



5.3 Maritime transport indicators


China, Singapore and the Republic of Korea – the economies most integrated into global liner shipping networks




Out of the 10 best-connected ports, **8** were in **Eastern or South-Eastern Asia**, in Q3 2023



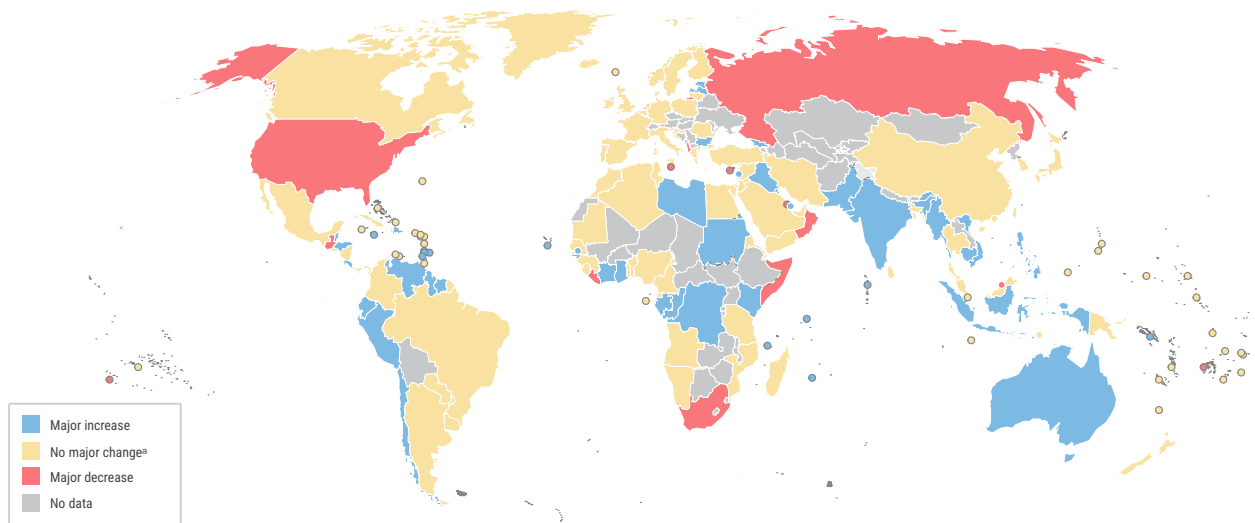
Developing economies in **Asia** handled **59%** of world port container traffic in 2021



The median cargo ship in **Norway** spends only **10 hours** at port



Map 1. Annual change in liner shipping connectivity, 2023
(Percentage)



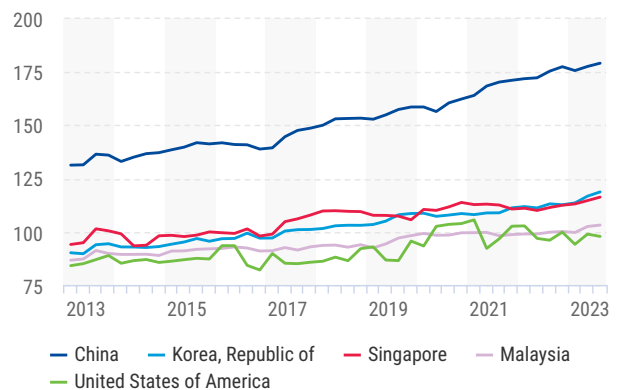
Notes: Change year-on-year in the LSCI from Q1 2022 to Q1 2023
 a Change of less than 5 per cent, year-on-year.

Liner shipping connectivity throughout the world

In the third quarter of 2023, China was the economy best connected to the global liner shipping network, as measured by the liner shipping connectivity index (LSCI). The Republic of Korea, Singapore, Malaysia and the United States of America followed next in the rankings. Regional leaders included: Spain and the Netherlands in Europe; Panama and Colombia in Latin America and the Caribbean; Egypt and Morocco in Africa; and Sri Lanka and India in Southern Asia. Excluding landlocked countries, among the least connected 30 economies, 17 are SIDS, four of which are also LDCs.

