Shipping and Connectivity

between China and Southeast Asian Countries

Prof. ZHANG Renping
Dalian Maritime University, China

Haikou, China, 18 Nov. 2019

Shipping and Connectivity

- Shipping and Ports
- Connectivity under BRI
- China and Southeast Asia

Shipping and Connectivity

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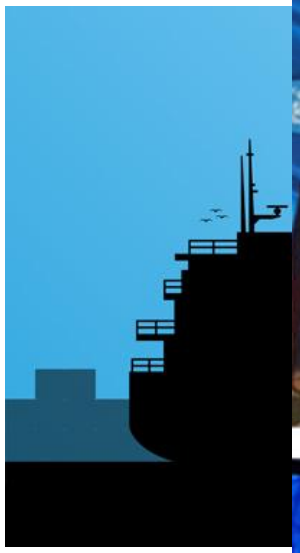
Shipping and Ports



(**Source: IMO homepage**)

Shipping and Ports

The theme of World Maritime Day for 2017 was to enable us to shine a spotlight on the existing **cooperation between ports and ships** to maintain and enhance a safe, secure and efficient maritime transportation system.

(Source : IMO Secretary-General Mr. Ki-tack Lim)

Shipping and Ports

World Maritime Day 2017

(Source: IMO homepage)

Shipping and Ports

World Maritime Day 2019

WORLD MARITIME DAY 2019

EMPOWERING WOMEN

IN THE MARITIME COMMUNITY

(Source: IMO homepage)

Shipping and Ports

World Maritime Day 2020

SUSTAINABLE DEVELOPMENT GOALS

World Maritime theme for 2020: "Sustainable shipping for a sustainable planet"

(Source: IMO homepage)

Shipping and Ports

World Maritime Day 2020

IMO selected "Sustainable shipping for a sustainable planet"

As this will provide an opportunity to raise awareness of the United Nations' **Sustainable Development Goals (SDGs),** that the International Maritime Organization (IMO), its member States and the shipping industry are undertaking to achieve the targets.

(Source: IMO homepage)

Shipping and Ports

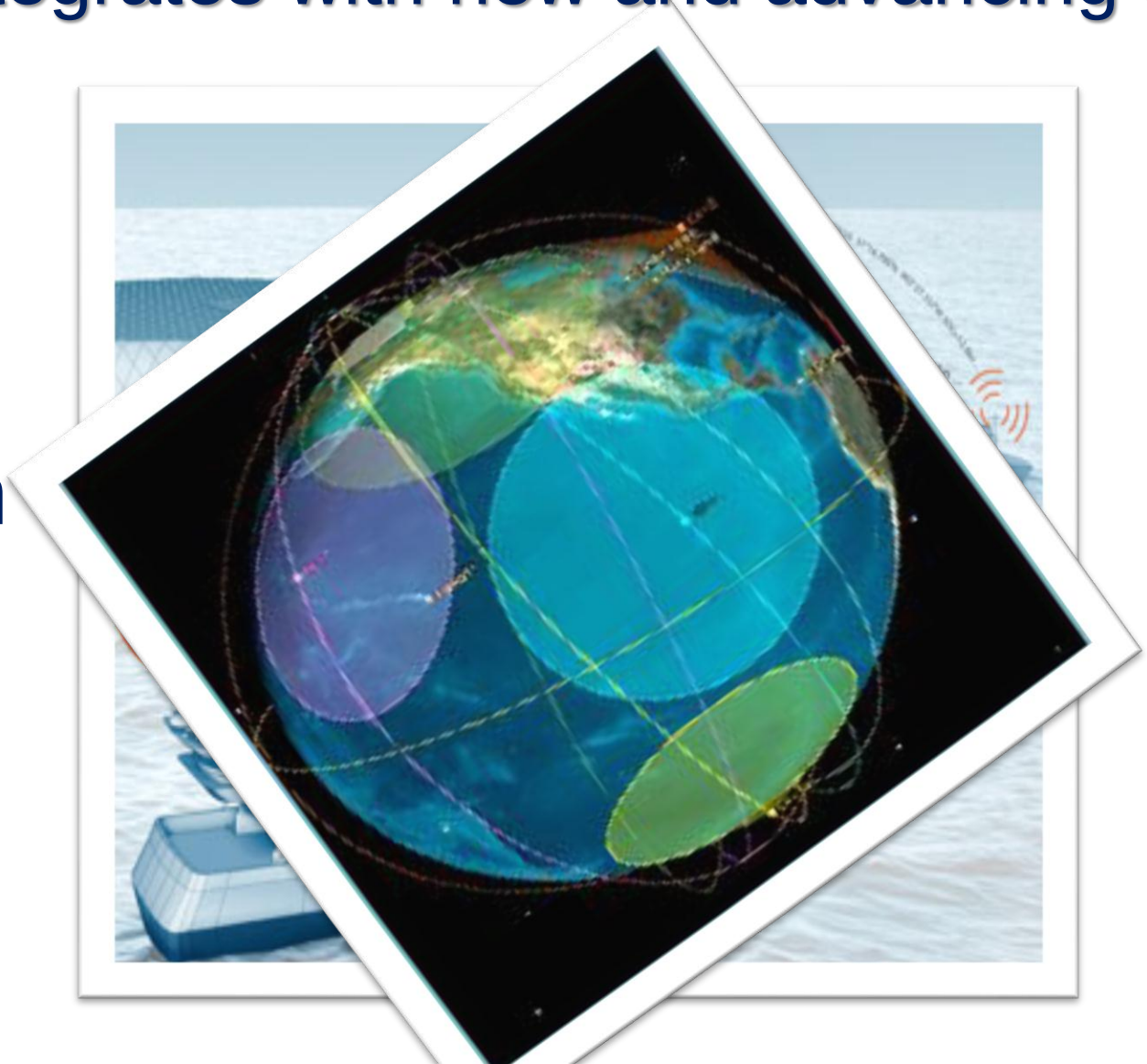
- Shipping is the most international of all the world's great industries;
- It is also one of the most dangerous.

Shipping and Ports

Shipping integrates with new and advancing technologies

AIS -

Automatic
Identification
Systems



LRIT -

Long
Range
Identification
Tracking

Shipping and Ports

ECDIS -

Electronic
Chart
Display and
Information
Systems

Shipping and Ports

Safety of ships is vital concern

Shipping and Ports

What does the global shipping look like?

Table 2.6 Ownership of world fleet ranked by dead-weight tonnage, 2019

	Country or territory of ownership	Number of vessels			Dead-weight tonnage				
		National flag	Foreign flag	Total	National flag	Foreign flag	Total	Foreign flag as a percentage of total	Total as a percentage of total
1	Greece	670	3 866	4 536	60 776 654	288 418 535	349 195 189	82.60	17.79
2	Japan	875	2 947	3 822	35 532 308	189 588 907	225 121 215	84.22	11.47
3	China	3 987	2 138	6 125	90 930 376	115 370 656	206 301 032	55.92	10.51
4	Singapore	513	1 214	2 727	71 287 105	50 198 543	121 485 648	41.32	6.19
5	Hong Kong, China	890	738	1 628	72 311 219	25 817 099	98 128 318	26.31	5.00
6	Germany	212	2 460	2 672	8 365 247	88 167 113	96 532 360	91.33	4.92
7	Republic of Korea	774	873	1 647	12 418 609	4 282 908	76 701 517	83.81	3.91
8	Norway	367	1 671	2 038	1 758 664	59 356 435	61 115 099	97.12	3.11
9	United States	822	1 153	1 975	9 518 623	48 859 083	58 377 706	83.69	2.97
10	Bermuda	14	518	532	337 958	57 894 249	58 232 207	99.42	2.97

(source: Review of Maritime Transport 2019, UNCTAD)

Shipping and Ports

What are functions the ports perform?

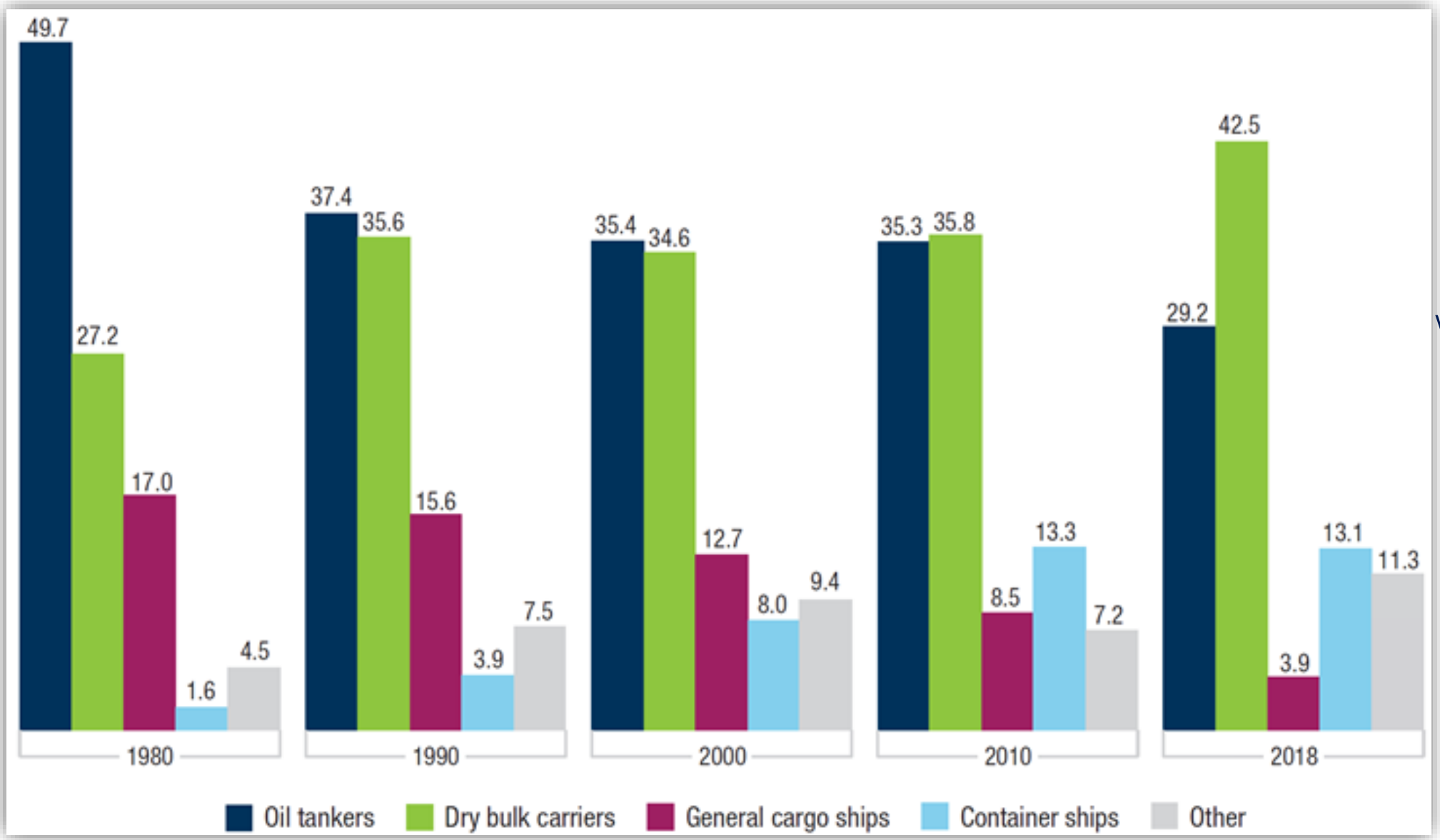
(source: Review of Maritime Transport 2019, UNCTAD)

Shipping and Ports

How do the global shipping and seaborne trade interact with the world trade ?

