

Global Shippers Forum/ MDS Transmodal

Container Shipping Market

Quarterly Review

2021: Quarter 1

Reporting data published in June 2021



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, Europe & Med to West Africa
- 1.5 Maritime Loaded TEU, West Africa to Europe & Med

2 Shipping Capacity

- 2.1 Deployed capacity, global
- 2.2 Deployed capacity, routes
- 2.3 Deployed capacity, Europe & Med - West Africa
- 2.4 Services on Europe & Med - West Africa by alliance member

3 Capacity Utilisation

- 3.1 Utilisation through Suez and Europe & Med - West Africa

4 Carrier Costs & Revenues

- 4.1 Costs & revenue, Global
- 4.2 Unit costs & unit revenue, Global

5 Market Competitiveness

- 5.1 Market shares based on capacity deployed on deep-sea routes
- 5.2 Market concentration - Europe & Med - West Africa

6 Port Connectivity (MDST/UNCTAD LSCI)

- 6.1 Top 10 container ports, global
- 6.2 Top 10 container ports, Europe & Med
- 6.3 Top 10 container ports, West Africa

7 Services performance

- 7.1 Consistency, reliability & port calls, global
- 7.2 Consistency, reliability & port calls, Europe & Med - West Africa
- 7.3 Consistency, reliability & port calls, Rotterdam

8 Carbon Emission Factors

- 8.1 CO₂ emission tonnes/TEU, global and Europe & Med - West Africa

Glossary

More about MDS Transmodal & contacts

More about Global Shippers Forum & contacts

Global Shippers' Dashboard

Quarter 1 2021

KPI	Indicator	Status & Overview
1	Trade volumes	The numbers of loaded containers carried by shipping lines fell slightly in Q1 2021 in contrast to the industry narrative of continued growth and exceptional demand. Despite this flattening of demand, global container movements were up 13% on Q1 2020.
2	Shipping capacity	The number of vessels scheduled to service this 13% growth in volumes grew by just 2% over the same period, providing a net 4% increase in capacity. Most of these increases took place in Q1 2021.
3	Capacity utilisation	Utilization rates therefore remained very high although eased slightly globally, but remained close to 100% on head-haul services via Suez.
4	Carrier costs & revenues	Unit revenues continued to grow with shipping lines earning 1.5 times more per TEU carried than they did in Q3 2020. Unit costs grew less than revenues mainly due to higher charter rates and regained levels last seen at the end of 2019. The continued increases in spot rates during Q1 2021 despite flat demand and slightly lower utilization rates are unexplained.
5	Market competitiveness	The market shares of the three Alliances have grown over the course of the past year to the detriment of non-Alliance members. Global shippers have even less choice than a year ago.
6	Port connectivity	The Top 10 best connected ports remain unchanged despite service frequency and destination fluctuations during 2020.
7	Service performance	Service quality has continued to deteriorate at a rate that first emerged during 2019. The apparent improvement in Q2 2020 being an anomaly at a time of much fewer sailings. The benefits of Consortia operations are not being experienced by global shippers, despite record yields being made by carriers.
8	Carbon dioxide emissions	CO ₂ emissions per container showed a slight increase in Q1 2021, possibly reflecting a speeding up of services to regain schedule at times of exceptionally high shipping rates.

Status colour code:

Red = adverse development or trend (from shippers' perspective)

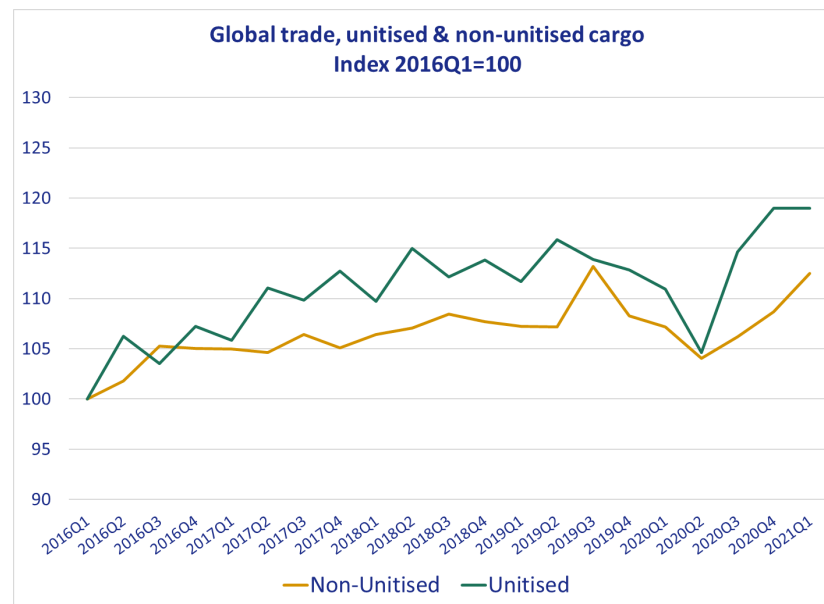
Amber = neutral or concerning trend (from shippers' perspective)

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

1. Trade Volumes

1.1 Total trade, global (mTonnes)

	2021Q1	Year To Date (YTD)	Previous Quarter (PQ)	Previous Year (PY)
Agricultural	206	206	-2.5%	8.8%
Metals	12	12	3.3%	6.8%
Oils & fats	25	25	0.8%	6.3%
Chemicals	171	171	3.4%	6.5%
Ores	501	501	-3.1%	6.2%
Forest products	120	120	13.3%	21.2%
Energy:				
- Coal	302	302	2.2%	-6.0%
- Oil & gas	1,166	1,166	9.5%	6.4%
Other	426	426	-1.7%	2.0%
Total Non-Unitised	2,928	2,928	3.5%	5.0%
Unitised	614	614	0.0%	7.2%
TOTAL Tonnes	3,543	3,543	2.9%	5.4%



Source: MDS Transmodal, Cargo Database May 2021

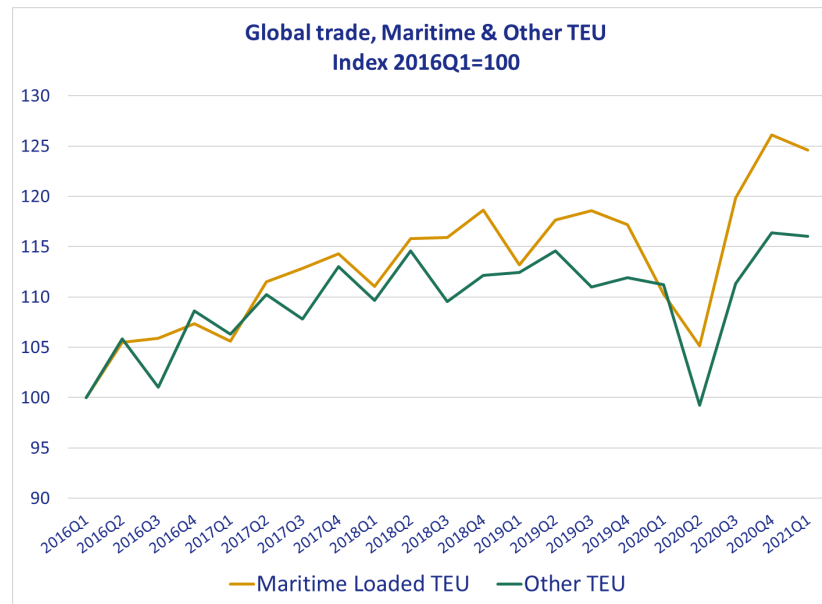
Conclusions & Commentary

- Measured when received at the importing country, global unitised trade in 2021Q1 remained substantially stable compared to the previous quarter whereas we estimate an increase of more than 7% compared to 2020Q1.
- Taken together with all bulk and semi-bulk traffic, global trade in 2021Q1 was circa 3% up on 2020Q4 and more than 5% up on 2020Q1 with the major growth in percentage terms being experienced by forest products.
- Global flows of unitised goods seem to have levelled-off in Q1 2021, contrary to the market narrative that growth seen in 2020 had continued. The impact of the Chinese New Year and further Lockdowns in Europe could be responsible.