Three of the top five best-connected ports are in China, namely Shanghai, Ningbo and Qindao, together with Pusan in the Republic of Korea and the port of Singapore. The top ten includes eight Southern or South-Eastern Asian ports and two European ports, namely Rotterdam and Antwerp. Amongst the 30 best-connected ports, 20 were in Asia, nine in Europe and one, Tanger Med, in Africa.

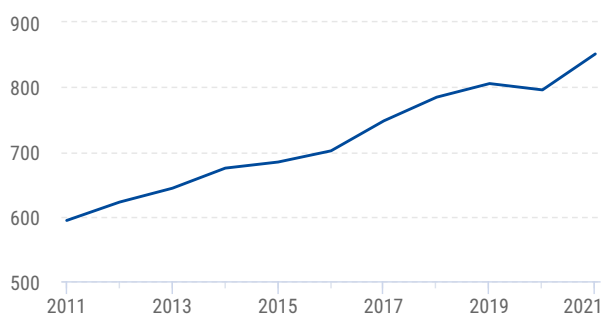
Figure 1. Liner shipping connectivity index, top five economies
(China Q1 2006=100)



Port container traffic

Figure 2. World container port throughput

(Millions of twenty-foot equivalent units)



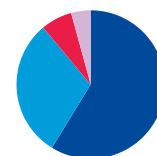
Asia's leading role as a global maritime freight loading and discharging centre (see the [World seaborne trade](#) page) and its high liner shipping connectivity is mirrored in the region's high contribution to containerized port throughput. In 2021, ports in developing economies of Asia handled 59 per cent of world port container traffic. The shares of developing America and developing Africa were significantly lower, at 7 and 4 per cent respectively.

Port calls

Globally, 4.6 million port calls were recorded in 2022. The economy that recorded most port calls of ships in 2022 was Norway. The median time of cargo-carrying ships at Norwegian ports was 10 hours.

Figure 3. Containerized port traffic by group of economies, 2021

(Millions of twenty-foot equivalent units)



- Developing economies: Asia and Oceania (500)
- Developed economies (257)
- Developing economies: Americas (58)
- Developing economies: Africa (36)

Concepts and definitions

The liner shipping connectivity index (LSCI) indicates an economy's position within global liner shipping networks. It is calculated from the number of ship calls, the container handling capacity of ports, the number of services and companies, the size of the largest ship, and the number of countries connected through direct liner shipping services.

The port liner shipping connectivity index is based on the same components as the LSCI but refers to an individual port.

Port container traffic is measured in twenty-foot equivalent units (TEUs). One TEU represents the volume of a standard 20-foot long intermodal container.

The number of port calls and the time spent in ports are derived from automatic identification systems and port mapping intelligence.

For references, see UNCTAD Handbook of Statistics 2023, annex 6.4

**Table 1. Liner shipping connectivity index of most connected economies, by region**

(China Q1 2006=100)

		Economy (Ranked by Q3 2023 value)	Q1 2012	Q1 2017	Q1 2022	Q1 2023	Q2 2023	Q3 2023
Northern America and Europe	1	United States of America	76	90	103	94	99	98
	2	Spain	75	83	90	92	94	95
	3	Netherlands (Kingdom of the)	78	83	91	91	93	92
	4	United Kingdom	76	85	90	89	90	90
	5	Belgium	78	86	87	87	89	89
Latin America and the Caribbean	1	Panama	41	48	51	51	52	54
	2	Colombia	32	48	48	50	50	52
	3	Mexico	37	44	48	49	49	52
	4	Peru	29	38	39	41	41	44
	5	Ecuador	21	30	38	40	40	42
Africa	1	Egypt	51	56	67	69	73	73
	2	Morocco	49	61	69	73	72	73
	3	South Africa	35	40	39	31	39	43
	4	Ghana	20	21	36	39	39	41
	5	Côte d'Ivoire	17	20	20	38	38	40
Asia	1	China	130	139	172	176	178	179
	2	Korea, Republic of	87	97	112	114	117	119
	3	Singapore	92	99	111	113	115	116
	4	Malaysia	87	91	99	100	102	103
	5	China, Hong Kong SAR	93	90	87	85	90	90
Oceania	1	New Zealand	20	34	31	31	31	41
	2	Australia	29	35	36	38	37	37
	3	French Polynesia	11	13	14	15	15	15
	4	New Caledonia	12	12	10	11	11	12
	5	Papua New Guinea	8	11	11	11	12	12