(source: Review of Maritime Transport 2019, UNCTAD)

Shipping and Ports



World Fleet 1980-2018

Share in dead-weight tonnage (%)

(Source: UNCTAD Review of Maritime Transport 2018)

Sh

World Fleet 2018-2019

Principal Vessel Type

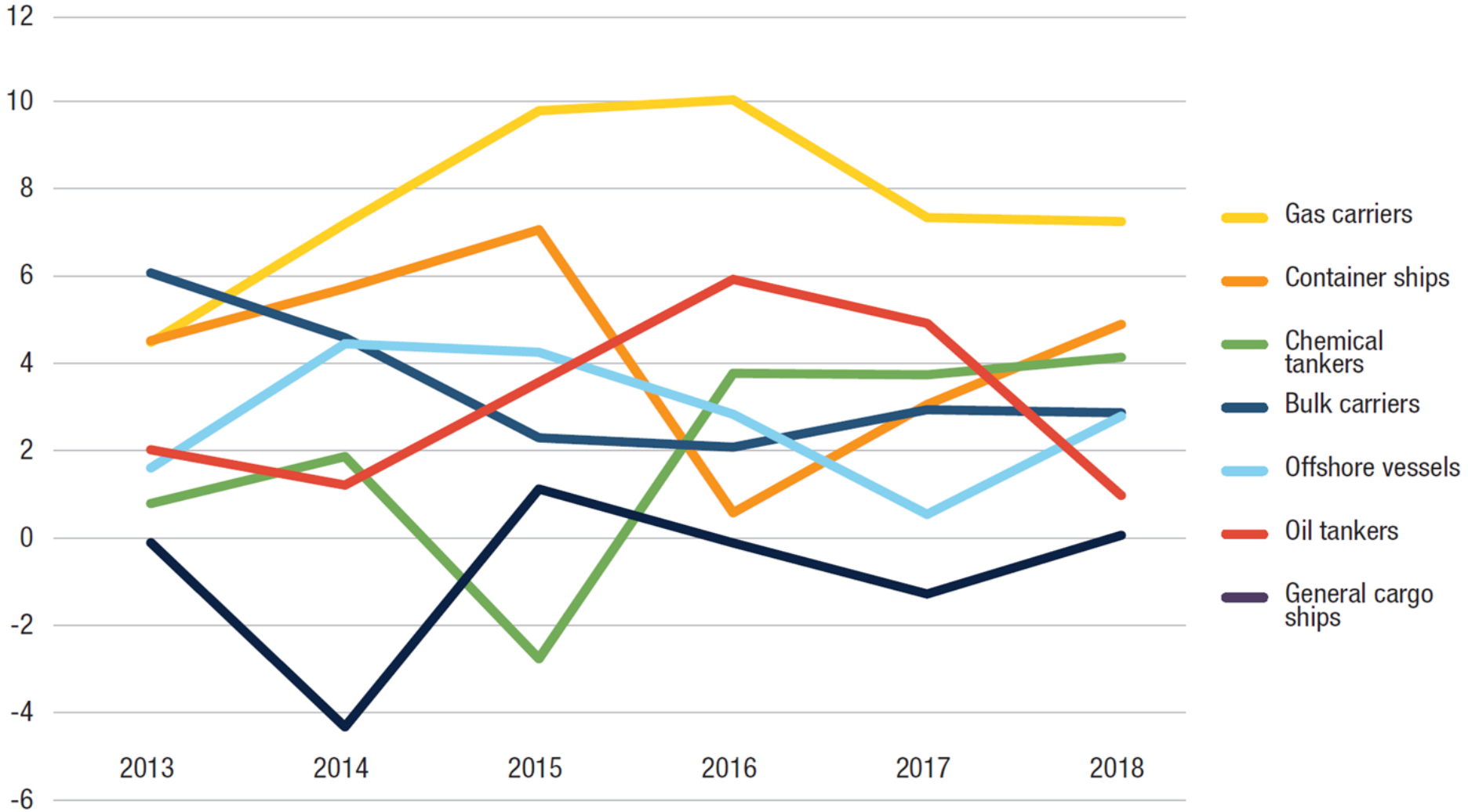
(1000 dwt & %)

Principal types	2018	2019	Percentage change 2019/2018
Oil tankers	562 035 *29.2*	567 533 *28.7*	0.98
Bulk carriers	818 921 *42.5*	842 438 *42.6*	2.87
General cargo ships	73 951 *3.8*	74 000 *3.7*	0.07
Container ships	253 275 *13.1*	265 668 *13.4*	4.89
Other types	218 002 *11.3*	226 854 *11.5*	4.06
Gas carriers	64 407 *3.3*	69 078 *3.5*	7.25
Chemical tankers	44 457 *2.3*	46 297 *2.3*	4.14
Offshore vessels	78 269 *4.1*	80 453 *4.1*	2.79
Ferries and passenger ships	6 922 *0.4*	7 097 *0.4*	2.53
Other/ not available	23 946 *1.2*	23 929 *1.2*	-0.07
World total	**1 926 183**	**1 976 491**	**2.61**

(Source: UNCTAD Review of Maritime Transport 2019)

Shipping and Ports

Figure 2.2 Growth of the world fleet in dead-weight tonnage, selected vessel types, 2013–2019
(Annual percentage change)



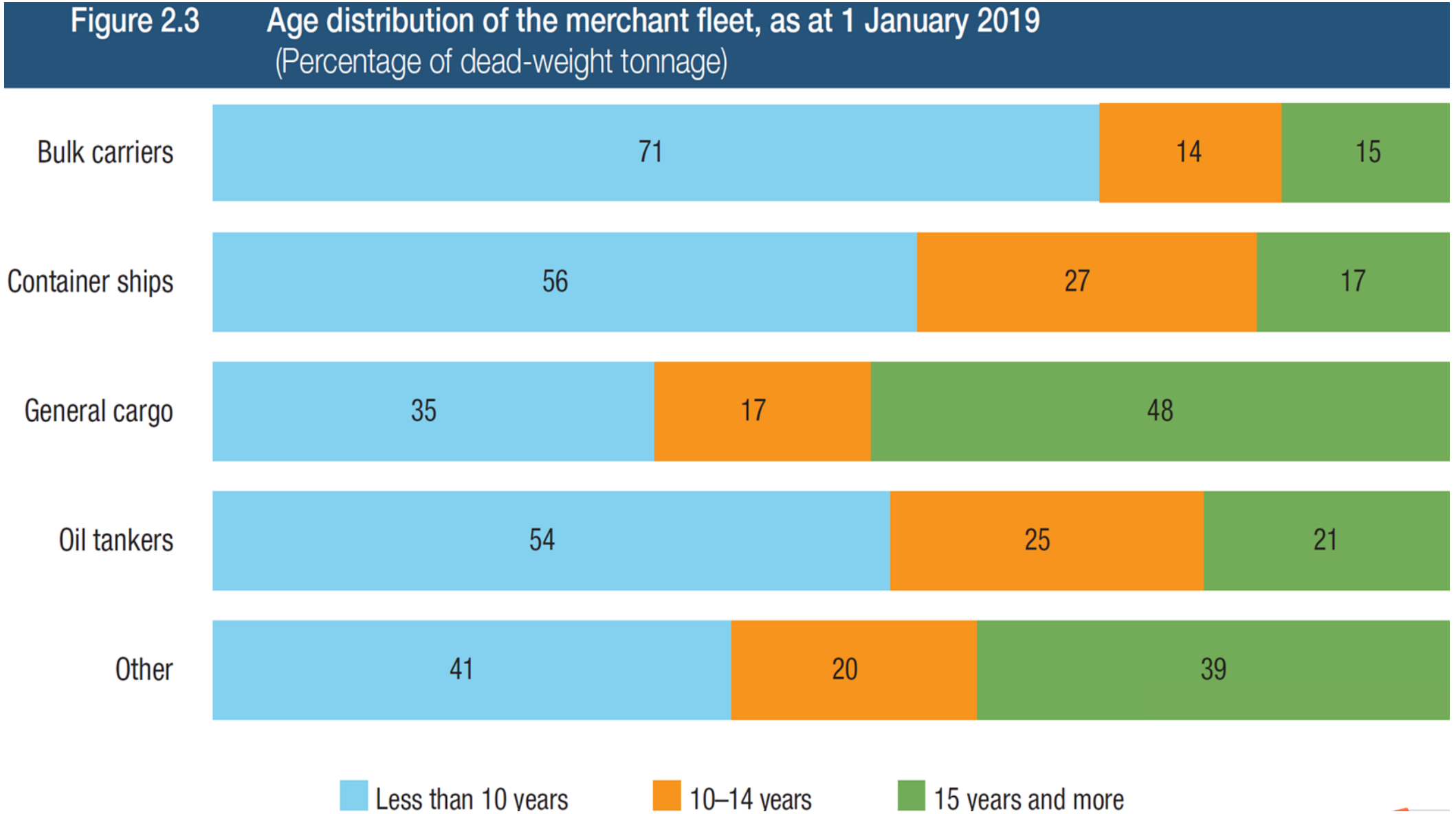
(Source: UNCTAD Review of Maritime Transport 2019)

Growth of World Fleet 2013-2019

selected vessel types

Shipping and Ports

Age distribution of merchant fleet 2019



(Source: UNCTAD Review of Maritime Transport 2019)

Shipping and Ports

Table 2.6 Ownership of world fleet ranked by dead-weight tonnage, 2019

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10	Bermuda	14	518	532	337 958	57 894 249	58 232 207	99.42	2.97