1. Trade Volumes

1.2 Unitised trade, global (mTEU)

	2021Q1	YTD	PQ	PY
Maritime containers	40	40	-1.2%	13.0%
'- of which deep-sea (inter-continental)	30	30	-1.0%	13.9%
'- of which short-sea (intra-regional)	11	11	-1.7%	10.5%
Other (overland & ro-ro)	35	35	-0.3%	4.3%
Total TEU	75	75	-0.8%	8.8%



Source: MDS Transmodal, World Cargo Database May 2021

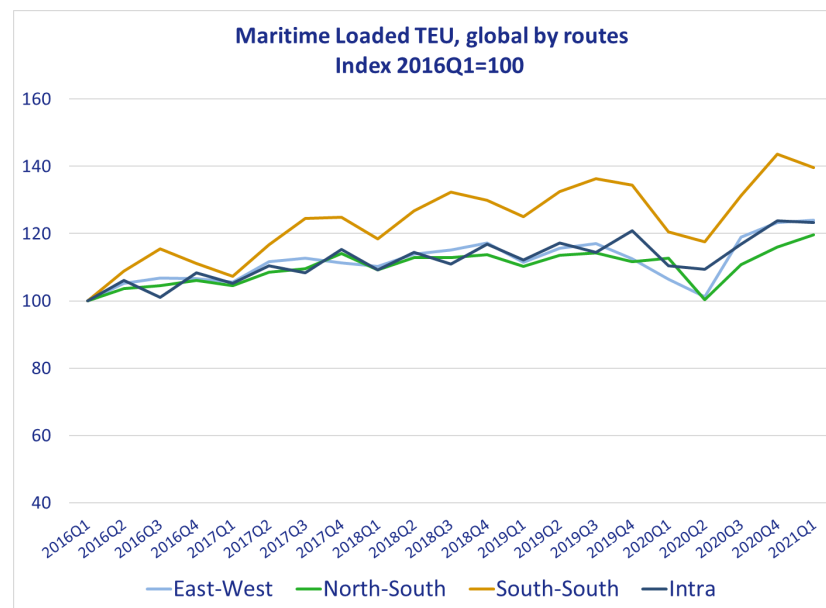
Conclusions & Commentary

- Total maritime TEU in 2021Q1 contracted by less than 1% compared to 2020Q4 and it was up by almost 9% over 2020Q1, with volume moved on deepsea routes growing at a faster rate than shortsea traffic - reflecting the higher elasticity of deep-sea traffic to consumer cash availability.
- Global maritime container traffic declined slightly over Q1 2021, confirming a reduction in demand at the end of 2020.
- To date, maritime containerised traffic has grown by 13% over the period of the global pandemic.

1. Trade Volumes

1.3 Maritime Loaded TEU, routes (mTEU)

	2021Q1	YTD	PQ	PY
East-West	21.4	21.4	-0.7%	15.1%
North-South	3.2	3.2	1.9%	5.2%
South-South	5.0	5.0	-3.9%	14.7%
Intra	10.7	10.7	-1.7%	10.5%
Grand Total	40.2	40.2	-1.2%	13.0%



Source: MDS Transmodal, Cargo Database May 2021

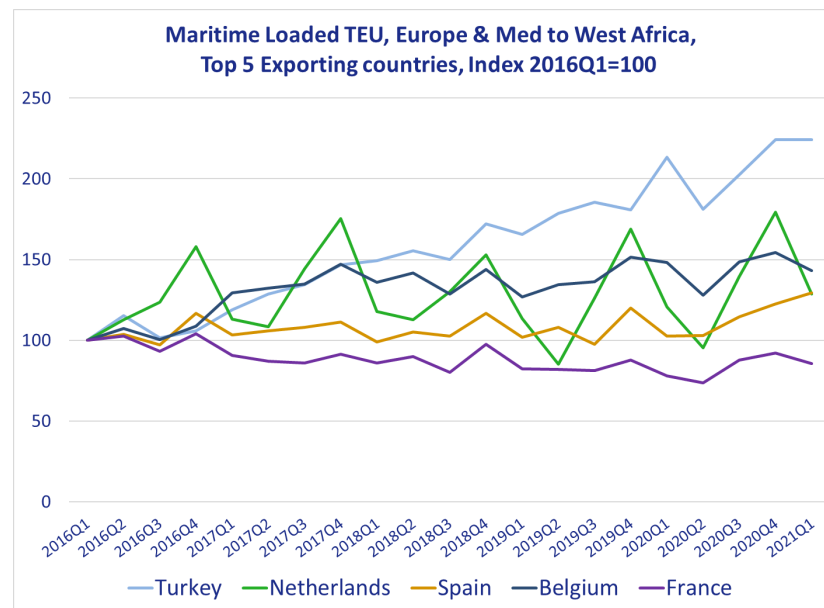
Conclusions & Commentary

- With the exception of cargo moved on the North-South routes, in 2021Q1 we estimate a contraction compared to 2020Q4
- On a year-on-year comparison, in 2021Q1 we estimate strong growth with East-West routes continuing to lead growth (mainly exports from the Far East).
- The levelling-off of demand was experienced on all routes, except North-South trades.

1. Trade Volumes

1.4 Maritime Loaded TEU, Europe & Med to West Africa (mTEU)

Top 5 Exporting countries	2021Q1	YTD	PQ	PY
Turkey	0.061	0.061	0.0%	5.1%
Netherlands	0.044	0.044	-28.3%	6.6%
Spain	0.041	0.041	5.8%	26.2%
Belgium	0.030	0.030	-7.4%	-3.5%
Morocco	0.030	0.030	17.8%	4.1%
All others	0.192	0.192	2.7%	10.5%
Grand Total	0.399	0.399	-1.9%	8.9%



Source: MDS Transmodal, Cargo Database May 2021

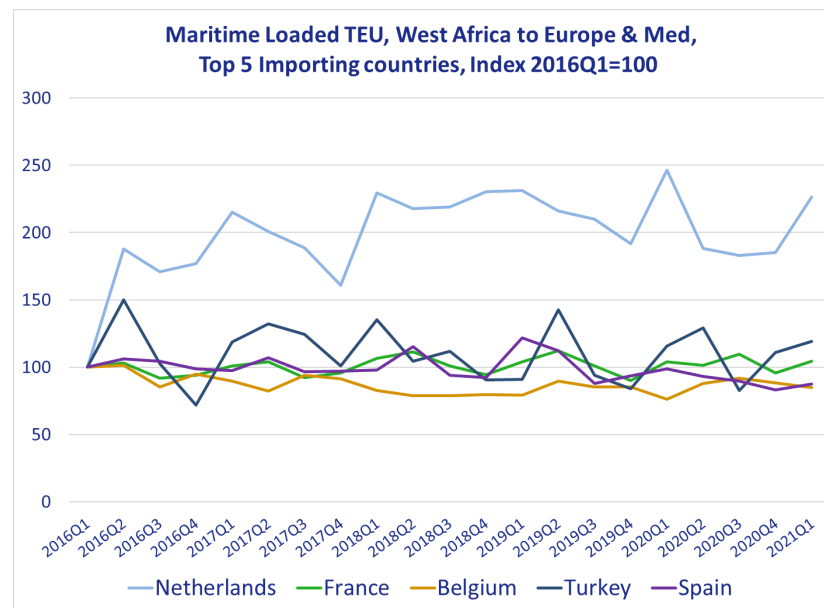
Conclusions & Commentary

- Overall traffic exported from the North European market to West Africa has been growing at the same rate observed at the global level with Spain's exports experiencing a robust year-on-year increase of more than 26%, mainly driven by the increase in export of Mineral Manufactures (and more specifically 'SITC5D 66245, Glazed Ceramic') estimated to account for circa 28% of the overall Spanish exports to the West African countries.

1. Trade Volumes

1.5 Maritime Loaded TEU, West Africa to Europe & Med (mTEU)

Top 5 Importing countries	2021Q1	YTD	PQ	PY
Netherlands	0.025	0.025	22.4%	-8.1%
Turkey	0.012	0.012	7.3%	3.1%
France	0.011	0.011	9.1%	0.4%
Belgium	0.009	0.009	-4.0%	11.3%
Spain	0.007	0.007	5.2%	-11.4%
All others	0.040	0.040	21.2%	6.2%
Grand Total	0.105	0.105	14.6%	0.6%



Source: MDS Transmodal, Cargo Database May 2021

Conclusions & Commentary

- More modest year-on-year growth is observed in the opposite direction where we estimate an annual increase of less than 1%.
- Stronger increase is estimated comparing the volumes moved in 2021Q1 to those moved in the previous quarter with the Netherlands amongst the importing countries leading the growth.

