide range of professional services companies.

All of the data presented in tables and graphs can be provided at a more detailed level, e.g. trade data by country pairs as well as individual commodities, capacity and services performances by service and operator, etc.

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More about Global Shippers Forum & contacts

Global Shippers Forum (GSF) is the international business organisation speaking up for exporters and importers as cargo owners in international supply chains and trade procedures. Its members are national and regional shippers' associations representing manufacturing, wholesaling and retailing businesses in over 20 countries across five continents.

Shippers own the goods that others carry, and ultimately pay the costs they incur. GSF works to achieve safe, competitively efficient and environmentally sustainable global trade and logistics on behalf of its members.

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