World Fleet 2019

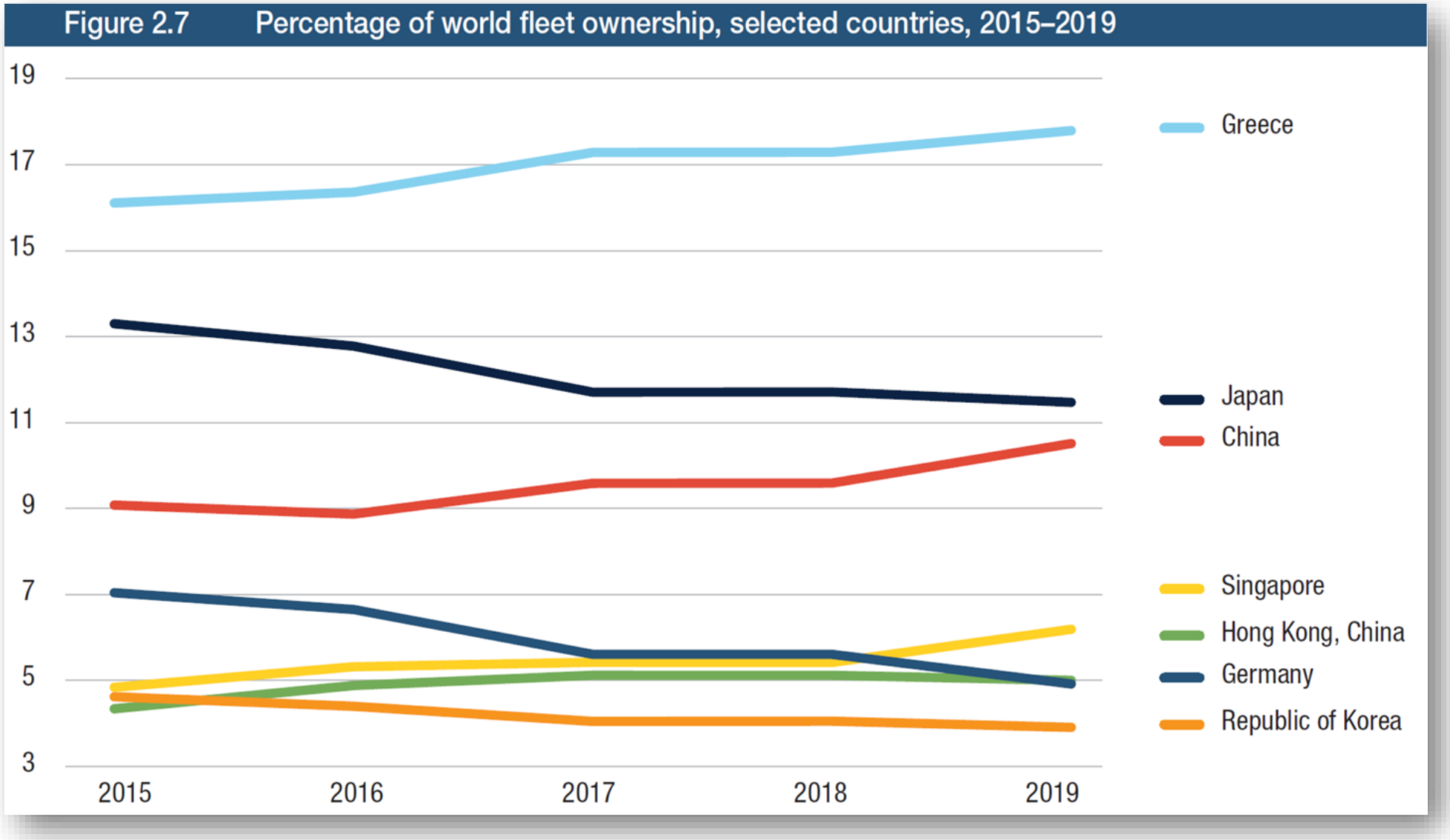
Who owns most ships?

by DWT

(Source: UNCTAD Review of Maritime Transport 2019)

Shipping and Ports

World Fleet ownership selected countries 2015-2019



(Source: UNCTAD Review of Maritime Transport 2019)

Shipping and Ports

World Fleet 2019

Leading flags of registration by value (USD)

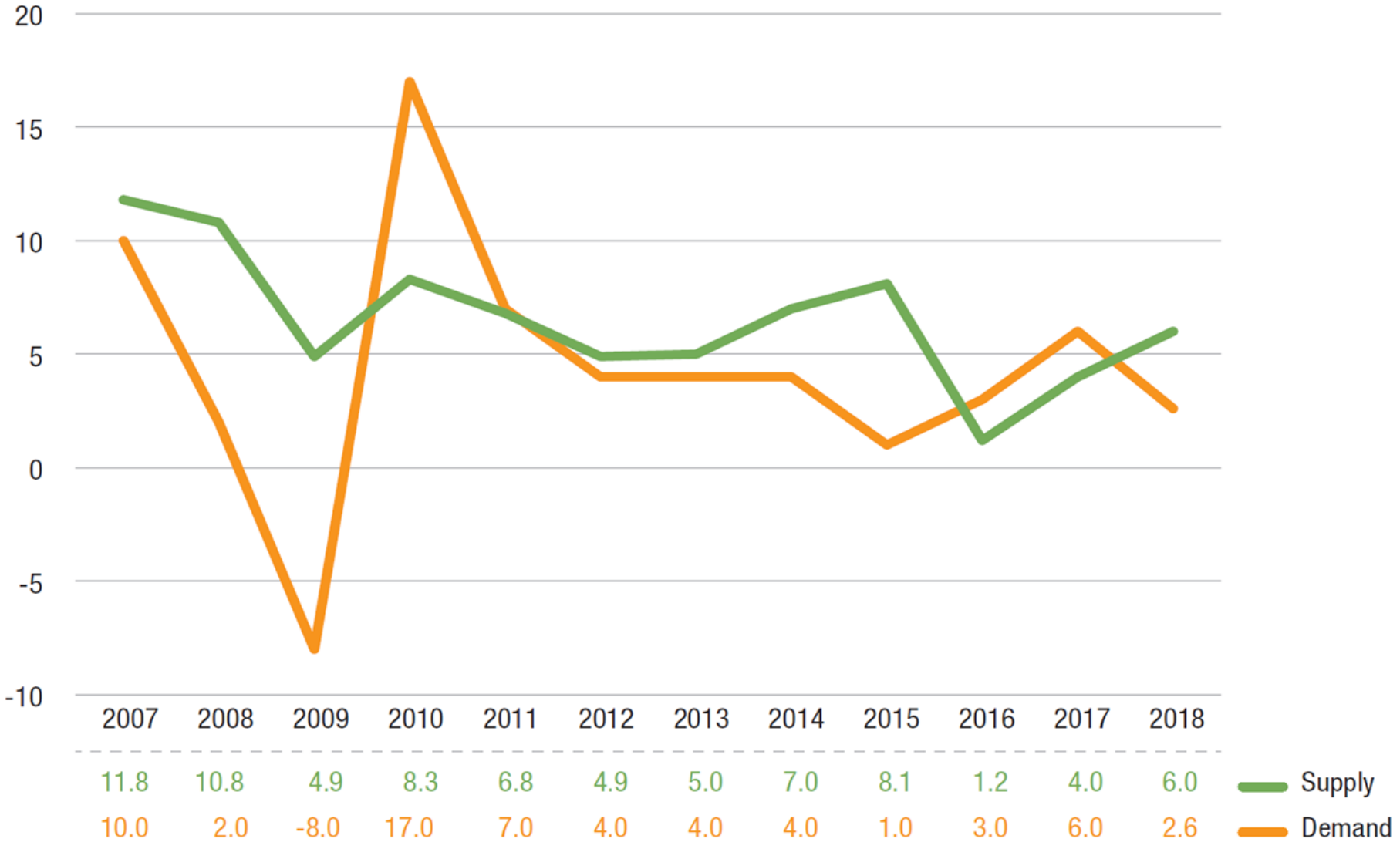
Table 2.9 Leading flags of registration, ranked by value of principal vessel type, 2019
(United States dollars)

Flag of registration	Oil tankers	Bulk carriers	General cargo ships	Container ships	Gas carriers	Chemical tankers	Offshore vessels	Ferries and passenger ships	Other/not applicable	Total
Panama	12 783	44 379	3 871	14 555	5 505	10 611	8 943	21 185	7 815	129 648
Marshall Islands	23 637	28 792	487	6 314	4 631	1 341	15 145	20 085	2 607	103 040
Bahamas	7 595	4 982	86	425	123	28 627	11 517	23 885	2 757	79 996
Liberia	17 412	22 108	1 091	15 973	2 263	150	5 287	11 812	1 741	77 837
Hong Kong, China	10 467	26 125	1 849	18 073	1 906	46	5 201	306	123	64 095
Malta	9 736	11 221	1 664	8 401	1 899	11 609	4 569	4 875	950	54 924
Singapore	11 138	13 039	1 191	11 109	3 141		5 756	6 558	1 724	53 657
China	4 928	13 892	2 827	2 615	1 511	4 526	705	6 784	2 663	40 451
Greece	9 210	3 547	38	257	68	1 576	4 506	1	96	19 299
Italy	1 185	831	2 521	103	467	12 474	286	521	473	18 862
Subtotal top 10	**108 090**	**168 918**	**15 625**	**77 826**	**21 514**	**70 959**	**61 915**	**96 013**	**20 949**	**641 809**
Other	***30 193***	***27 720***	***25 143***	***27 664***	***12 311***	***37 513***	***24 708***	***71 553***	***12 270***	***269 075***
World total	**138 283**	**196 638**	**40 768**	**105 490**	**33 825**	**108 472**	**86 623**	**167 566**	**33 219**	**910 884**

(Source: UNCTAD Review of Maritime Transport 2018)

Shipping and Ports

Figure 2.8 Growth of demand and supply in container shipping, 2007–2018
(Percentage)