2. Capacity

2.1 Deployed capacity, global

	Service average ship size (TEU)	2021Q1	PQ	PY
Deployed capacity (mTEU)	<5,000	28.9	2.9%	2.6%
	5,000-7,499	5.5	0.0%	-8.1%
	7,500-9,999	6.4	3.2%	7.2%
	10,000-12,499	2.9	-0.6%	31.0%
	12,500-14,999	3.7	-4.7%	-0.9%
	15,000+	3.9	5.4%	16.0%
Total deployed capacity (mTEU)		51.4	2.0%	3.8%
No of vessels	<5,000	3,487	2.0%	0.8%
	5,000-7,499	450	4.4%	-7.0%
	7,500-9,999	501	2.7%	7.7%
	10,000-12,499	184	-0.5%	12.9%
	12,500-14,999	228	-6.2%	7.5%
	15,000+	183	5.2%	16.6%
Total No of vessels		5,033	1.9%	1.9%

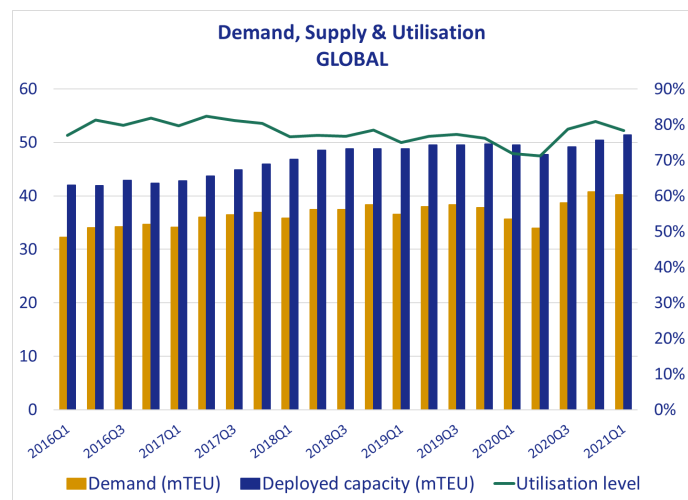
Source: MDS Transmodal, Containership Databank May 2021

Conclusions & Commentary

- Global deployed capacity in 2021Q1 was a little under 4% higher than in 2020Q1, as compared with c. 14% growth in deep-sea demand; the number of vessels deployed has increased by less than 2% with the major increase being reported for the largest vessels.
- The capacity deployed to service the 13% increased demand for containerised traffic over last 12 months grew by just 3.8% over the same period, and was provided by larger vessels, with the global fleet increasing by just 1.9%..
- These data measure scheduled capacity. Actual capacity available to shippers will have been lower due to delayed rotations as vessels awaited access to severely congested ports.

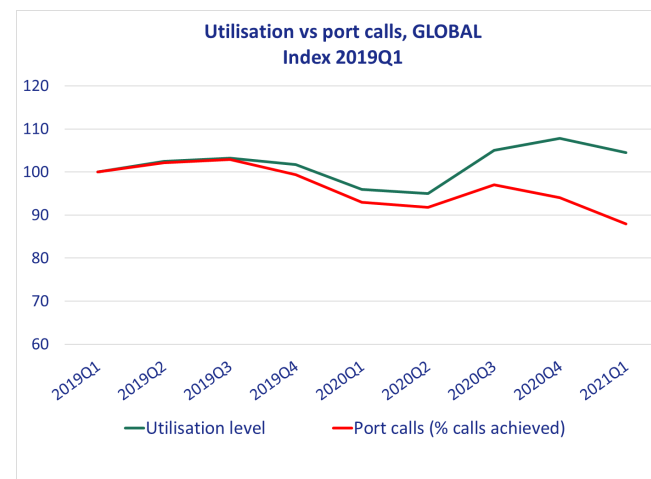
2. Capacity

2.2 Deployed capacity, routes (mTEU)



	2021Q1	PQ	PY
East-West	21	3%	7%
North-South	4	1%	-3%
South-South	3	5%	10%
Intra	22	1%	2%
Grand Total	51	2%	4%

Source: MDS Transmodal, World Cargo Database & Containership Databank November 2020



Conclusions & Commentary

- Overall capacity on EW routes in 2021Q1 was up by 7% on 2020Q1 while demand was up by almost 14%. As compared with 2020Q4, capacity was up by 3% while demand contracted marginally (down by c. 1%).
- Globally, utilisation level contracted marginally compared to the previous three months, however it remained higher than 2020Q1.
- Despite a reduction in utilisation level, we observe a further reduction in the proportion of anticipated port calls - as we shall see, reliability and punctuality also declining further.
- Utilisation of global deployed capacity fell back to levels last achieved in Q3 2020 (~75%) but vessels were still effectively full and fewer scheduled port calls were made, resulting in frequent 'rolled cargoes'.

2. Capacity

2.3 Deployed capacity, Europe & Med - West Africa

	Service average ship size (TEU)	2021Q1	PQ	PY
Deployed capacity (mTEU)	<5,000	0.9	8.9%	8.8%
	5,000-7,499	0.1	-3.9%	-4.4%
Total deployed capacity (mTEU)		0.9	7.8%	1.3%
No of vessels	<5,000	143	5.9%	-1.4%
	5,000-7,499	5.0	0.0%	0.0%
Total No of vessels		148	5.7%	-1.3%

Source: MDS Transmodal, Containership Databank May 2021

Conclusions & Commentary

- Deployed capacity between Europe & Med and West Africa increased by some 1.3% compared with 2020Q1 despite demand on the busiest direction estimated to have grown by almost 9% during the same period of time.
- In terms of number of vessels, we observe an overall contraction as compare to the same quarter last year.
- The increase in the capacity deployed by vessel of less than 5,000 TEU despite a decline in the number of vessel of this size is due to an overall increase in service frequency.

2. Capacity

2.4 Services on all corridors on the Europe & Med - West Africa trade lane by alliance member

Alliances	Members	Number of ships			Deployed capacity (mTEU)			Avg size of ship (TEU)			Number of services		
		2020Q1	2021Q1	% change	2020Q1	2021Q1	% change	2020Q1	2021Q1	% change	2020Q1	2021Q1	Change in abs terms
2M Alliance	Maersk	36	36	0%	0.3	0.3	-4%	3,308	3,118	-6%	12	13	1
	MSC	22	24	9%	0.2	0.2	20%	3,965	3,772	-5%	6	10	4
Ocean Alliance	CMA-CGM	27	27	0%	0.2	0.2	6%	3,040	3,238	7%	10	11	1
	COSCO	2	2	0%	0.0	0.0	0%	2,662	2,662	0%	13	14	1
THE Alliance	Hapag-Lloyd	12	9	-25%	0.1	0.1	-21%	2,824	3,033	7%	10	11	1
Others		45	42	-7%	0.1	0.1	-9%	1,845	1,875	2%	24	20	-4
TOTAL		144	140	-3%	0.9	0.9	1%	2,762	2,760	0%	34	35	1