**Table 2. Port liner shipping connectivity index of most connected ports, by region**

(China, Hong Kong, Q1 2006 = 100)

		Port (Ranked by Q3 2023 value)	Q1 2012	Q1 2017	Q1 2022	Q1 2023	Q3 2023
Northern America and Europe	1	Netherlands (Kingdom of the), Rotterdam	87	88	95	95	96
	2	Belgium, Antwerp	82	89	91	90	94
	3	Germany, Hamburg	71	75	82	77	78
Latin America and the Caribbean	1	Peru, Callao	30	38	38	40	43
	2	Jamaica, Kingston	22	31	33	41	42
	3	Mexico, Manzanillo	28	36	39	40	42
Africa	1	Morocco, Tanger Med	44	57	67	70	72
	2	Egypt, Port Said	44	47	59	59	60
	3	Egypt, Damietta	28	33	35	35	41
Asia	1	China, Shanghai	113	124	146	146	152
	2	China, Ningbo	89	104	129	133	137
	3	Singapore, Singapore	108	114	126	129	132
Oceania	1	New Zealand, Tauranga	18	33	29	29	39
	2	Australia, Melbourne	26	33	32	35	34
	3	Australia, Sydney	23	30	31	34	32

Note: All index values refer to the value at Q1 of the indicated year.

**Table 3. Time at port, by market segment, in the top 20 economies by port call, 2022**

Economy	Number of port calls	Median time at port (days)						
		All market segments	Liquid bulk	Container ship	Dry breakbulk	Dry bulk	LPG carriers	LNG carriers
Norway	806 165	0.4	0.6	0.3	0.3	0.8	0.8	0.3
Japan	289 069	0.4	0.3	0.4	1.2	0.8	0.3	1.0
United States of America ^a	261 039	1.7	1.6	1.4	2.0	2.5	1.8	1.3
Italy	237 195	1.3	1.3	1.0	1.9	4.3	1.5	2.4
China	236 429	1.1	1.1	0.7	1.6	2.1	1.0	1.2
Türkiye	213 717	1.3	1.2	0.7	1.5	3.9	1.2	1.2
Indonesia	196 575	1.3	1.3	1.0	1.2	2.8	1.1	1.4
United Kingdom ^b	182 312	1.2	1.1	0.8	1.5	2.8	1.1	1.2
Greece	171 703	0.8	0.6	1.0	1.1	0.5	0.9	1.0
Spain	137 190	0.9	0.9	0.7	1.2	2.0	1.0	1.0
Netherlands (Kingdom of the)	131 050	0.6	0.6	0.9	0.4	1.3	1.0	1.1
Canada	117 485	0.6	1.1	1.8	0.3	0.4	1.4	..
Denmark	110 030	0.8	0.7	0.6	0.8	0.8	1.2	..
Germany	102 500	0.7	0.5	1.2	0.7	2.8	0.8	..
Korea, Republic of	99 942	0.9	0.7	0.7	1.2	2.4	0.8	1.0
Croatia	78 718	1.4	1.0	0.7	2.4	3.1	..	2.2
Sweden	70 790	0.8	0.7	0.8	1.0	0.5	1.0	0.8
France ^c	66 819	1.2	1.0	1.1	1.5	3.0	1.1	1.1
Russian Federation	57 296	1.5	1.2	1.7	1.8	2.7	1.9	1.1
Singapore	52 670	0.8	0.6	0.9	0.8	0.4	1.1	1.3
World	4 553 486	1.0	1.0	0.8	1.1	2.2	1.0	1.1

Note: Economies are ranked by number of port calls. Number of port calls includes arrivals of ferries, roll-on roll-off and passenger ships, for which the time in port is not computed. Ships of 1000 gt and above are included.

^a Excluding Puerto Rico and United States Virgin Islands.

^b United Kingdom of Great Britain and Northern Ireland excluding Channel Islands and Isle of Man.

^c Excluding French Guiana, Guadeloupe, Martinique, Mayotte, Monaco and Reunion.

Notes

1. For a discussion of recent developments, see (UNCTAD, 2023f).