Demand and supply in container shipping

2007-2018

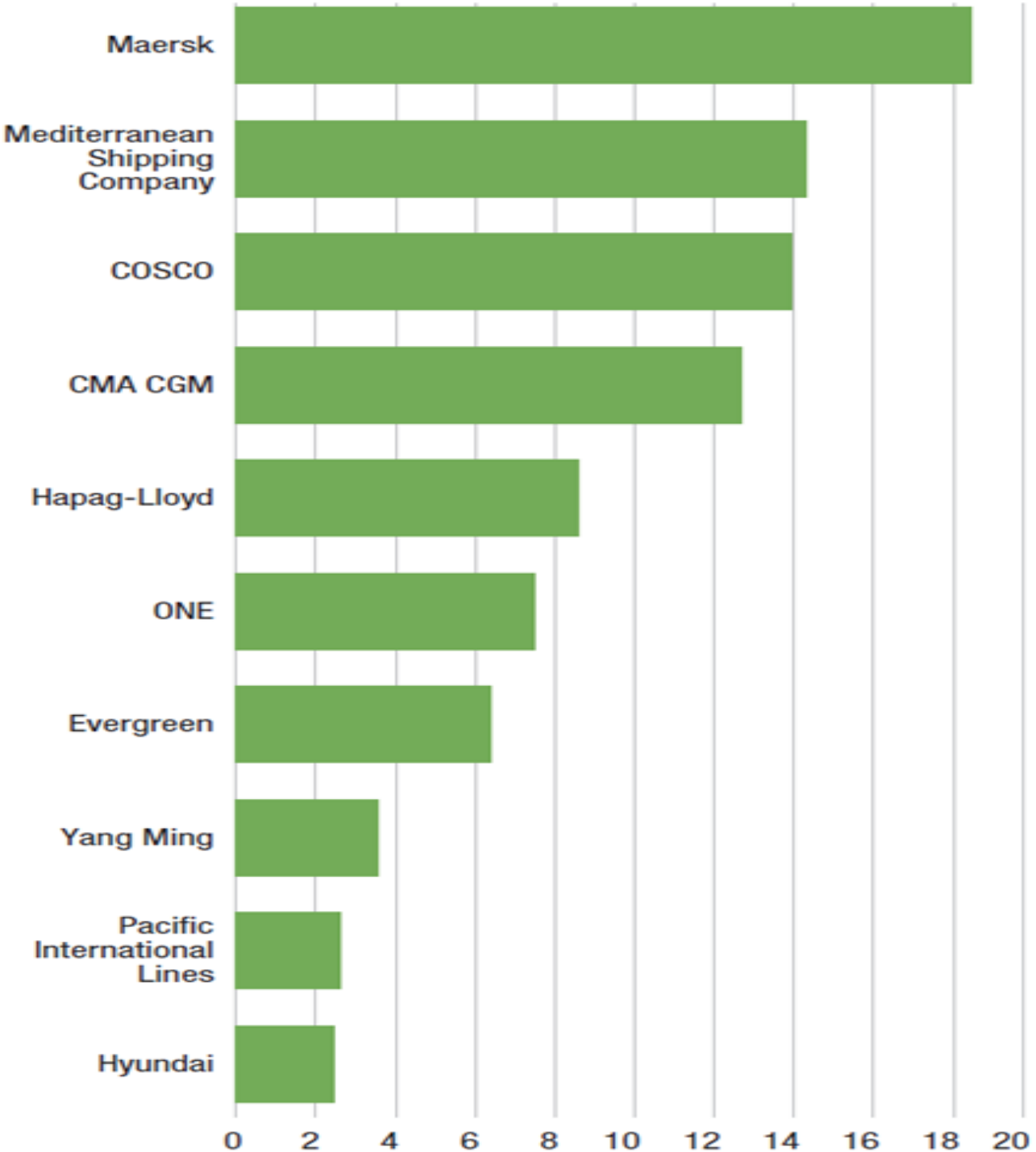
(percentage)

(Source: UNCTAD Review of Maritime Transport 2019)

Shipping

Top 10 deep-sea container shipping lines, 2019

(percentage)



(Source: UNCTAD Review of Maritime Transport 2019)

Shipping and Ports

Table 2.8 Leading flags of registration by dead-weight tonnage, 2019

	Flag of registration	Number of vessels (percentage)	Vessel share of world total	Dead-weight tonnage (1,000 dwt)	Share of world total dead-weight tonnage (percentage)	Cumulated share of dead-weight tonnage	Average vessel size (dwt)	Growth in dead-weight tonnage 2019/2018 (percentage)
1	Panama	7 860	8.16	333 337	17	16.87	44 930	-0.57
2	Marshall Islands	3 537	3.67	245 763	12	12.43	69 878	3.23
3	Liberia	3 496	3.63	243 129	12	12.30	69 704	7.98
4	Hong Kong, China	2 701	2.80	198 747	10	10.06	75 083	8.17
5	Singapore	3 433	3.57	129 581	7	6.56	39 785	1.16
6	Malta	2 172	2.26	110 682	6	5.60	51 890	1.39
7	China	5 589	5.80	91 905	5	4.65	19 646	8.16
8	Bahamas	1 401	1.45	77 844	4	3.94	56 449	1.26
9	Greece	1 308	1.36	69 101	3	3.50	64 339	-4.28
10	Japan	5 017	5.21	39 034	2	1.97	10 263	4.23

World Fleet 2019

Top 10 flags of registration by DWT

(Source: UNCTAD Review of Maritime Transport 2019)

Shipping and Ports

Deliveries of new buildings 2018

(1000 GT)

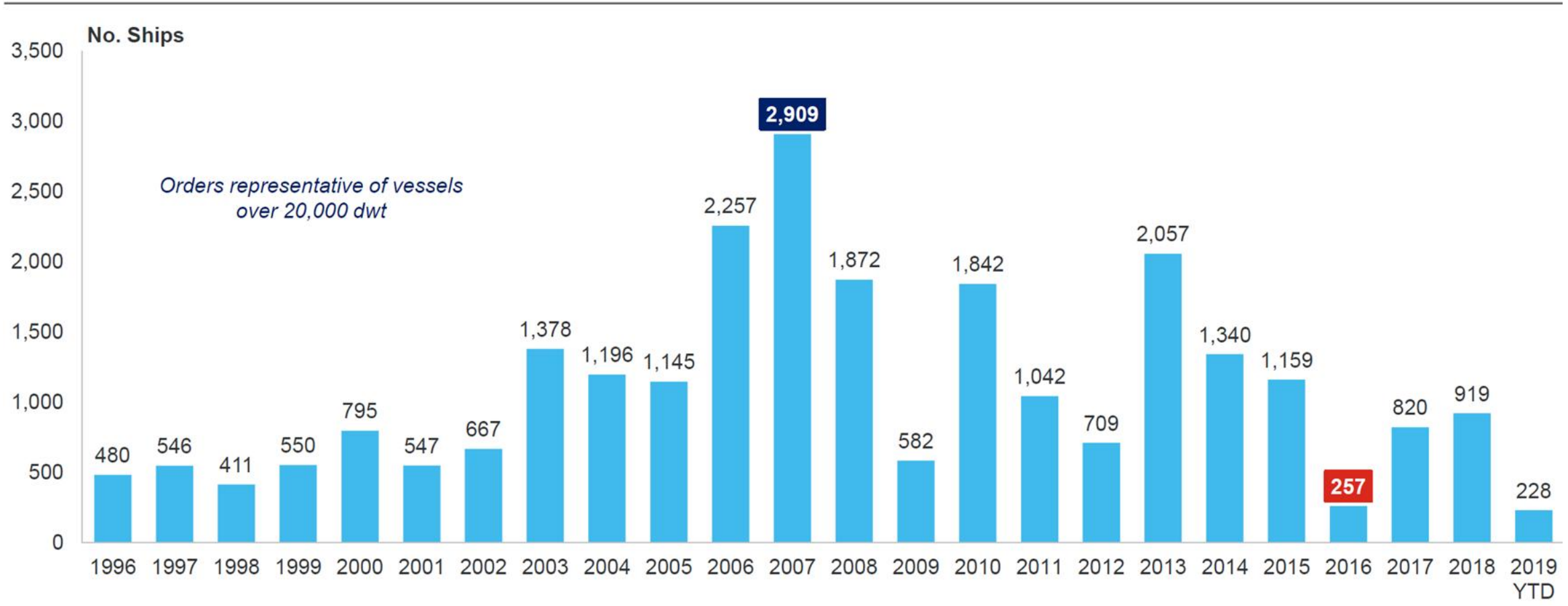
Table 2.3 Deliveries of newbuildings by major vessel types and countries of construction, 2018
(Thousand gross tons)

	China	Japan	Philippines	Republic of Korea	Rest of world	World total	Percentage
Oil tankers	4 505	2 819	288	6 046	865	**14 524**	25.0
Bulk carriers	9 274	5 134	654	352	91	**15 505**	26.7
General cargo ships	416	159	-	74	234	**884**	1.5
Container ships	6 630	3 020	992	2 632	341	**13 614**	23.5
Gas carriers	762	1 754	52	4 709	26	**7 302**	12.6
Chemical tankers	466	647	-	274	64	**1 452**	2.5
Offshore vessels	774	18	-	472	453	**1 718**	3.0
Ferries and passenger ships	162	72	2	51	1 573	**1 860**	3.2
Other	270	816	-	24	76	**1 186**	2.0
Total	**23 260**	**14 440**	**1 988**	**14 633**	**3 724**	**58 045**	**100.0**
Percentage	40.1	24.8	3.4	25.2	6.4	**100.0**	

(Source: UNCTAD Review of Maritime Transport 2019)

Shipping and Ports

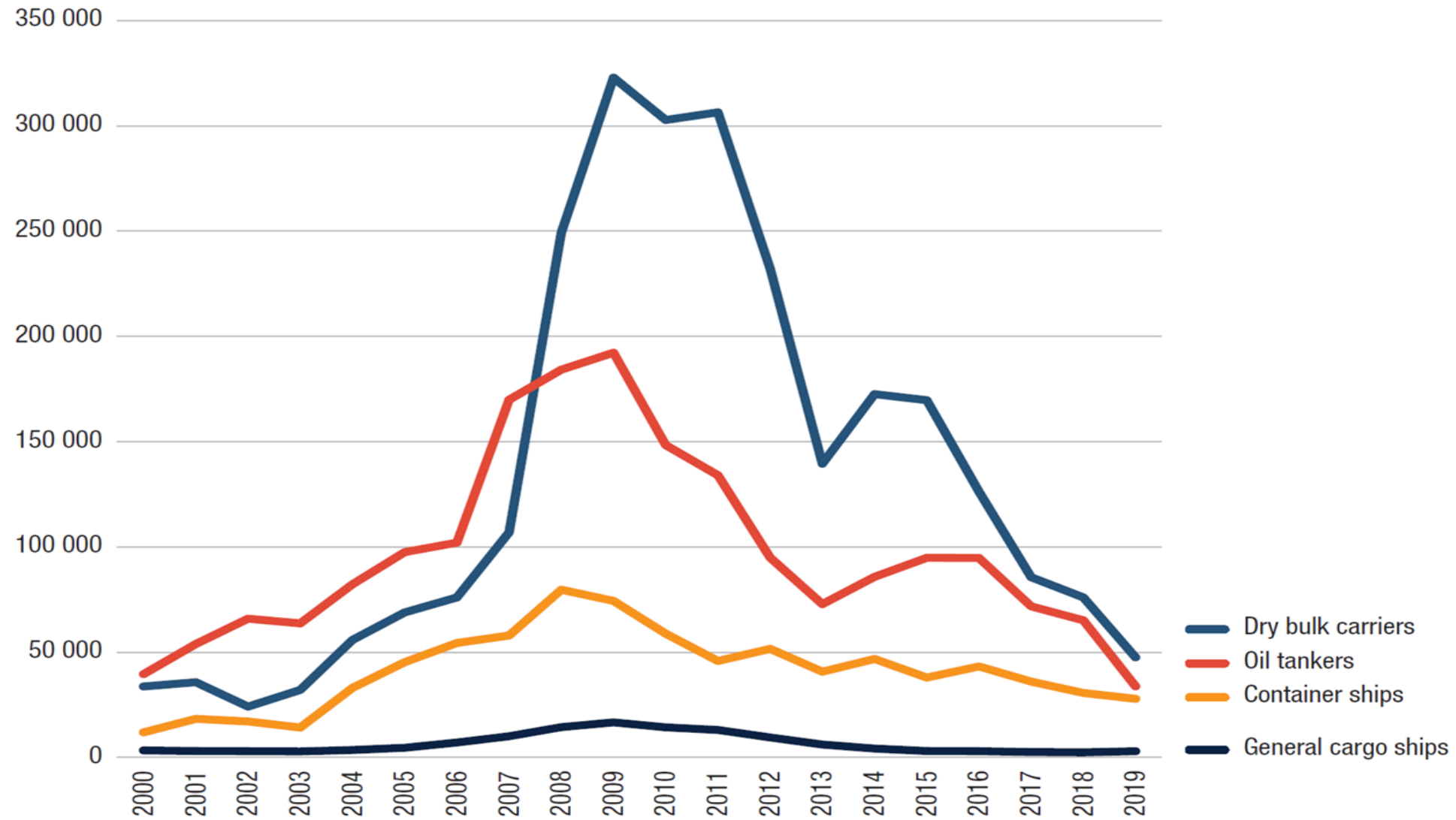
Global newbuilding orders at historic low…