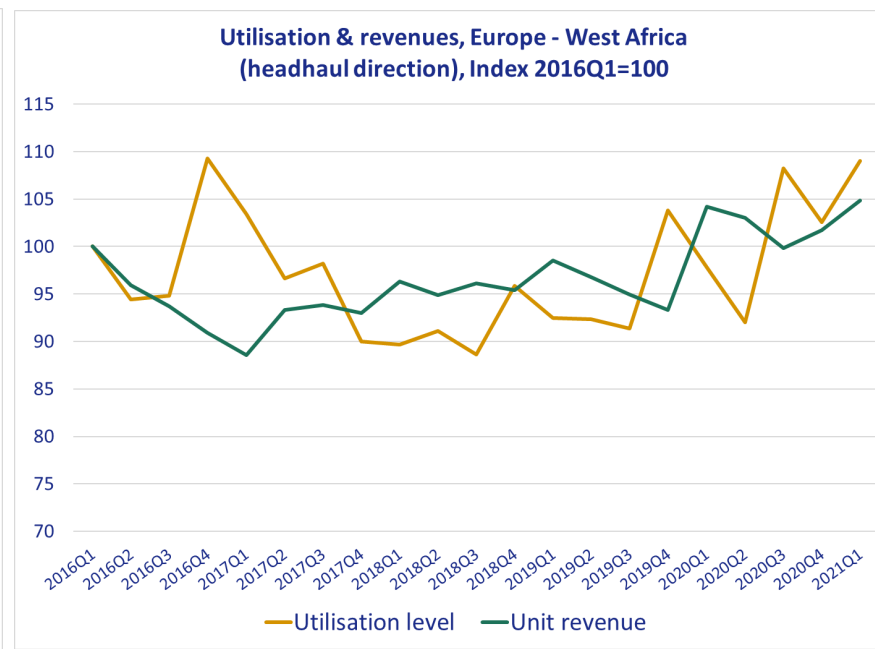
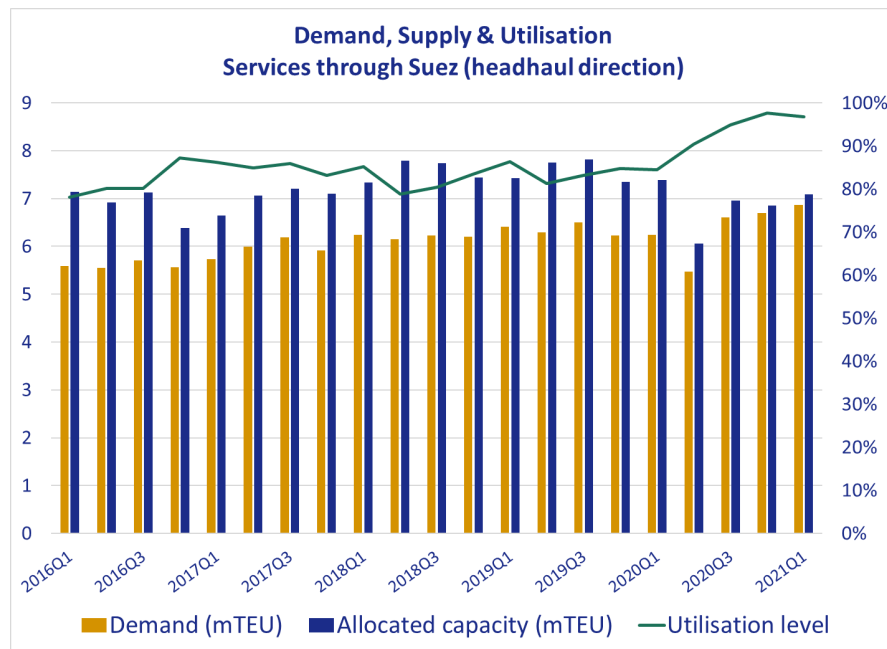
Source: MDS Transmodal, Containership Databank May 2021

Conclusions & Commentary

- Overall capacity grew by circa 1% between 2020Q1 and 2021Q1 with the mean capacity of ships remained substantially stable over the year.

3. Utilisation

3.1 Utilisation through Suez and Europe & Med - West Africa



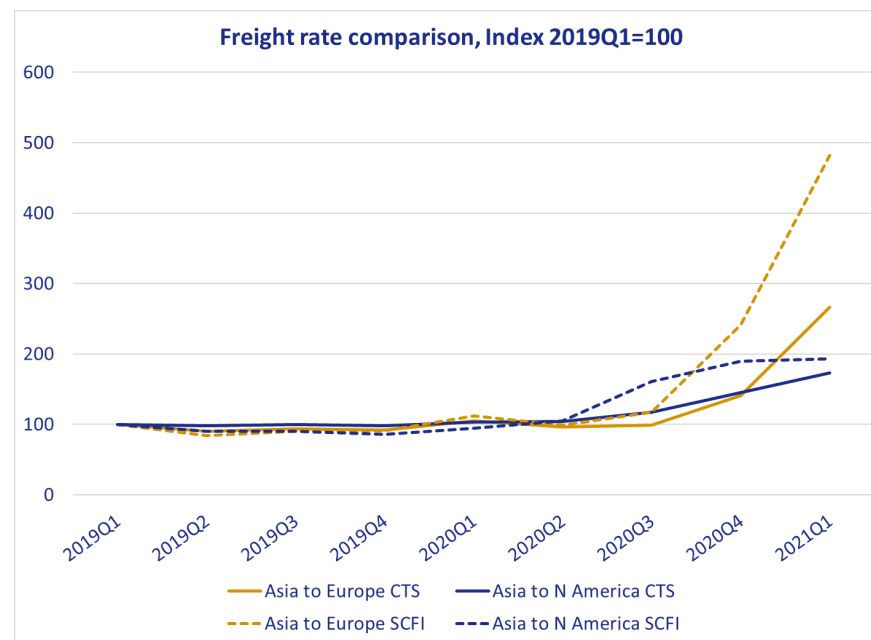
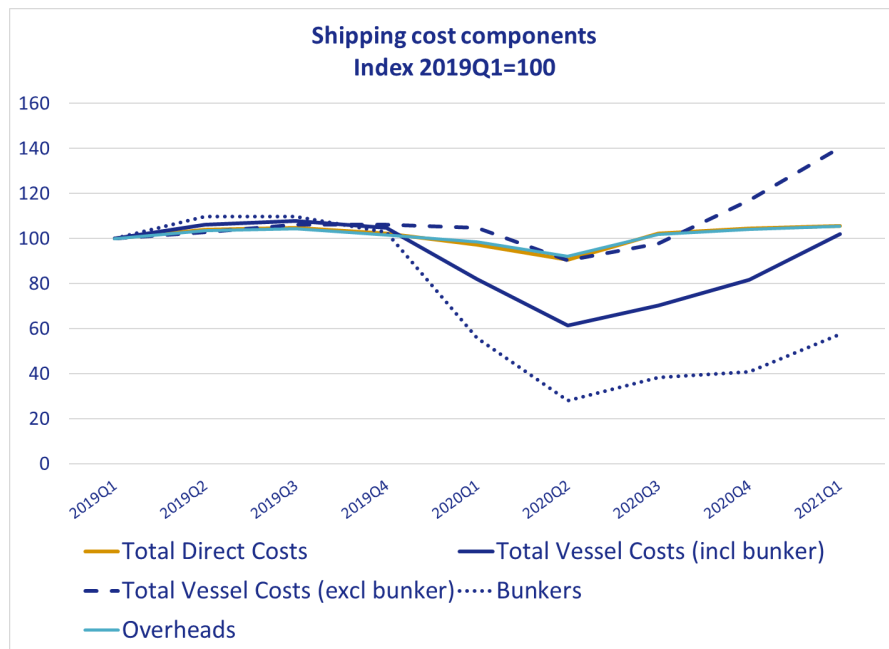
Source: MDS Transmodal, Container Business Model May21

Conclusions & Commentary

- After reaching its highest level in 2020Q4, utilisation level for the services passing through the Suez Canal is estimated to have seen a contraction of one percentage point compared to the previous quarter; however it remains well above the levels observed in the first part of 2020.
- Revenues per unit on the Europe – West Africa (as recorded by CTS) increased strongly throughout 2020 and rose further during the first three months of 2021 as utilisation level improved on this route.
- Utilization rates on headhaul services through the Suez Canal reduced slightly in Q1 2021 but services remained effectively full.
- These data are not materially affected by the closure of the Suez Canal following the grounding of Ever Given between 23 and 30 March.

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

4.1 Costs & revenue, Global



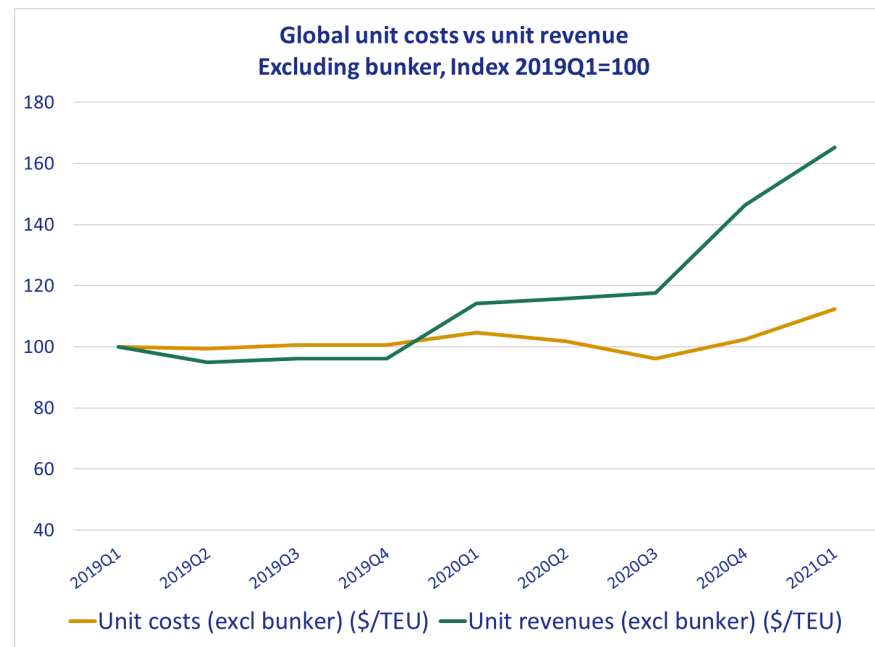
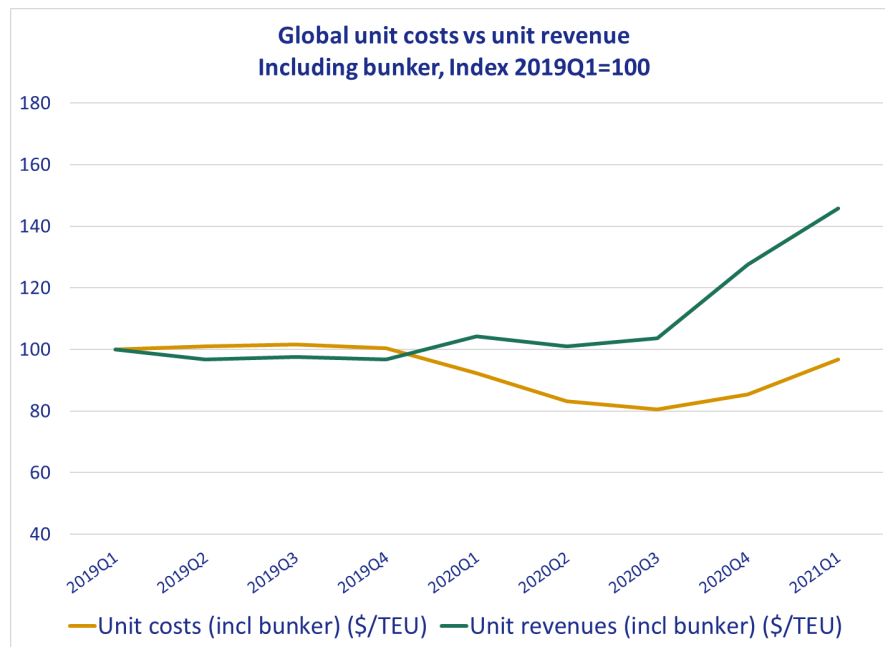
Source: Costs: MDS Transmodal, Container Business Model November 2020; freight rates: MDS Transmodal elaboration on various sources

Conclusions & Commentary

- Overall shipping costs marginally increased in 2021Q1 mainly due to the increase in charter rates.
- Both mean revenues and spot rates increased substantially on the Asia to Europe routes with capacity available to serve these markets still tight; increases of a lower magnitude can be observed on the Asia to North America trade lane.
- Total vessel costs rose slightly in Q1 2021 to return to pre-Pandemic levels but Asia – Europe spot freight rates are 5 times higher than they were in Q2 2020. This is despite lower demand (Charts 1.2 & 1.3) and vessels being less full (Charts 2.2 & 3.1)
- The behaviour of spot rates over this period is inconsistent with supply and demand fundamentals and demonstrates an unresponsive market.

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

4.2 Unit costs & unit revenue, Global



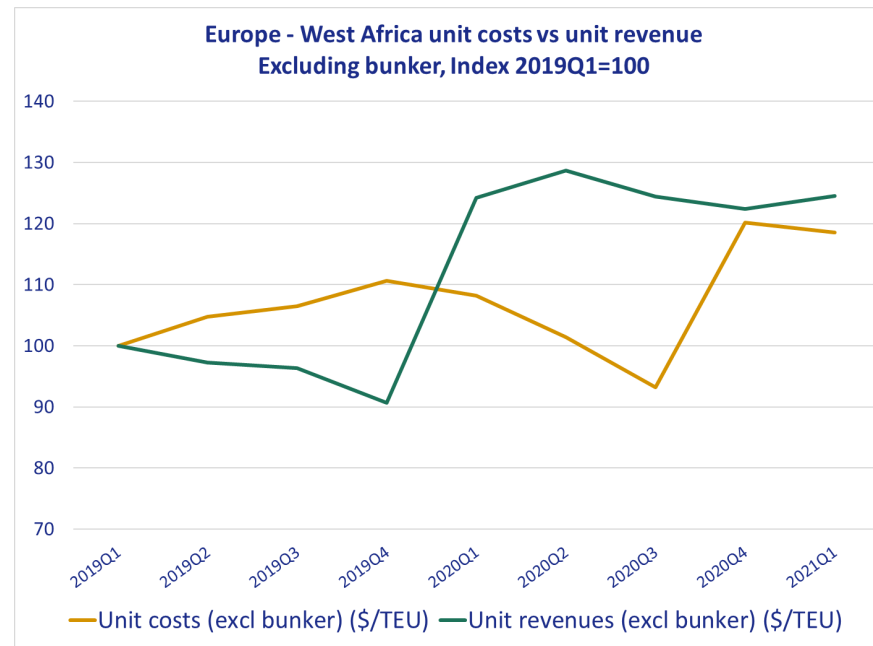
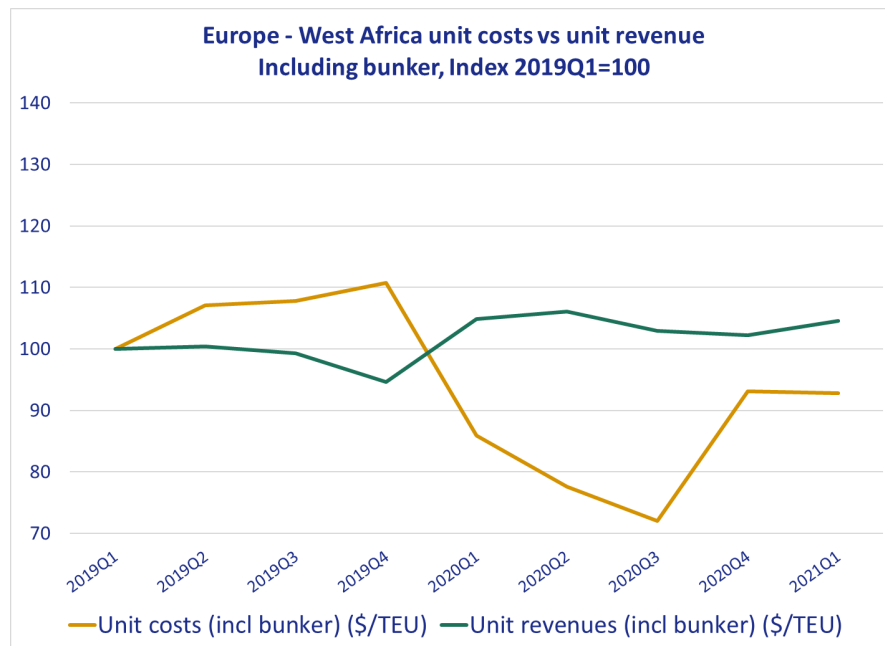
Source: MDS Transmodal, Container Business Model May21

Conclusions & Commentary

- Global unit costs are estimated to have increased in 2021Q1 mainly because of an increase in charter rates.
- The gap between costs and revenues is estimated to have grown further in 2021Q1 with the difference widening when bunker cost is excluded.
- On average, shipping lines earned 1.5 times more revenue per container moved in Q1 2021 than they did in Q1 2020, for the same costs of operation.
- Such high operating margins and higher charter rates would be expected to stimulate the deployment of new capacity either through new entrants to the market or through orders for new vessels.