(Source: Clarksons, 2019 Interim Result)

Shipping and Ports

Figure 2.5 World tonnage on order, 2000–2019
(Thousand dead-weight tons)



World tonnage on order 2000-2019

(1000 DWT)

(Source: UNCTAD Review of Maritime Transport 2018)

Shipping and Ports

Tonnage sold for demolition 2018

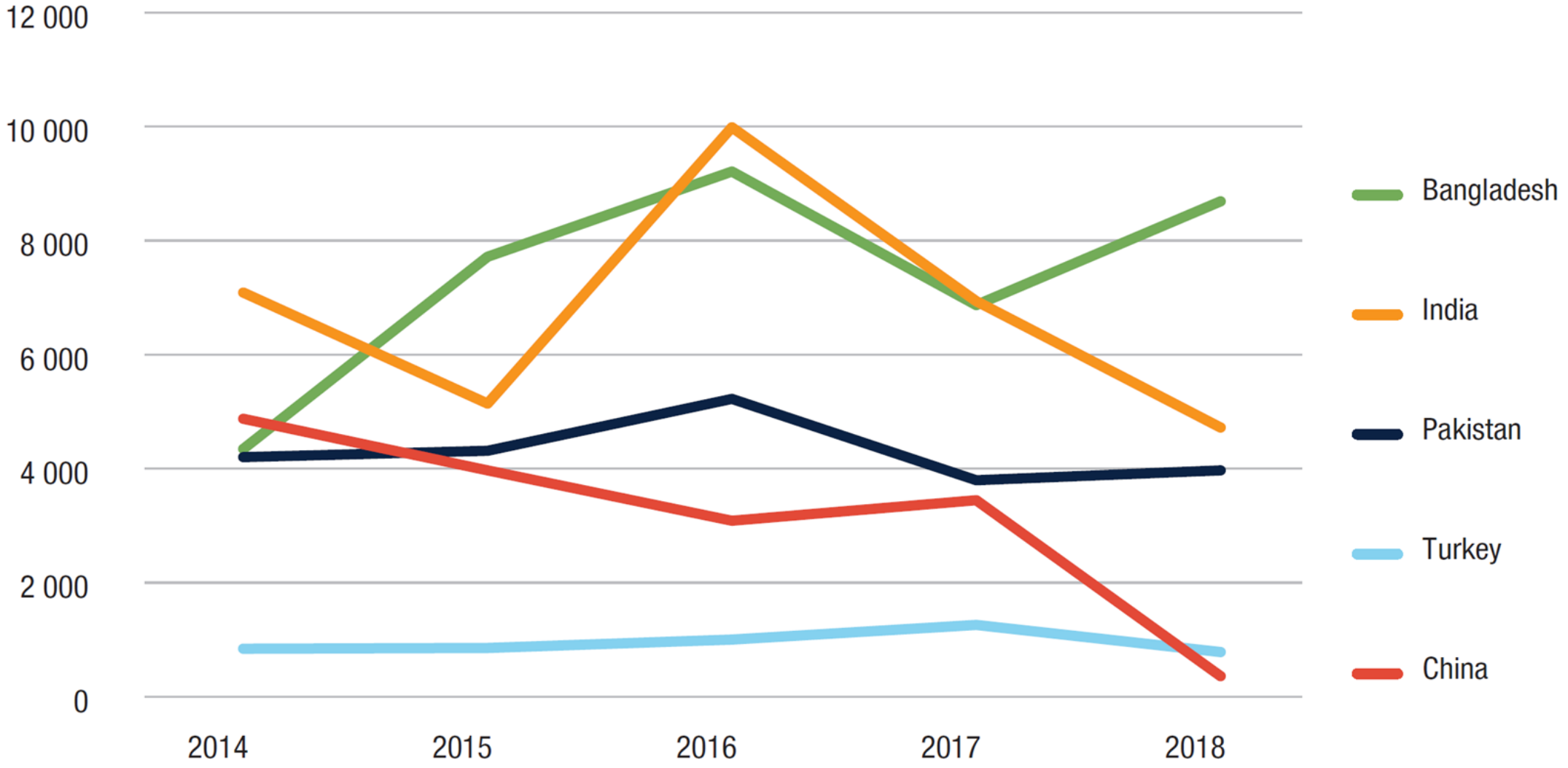
Table 2.5 Reported tonnage sold for demolition by major vessel type and country of demolition, 2018
(Thousand gross tons)

	Bangladesh	India	Pakistan	Turkey	China	World total	Percentage
Oil tankers	5 989	1 946	2 824	66	14	**10 884**	**59.5**
Bulk carriers	1 115	465	829	18	53	**2 495**	**13.6**
General cargo ships	127	149	57	65	5	**405**	**2.2**
Container ships	620	402	38	54	152	**1 284**	**7.0**
Gas carriers	347	455	48	3	97	**951**	**5.2**
Chemical tankers	43	167	28	28	2	**268**	**1.5**
Offshore vessels	181	581	72	143	30	**1 156**	**6.3**
Ferries and passenger ships	..	171	..	14	..	**185**	**1.0**
Other	210	353	47	29	5	**673**	**3.7**
Total	**8 632**	**4 690**	**3 943**	**418**	**359**	**18 300.9**	**100.0**
Percentage	**47.2**	**25.6**	**21.5**	**2.3**	**2.0**	**100**	

(Source: UNCTAD Review of Maritime Transport 2019)