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

4.3 Unit costs & unit revenue, Europe & Med - West Africa



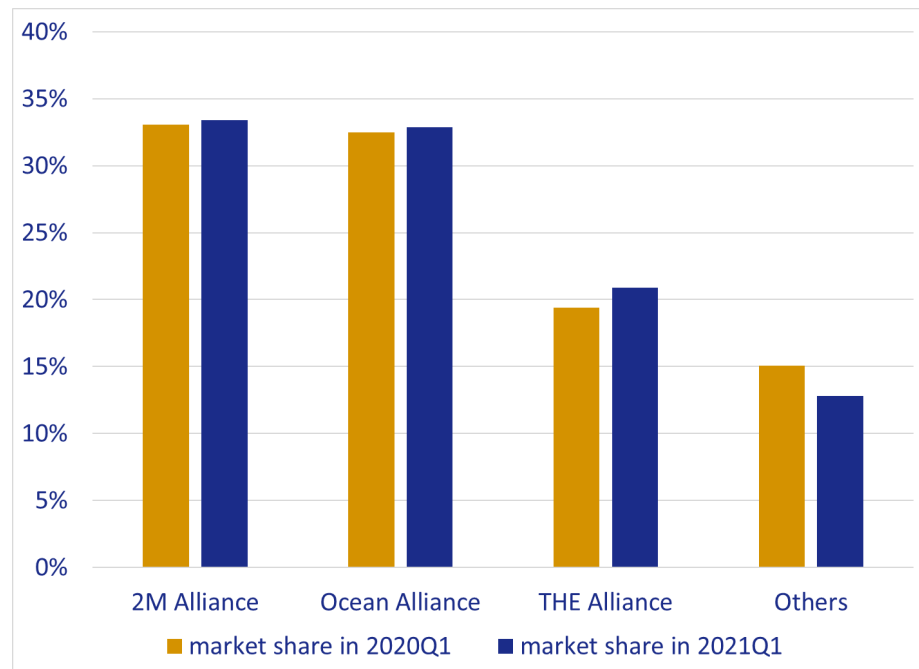
Source: MDS Transmodal, Container Business Model May21

Conclusions & Commentary

- Unit revenues are estimated to have been higher than unit costs from 2020 with the gap narrowed in the last quarter of 2020 but widening again in 2021Q1.

5. Competitiveness

5.1 Market shares based on capacity deployed on deep-sea routes, 2020Q1 vs 2021Q1



Source: MDS Transmodal, Containership Databank May 2021

Conclusions & Commentary

- Each of the three alliances has seen an increase in market share between 2020Q1 and 2021Q1 with 'Others' now offering c. 13% of the total capacity deployed on the deep-sea trade lanes (down by more than 2 percentage points compared to 2020Q1)
- The alliance exhibiting the largest increase in market share is THE Alliance, with the improvement in its market position being driven by the introduction in April 2020 of HMM into the alliance; HMM is mainly active on the transpacific trade lane where it deployed 30% of its capacity on offer in 2021Q1.
- The market shares of the three Alliances has grown over the course of the global Pandemic to the detriment of non-Alliance members. Global shippers have even less choice than a year ago.

5. Competitiveness

5.2 Market concentration - Europe & Med - West Africa

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 West Africa	24	1	3%	97%	124,098	0.5%
2021Q2	Mediterranean to/from West Africa	26	5	49%	8%	173,291	0.5%
2006Q2	North Europe to/from West Africa	22	1	21%	79%	32,410	0.1%
2021Q2	North Europe to/from West Africa	16	2	39%	26%	57,640	0.2%

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

Conclusions & Commentary

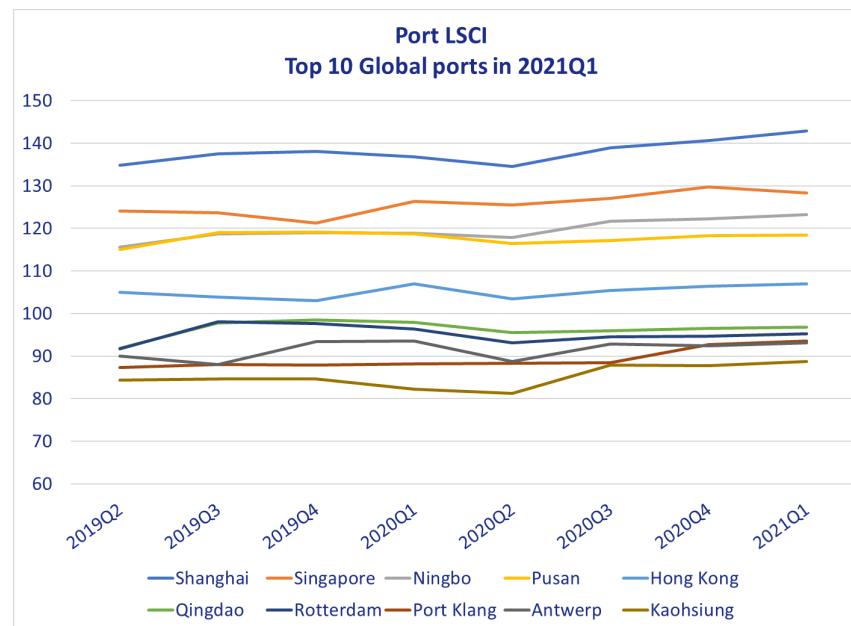
- Based upon the new MDST Consortia Market Shares Database developed in collaboration with Olaf Merk (ITF/OECD), we estimate that:
 - in 2006 the capacity on the Mediterranean – West Africa corridor was predominantly offered by independent carriers (market share of c. 97%), but, by 2021, the ratio consortia & alliances vs independent almost reversed;
 - on the North Europe – West Africa corridor, we observe a significant contraction in the number of services (from 22 to 16), 2 of which are operated by consortia with an estimated combined market share of c. 39%.

6. Port Connectivity (MDST/UNCTAD LSCI)

6.1 Top 10 container ports, global

Liner Shipping Connectivity Index, Hong Kong 2006Q1=100

	2021Q1	PQ	PY
Shanghai	143.0	2.3	6.1
Singapore	128.4	-1.3	2.0
Ningbo	123.3	1.1	4.4
Pusan	118.4	0.1	-0.3
Hong Kong	107.0	0.5	0.0
Qingdao	96.8	0.3	-1.2
Rotterdam	95.2	0.6	-1.2
Port Klang	93.5	0.9	5.3
Antwerp	93.1	0.7	-0.5
Kaohsiung	88.7	1.1	6.4



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

Conclusions & Commentary

- Compared to 2020Q4, Singapore is the only container port to have seen a contraction in its LSCI in 2021Q1, mainly due to the reduction in the number of services calling at the port.
- The improvement in the LSCI for the Asian ports compared to 2020Q1 is influenced by the fact that they were not in full operation during the first quarter of 2020; comparing their performances to 2019Q1 we observe an even larger improvement, which is due to the deployment of larger vessels.

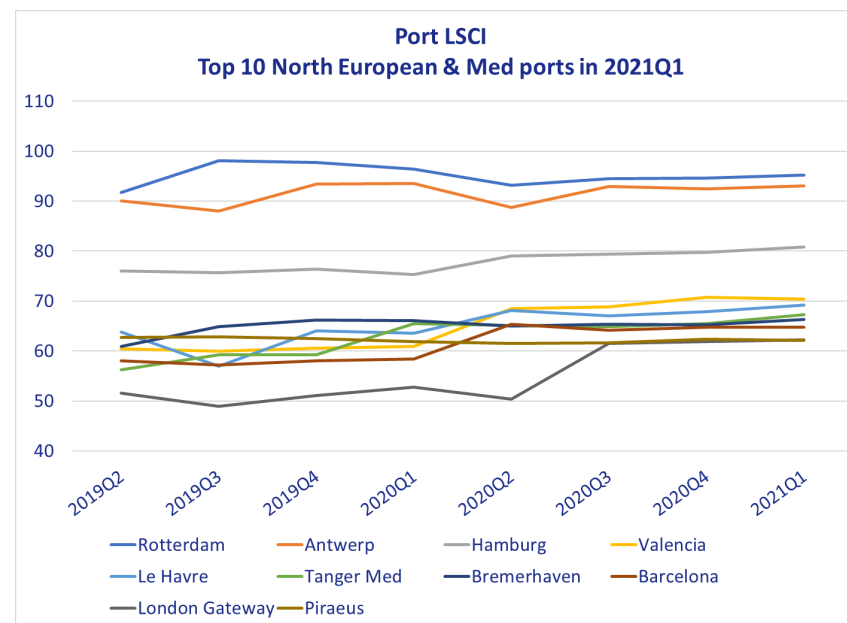
6. Port Connectivity (MDST/UNCTAD LSCI)

6.2 Top 10 container ports, North Europe & Med

Liner Shipping Connectivity Index, Hong Kong 2006Q1=100

Rotterdam, Netherlands

	2021Q1	PQ	PY
Port LSCI	95	0.6%	-1.3%
Number of services	123	2.5%	-3.1%
Number of port calls	125	4.8%	1.3%
Max ship capacity (TEU)	23,964	0.0%	0.9%
Number of operators	40	-2.4%	0.0%
Deployed annual capacity (mTEU)	27.8	3.2%	-6.7%
Number of direct calls	257	-1.5%	-3.4%



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

Conclusions & Commentary

- Rotterdam, the port with the highest LSCI amongst the Northern European ports, has seen an increase in its LSCI compared to 2020Q4 mainly driven by the number of port calls. However, the reduced number of services and capacity offered to the port compared to 2020Q1 has resulted in a YoY contraction in the LSCI.
- Drilling down to the regions served by the port of Rotterdam, it is interesting to notice that the reduction in both number of services and level of capacity is concentrated on the deepsea routes, whereas on the shortsea market, we observe an increase, with the links to the UK remaining the most important ones.

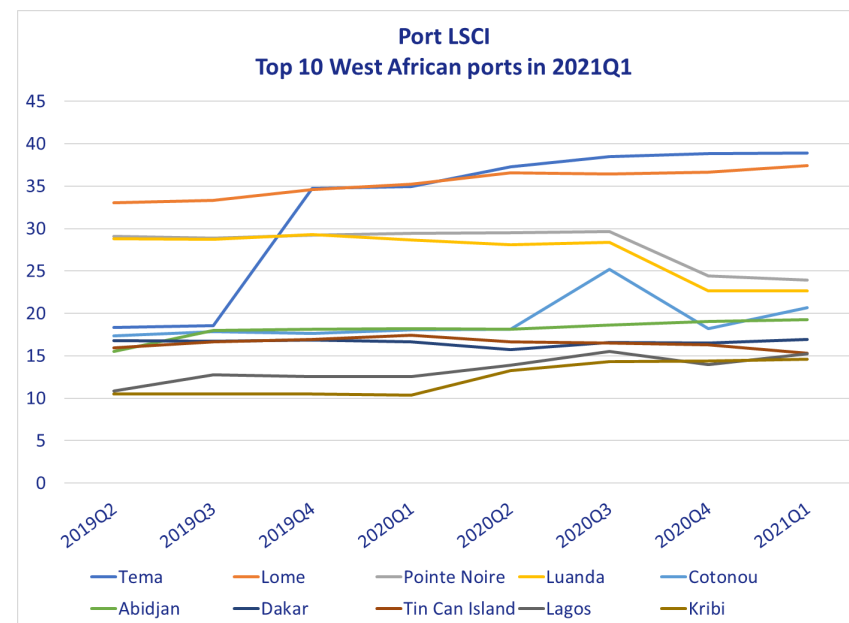
6. Port Connectivity (MDST/UNCTAD LSCI)

6.3 Top 10 container ports, West Africa

Liner Shipping Connectivity Index, Hong Kong 2006Q1=100

Tema, Ghana

	2021Q1	PQ	PY
Port LSCI	39	0.2%	11.3%
Number of services	21	0.0%	50.0%
Number of port calls	20	1.1%	52.4%
Max ship capacity (TEU)	15,000	0.0%	4.9%
Number of operators	14	0.0%	7.7%
Deployed annual capacity (mTEU)	4.4	0.9%	63.3%
Number of direct calls	65	1.6%	27.5%



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

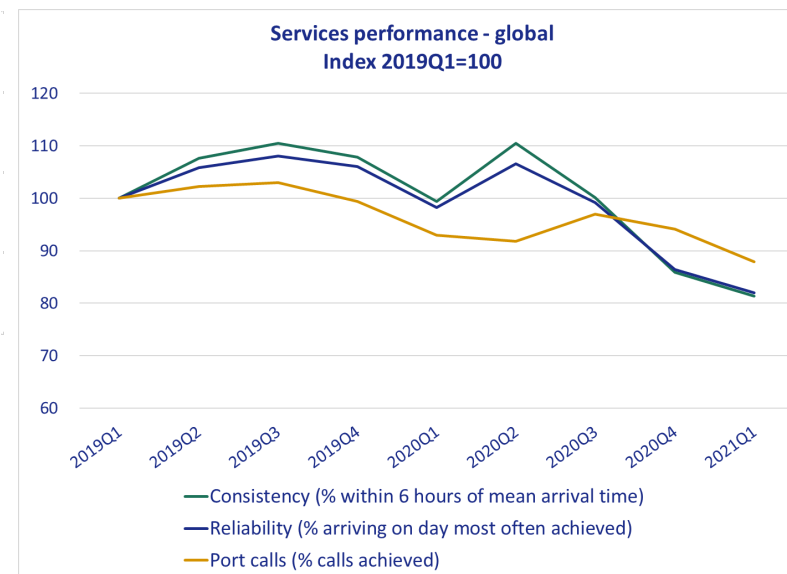
Conclusions & Commentary

- Tema, port with the highest LSCI on the West African coast (in 76th place in the global ranking in 2021Q1) has seen a substantial increase in the deployed capacity compared to 2020Q1; this increase, along with the increased number of services calling at the port, has resulted in an improvement in its LSCI.
- Not all the West African major ports have seen an increase in their LSCI compared to 2020Q1: Pointe Noire (Congo Republic) and Luanda (Angola) are amongst those to have experienced a contraction, with the reduction being caused by the reduction in the maximum vessel size calling at these ports.

7. Services performance

7.1 Consistency, reliability & port calls, global

	2021Q1	YTD	PQ (% points)	PY (% points)
Consistency (% within 6 hours of mean arrival time)	42%	42%	-2.4	-9.3
Reliability (% arriving on day most often achieved)	50%	50%	-2.7	-10.0
Port calls (% calls achieved)	69%	69%	-4.8	-3.9



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

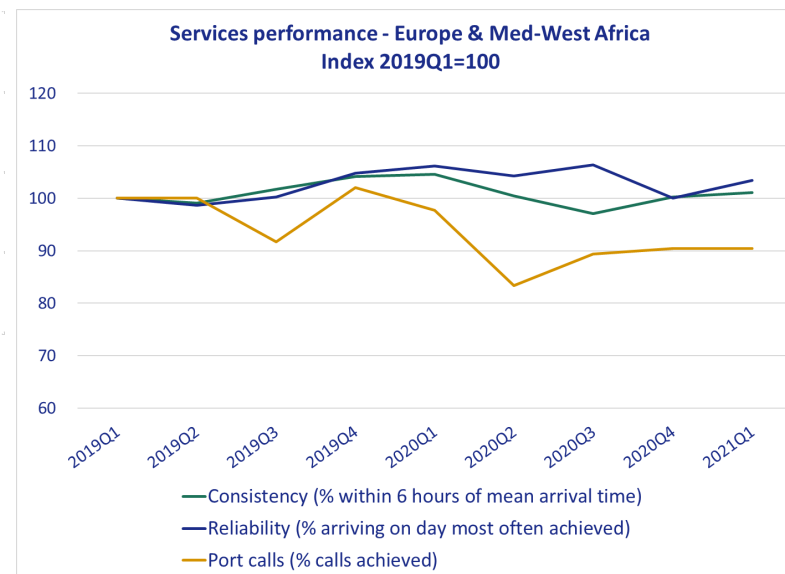
Conclusions & Commentary

- During the first quarter of 2021Q1, we observe a further deterioration in all the performance indicators both compared to the previous three months as well as the same quarter last year
- The apparent improvement in service predictability in Q2 2020 is shown to be an anomaly during the period of reduced demand and blanked sailings during the early days of the global Pandemic.
- Service quality has continued to deteriorate at a rate that emerged during 2019. The benefits of Consortia operations are not being experienced by global shippers, despite record yields being made by carriers.