Shipping and Ports

Figure 2.6 Reported tonnage sold for demolition, selected countries, 2014–2018

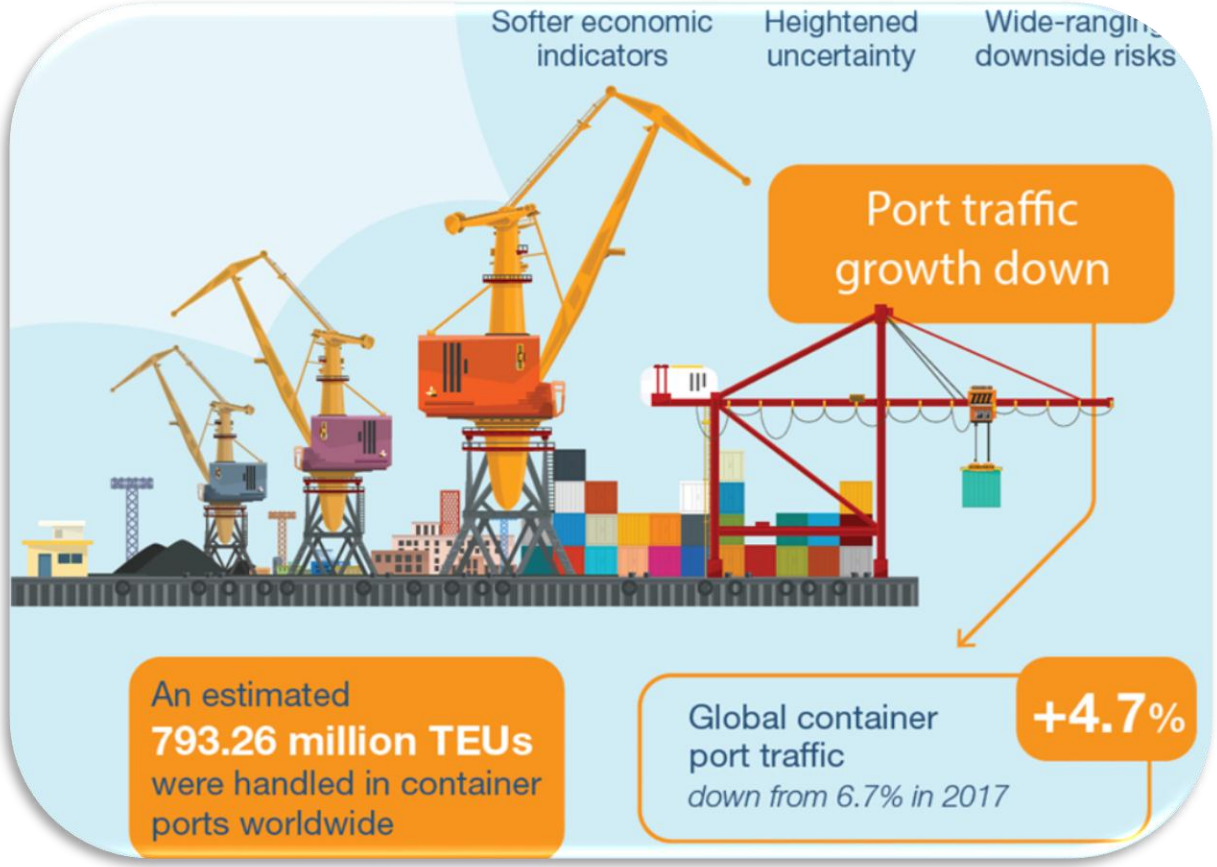


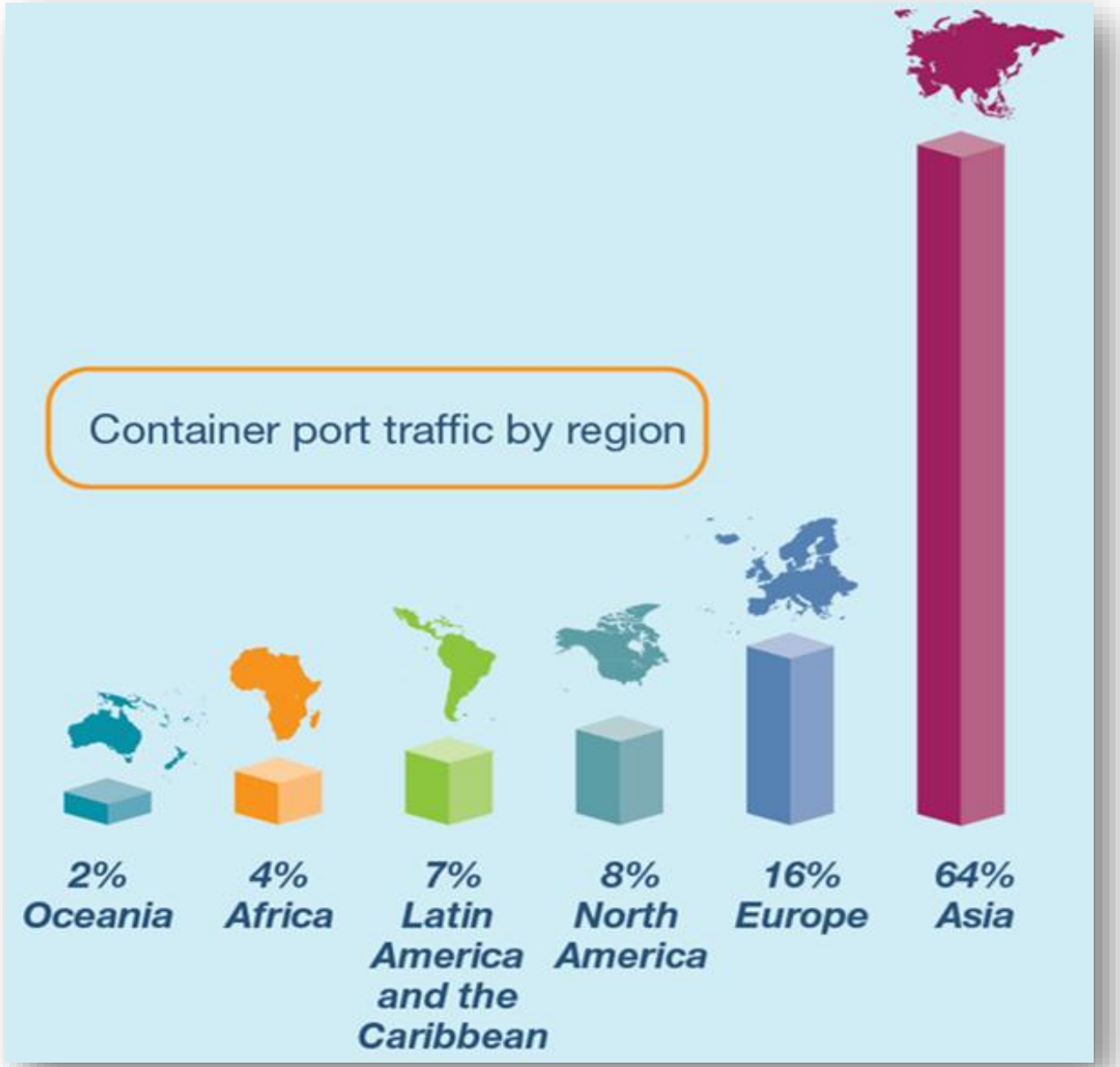
Tonnage sold for demolition 2014-2018

(Source: UNCTAD Review of Maritime Transport 2019)

Shipping and Ports

World Ports 2019





(Source: UNCTAD Review of Maritime Transport 2019)

Top 21 global terminal operators, throughputs and capacity, 2018

(million 20 TEU)

Ranking 2018 (throughput)	Company	Headquarters	Million TEUs	Percentage share	Growth/ decline (million TEUs)	Growth/ decline 2017–2018	Million TEUs	Growth/ decline 2017–2018 (percentage)
1	COSCO	China	105.8	13.5	14.5	15.9	130.0	17.8
2	Hutchison Ports	Hong Kong, China	82.6	10.5	0.2	0.3	112.0	1.6
3	PSA International	Singapore	80.1	10.2	6.2	8.4	112.6	7.9
4	APM Terminals	Netherlands	78.6	10.0	2.3	3.1	99.7	-2.0
5	DP World	United Arab Emirates	70.0	8.9	1.3	1.9	89.7	3.2
6	Terminal Investment Limited	Switzerland	47.7	6.1	3.7	8.4	62.4	8.7
7	China Merchants Ports	China	34.5	4.4	3.5	11.4	42.9	5.2
8	CMA CGM	France	25.6	3.3	0.9	3.5	38.4	1.6
9	Eurogate	Germany	13.7	1.7	-0.1	-1.1	22.6	-7.0
10	SSA Marine	United States	12.6	1.6	1.3	11.4	20.2	2.5
11	NYK Lines (Nippon Yusen Kabushiki Kaisha)	Japan	10.6	1.4	-0.4	-3.4	23.8	34.6
12	Evergreen	Taiwan Province of China	10.4	1.3	0.1	0.9	17.2	3.6
13	International Container Terminal Services	Philippines	9.7	1.2	0.6	6.4	17.9	13.7
14	Hyundai	Republic of Korea	7.6	1.0	1.4	23.1	12.3	10.8
15	HHLA (Hamburger Hafen und Logistik)	Germany	7.4	1.0			10.3	8.4
16	MOL (Mitsui Osaka Shosen Kaisha Lines)	Japan	7.3	0.9	0.2	3.4	10.0	4.8
17	Yildirim/Yilport	Turkey	6.4	0.8	0.3	4.4	10.1	-0.2
18	Bollore	France	5.3	0.7	0.5	11.5	9.4	6.2
19	Yang Ming	Taiwan Province of China	4.4	0.6	-0.3	-5.5	8.4	-5.9
20	"K" Line (Kawasaki Kisen Kaisha)	Japan	3.3	0.4	-0.2	-5.3	5.7	44.1
21	SAAM Puertos (Sudamericana Agencia Aéreas y Marítimas)	Chile	3.2	0.4	0.1	4.9	5.2	8.4
	Global operators total		**626.6**	**80.0**	**43.70**	**7.50**		

(Source: UNCTAD Review of Maritime Transport 2019)

Shipping and Ports

	2017	2018	Annual percentage change 2017–2018
Africa	30 398 569	30 940 898	1.8
Asia	488 852 650	510 513 120	4.4
Europe	119 359 397	125 888 633	5.5
Latin America and the Caribbean	48 863 196	51 669 025	5.7
North America	58 510 434	61 352 043	4.9
Oceania	12 003 344	12 896 887	7.4
World total	**757 987 590**	**793 260 606**	**4.7**

World container port throughput by region, 2017-2018

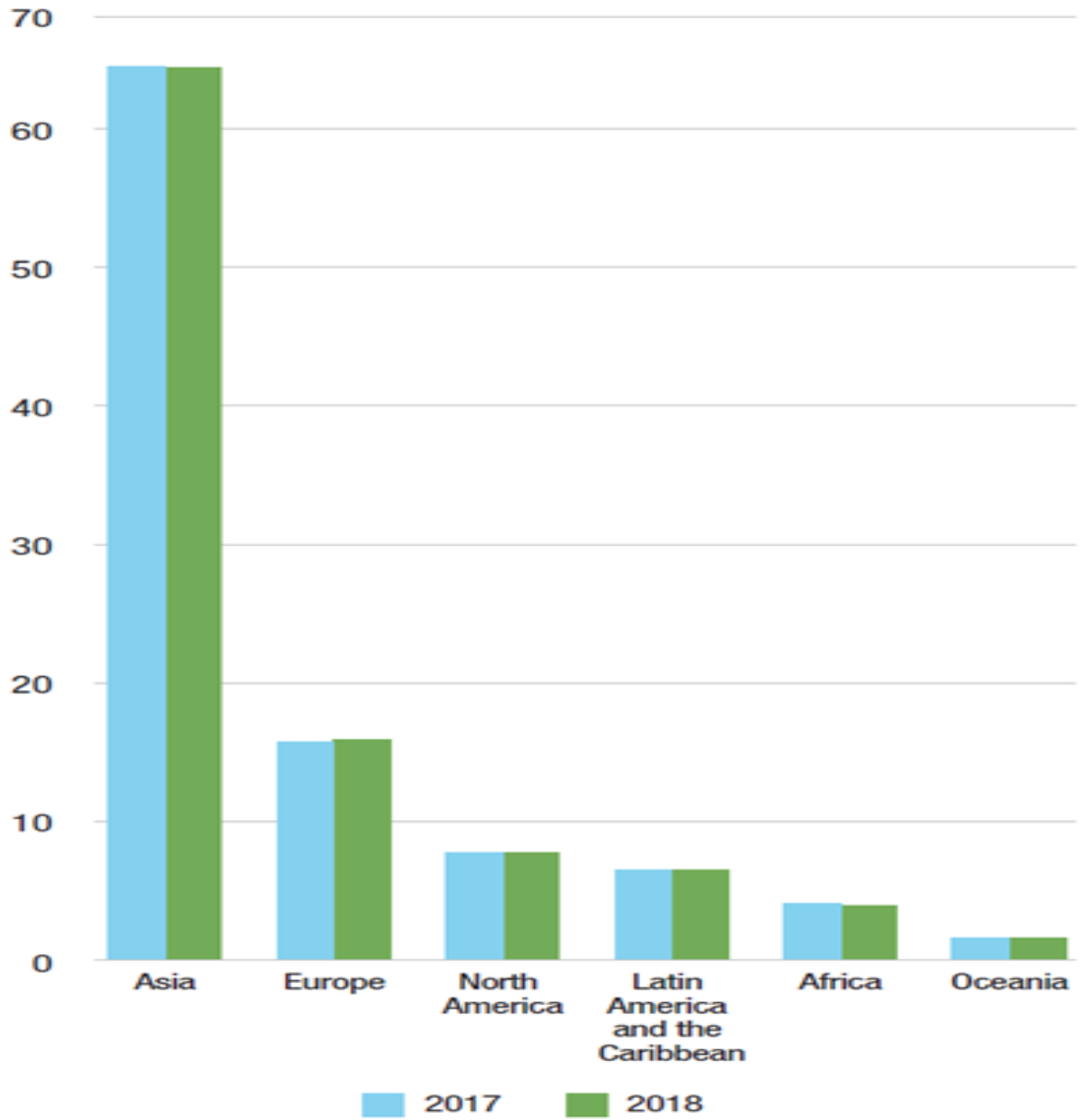
(20 TEU and percentage change)

(Source: UNCTAD Review of Maritime Transport 2019)

Shipping and Ports

World container port throughput by region, 2017-2018

(percentage share in total 20 TEU)



(Source: UNCTAD Review of Maritime Transport 2019)

Shipping and Ports

How are ports measured in performance?