7. Services performance

7.2 Consistency, reliability & port calls, Europe & Med-West Africa

	2021Q1	YTD	PQ (% points)	PY (% points)
Consistency (% within 6 hours of mean arrival time)	49%	49%	0.4	-1.6
Reliability (% arriving on day most often achieved)	56%	56%	1.8	-1.5
Port calls (% calls achieved)	72%	72%	-0.1	-5.8



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

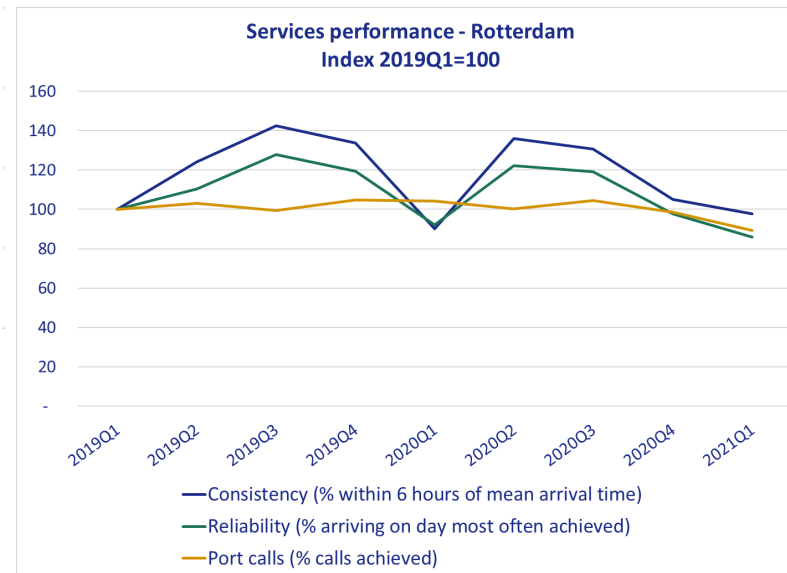
Conclusions & Commentary

- In 2021Q1, we observe some modest improvements compared to 2020Q4; however, all of the three indicators are lower compared to the same quarter of 2020 with the percentage of port calls (i.e. services calling at the ports scheduled in the port rotation) down from 77% in 2020Q1 to 2021Q1.

7. Services performance

7.3 Consistency, reliability & port calls, Rotterdam

	2021Q1	YTD	PQ (% points)	PY (% points)
Consistency (% within 6 hours of mean arrival time)	37%	37%	-2.7	2.9
Reliability (% arriving on day most often achieved)	45%	45%	-6.2	-3.3
Port calls (% calls achieved)	70%	70%	-7.2	-11.6



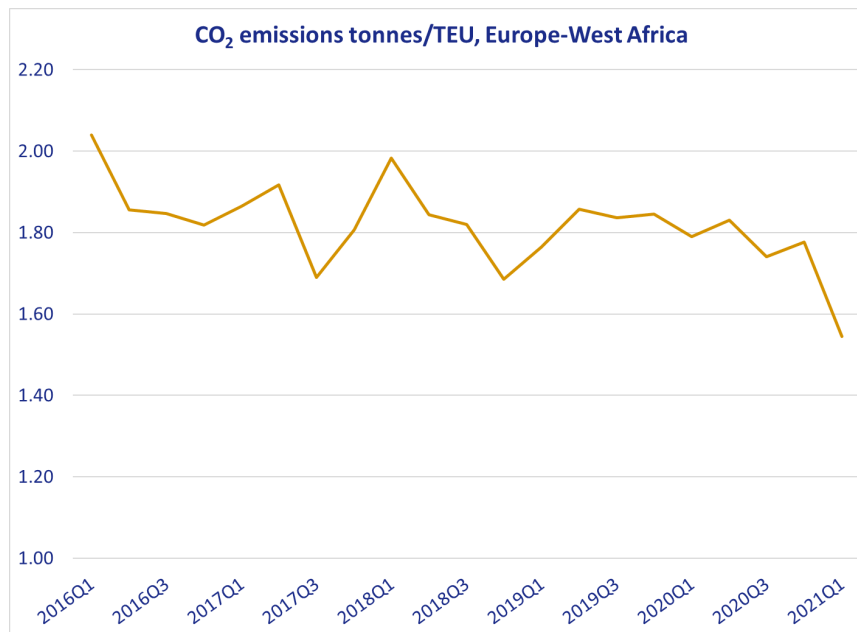
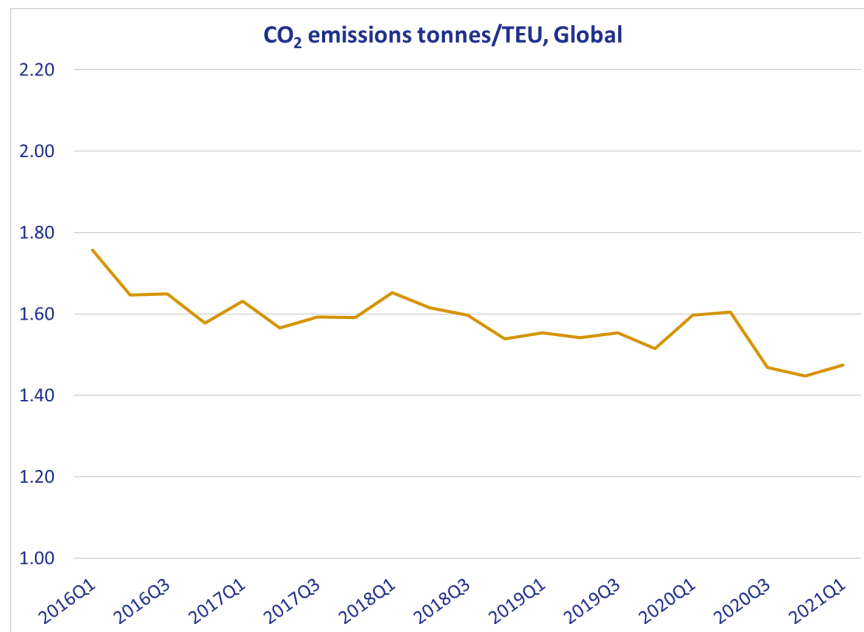
Source: MDS Transmodal based on AIS (Automatic Identification System) data

Conclusions & Commentary

- With the exemption of *consistency*, in 2021Q1 compared to 2020Q1, we observe further deterioration in the service performances both on a quarter-on-quarter comparison as well as on a year-on-year comparison.

8. Carbon Emission Factors

8.1 CO₂ emission tonnes/TEU, global and Europe & Med - West Africa



Source: MDS Transmodal, Container Business Model May21

Conclusions & Commentary

- Emissions per unit of cargo (tonnes/TEU) are estimated to have gone down in 2021Q1 compared to 2020Q1 both on a global level as well as on the Europe-West Africa route; however, while the overall reduction has been driven by demand growing at a faster rate than the estimated CO₂ emissions, on Europe-West Africa the reduction has been driven by an increase in demand accompanied by a contraction in the level of CO₂.
- The largest annual increase (in absolute terms) in the overall CO₂ emission in 2021Q1 has primarily been observed on the transpacific trade lane, where, however, the emissions per unit of cargo is estimated to have been lower than 2020Q1 thanks to the strong increase in demand

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 concertation: 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 Olaf Merk (International Transport Forum), 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 LSCI: 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 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

Mediterranean: Albania, Algeria, Andorra, Armenia, Bosnia & Herzegovina, Bulgaria, Croatia, Cyprus, Egypt, FYR Macedonia, Georgia, Gibraltar, Greece, Israel, Italy, Jordan, Kosovo, Lebanon, Libya, Malta, Moldova, Montenegro, Morocco, Romania, San Marino, Serbia, Slovenia, Spain, State of Palestine, Syria, Tunisia, Turkey, Ukraine, Western Sahara

West Africa: Angola, Benin, Burkina Faso, Cabo Verde, Cameroon, Central African Republic, Chad, Congo Democratic Republic, Congo Republic, Cote d'Ivoire, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Sao Tome & Principe, Senegal, Sierra Leone, Togo

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 of transport. GSF works to achieve safe, competitively efficient and environmentally sustainable global trade and logistics on behalf of its members.

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