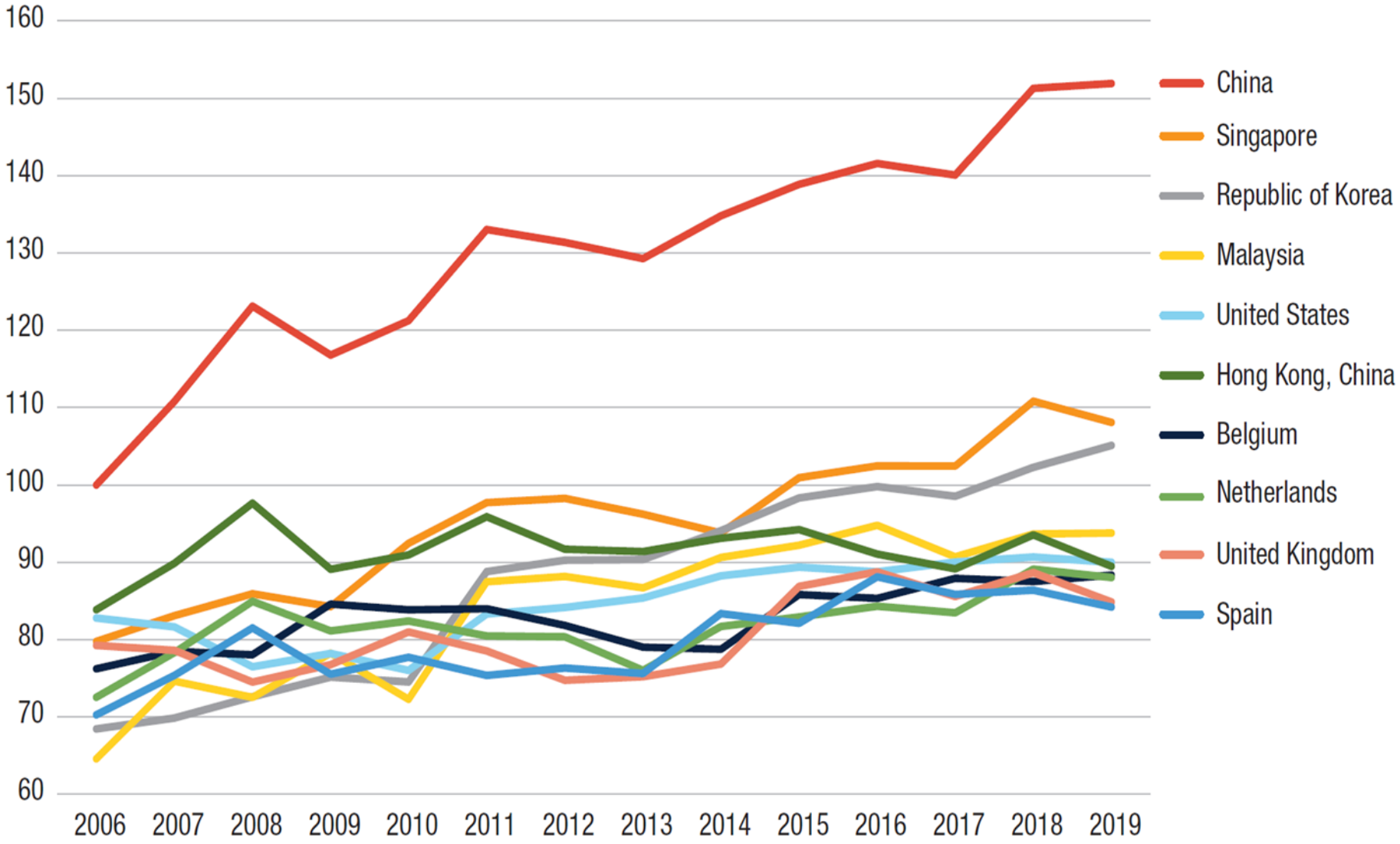
- Connectivity
- Port times
- Environment

(Source: UNCTAD Review of Maritime Transport 2019)

Shipping and Ports

Liner shipping connectivity index, top 10

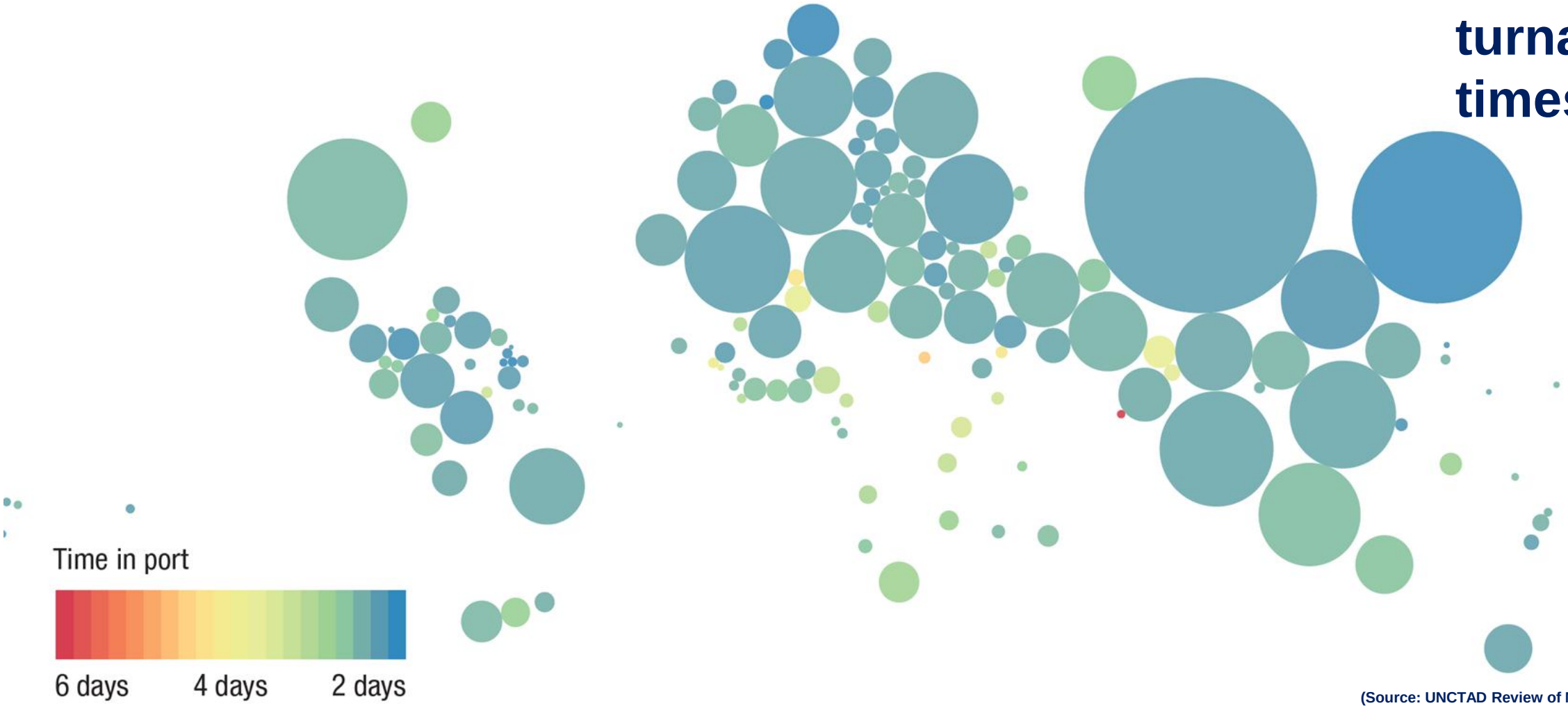
2006-2019



(Source: UNCTAD Review of Maritime Transport 2019)

Shipping and Ports

Figure 3.4 Container ship port calls and time in port, all countries, 2019



Port turnaround times

(Source: UNCTAD Review of Maritime Transport 2019)

Shipping and Ports

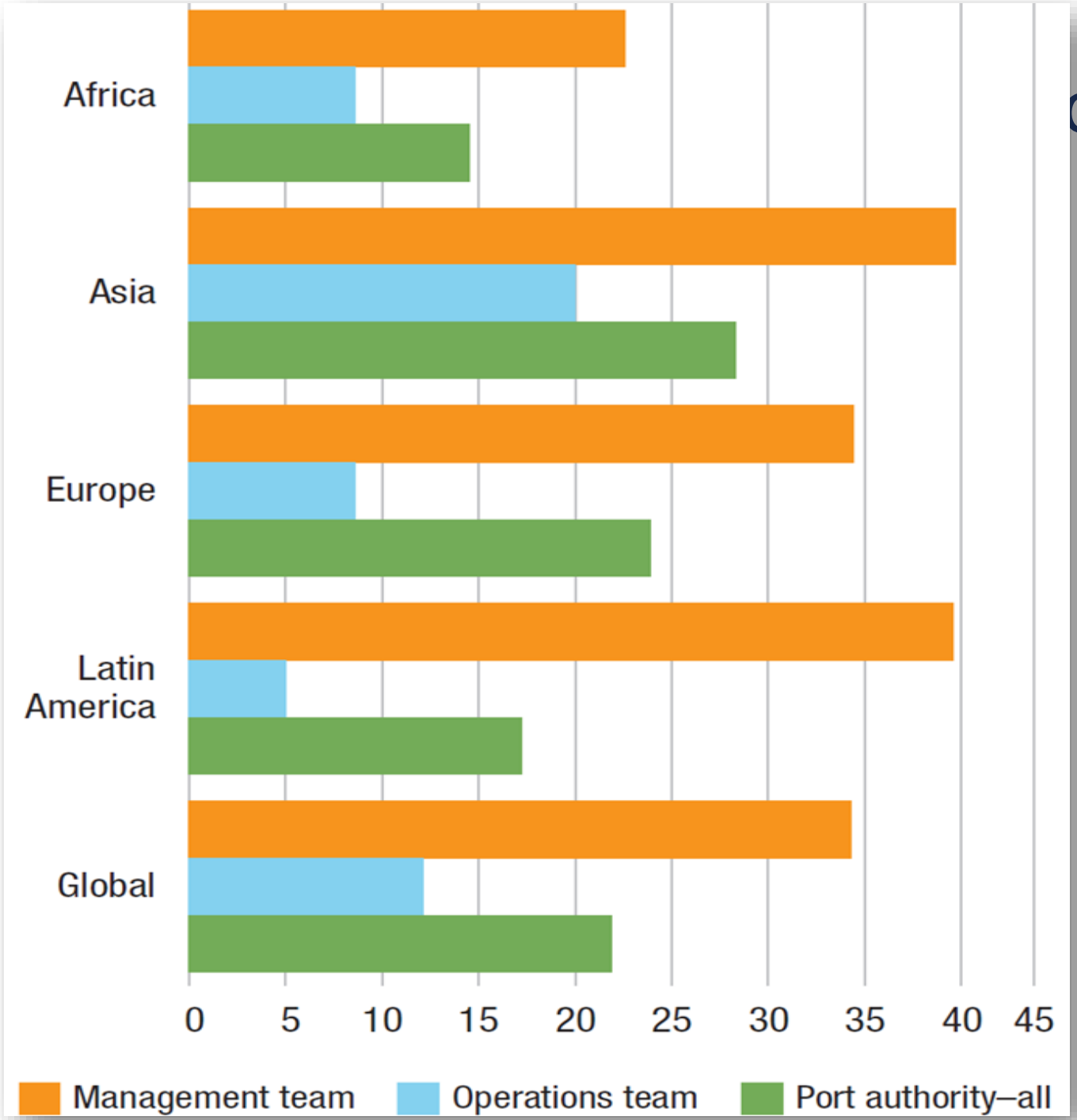
Environmental indicators

Table 3.6 Selected environmental indicators by vessel type, 2019

Vessel type	Percentage of vessels fitted with ballast water treatment systems	Percentage of vessels fitted with scrubbers	Percentage of vessels compliant with tier III regulations to reduce nitrogen-oxide emissions
Bulk carriers	23.32	4.03	0.05
Chemical tankers	10.72	1.15	0.86
Container ships	18.88	5.05	0.19
Ferries and passenger ships	1.36	2.13	0.57
General cargo ships	2.16	0.65	0.21
Liquefied natural gas carriers	28.76	1.45	1.45
Offshore supply vessels	2.37	0.03	0.96
Oil tankers	11.99	3.71	0.46
Other/not available	2.82	0.30	0.19
Total	**7.66**	**1.58**	**0.53**

(Source: UNCTAD Review of Maritime Transport 2019)

orts



Women's participation in port workforce

2014-2018

(Source: UNCTAD Review of Maritime Transport 2019)

orts

	Throughput 2018	Annual percentage change 2017–2018
Shanghai	42 010 000	4.4
Singapore	36 600 000	8.7
Ningbo-Zhoushan	26 350 000	6.9
Shenzhen	25 740 000	2.1
Guangzhou	21 920 000	7.6
Busan	21 660 000	5.5
Hong Kong, China	19 600 000	-5.6
Qingdao	19 320 000	5.5
Tianjin	16 000 000	6.2
Dubai	14 950 000	-2.9
Rotterdam	14 510 000	5.7
Klang	12 030 000	0.4
Antwerp	11 100 000	6.2
Xiamen	10 700 000	3.1
Kaohsiung	10 450 000	1.8
Dalian	9 770 000	0.6
Los Angeles	9 460 000	1.3
Tanjung Pelepas	8 790 000	6.4
Hamburg	8 780 000	-0.2
Long Beach	8 070 000	3.7

Leading 20 global container Ports 2018

(20TEU, annual percentage change)

(Source: UNCTAD Review of Maritime Transport 2019)

Shipping and Ports

Top 10 container ports, 2018

Shanghai

Singapore

Ningbo-Zhoushan

Shenzhen

Guangzhou

Busan

(Source: UNCTAD Review of Maritime Transport 2019)

Shipping and Ports

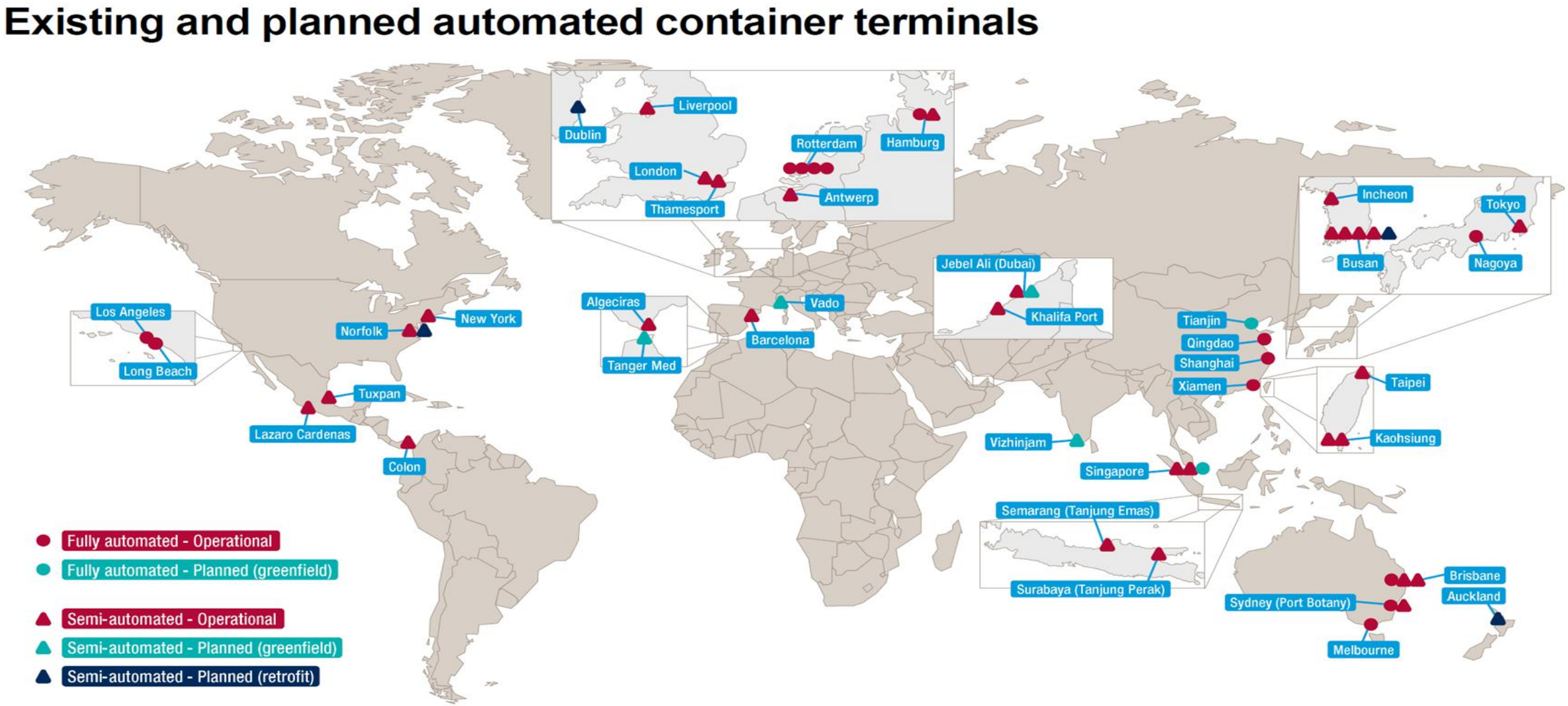
Top 10 container Ports 2018

Hong Kong | Qingdao | Tianjin

Dubai

(Source: UNCTAD Review of Maritime Transport 2019)

Shipping and Ports



(Source: Drewry, 2018)

Shipping and Ports

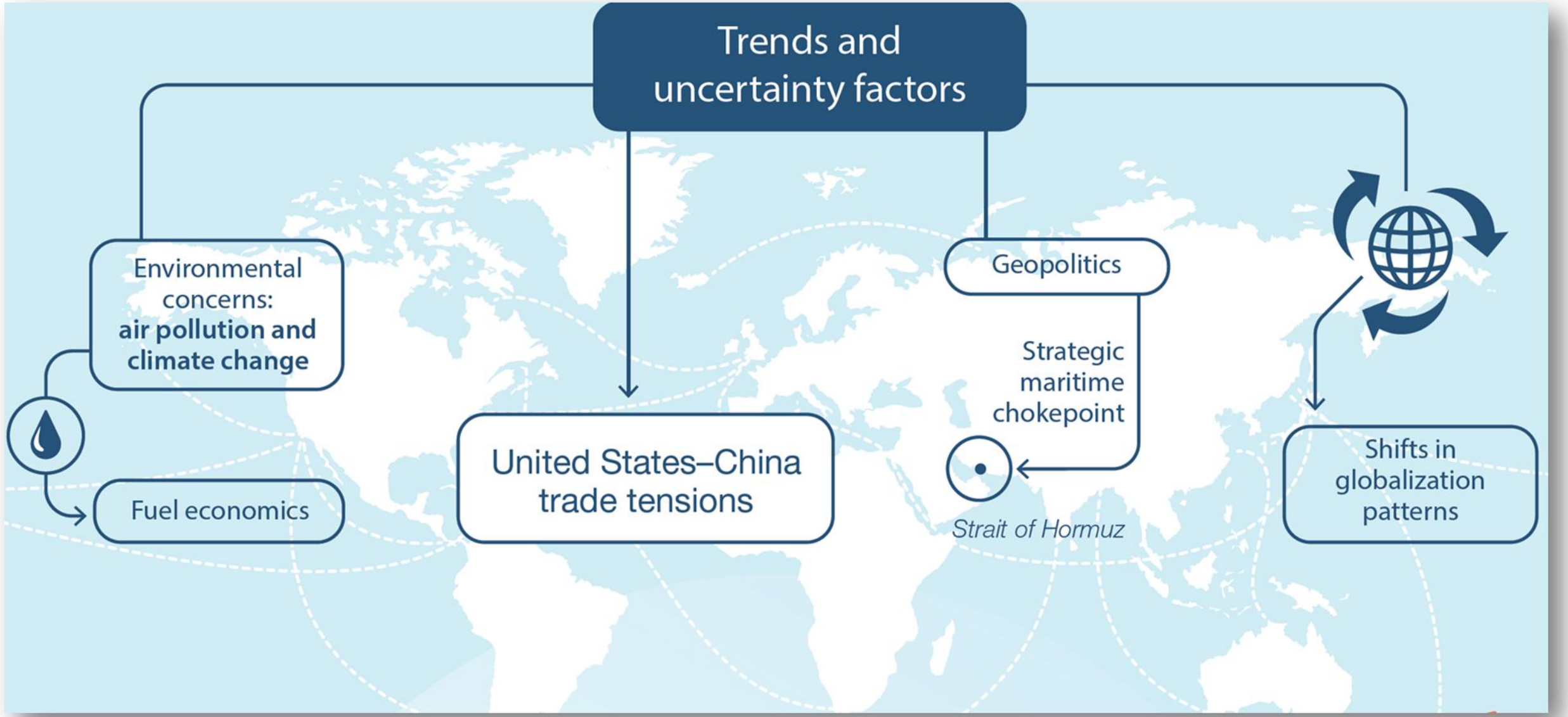
World Ports 2018

Automation trends in ports

Port	Terminal	Operational level of automation [a]
Brisbane, Australia	Container terminals, Fisherman Island Container Terminal	Semi
	Fisherman Island berths 8–10	Fully
Melbourne, Australia	Victoria International Container Terminal	Fully
Sydney, Australia	Sydney International Container Terminals	Semi
	Brotherson Dock North	Fully
Antwerp, Belgium	Gateway	Semi
Qingdao, China	New Qianwan	Fully
Shanghai, China	Yangshan, phase 4	Fully (trial vessels handled end-2017)
Tianjin, China	Dong Jiang	Not confirmed; in development
Xiamen, China	Ocean Gate Container Terminal [b]	Fully (phase 1 operational; phases 2 and 3 in development)
Hamburg, Germany	Altenwerder Container Terminal	Fully
	Burchardkai	Semi

(Source: UNCTAD Review of Maritime Transport 2018)

Shipping and Ports



(Source: UNCTAD Review of Maritime Transport 2019)

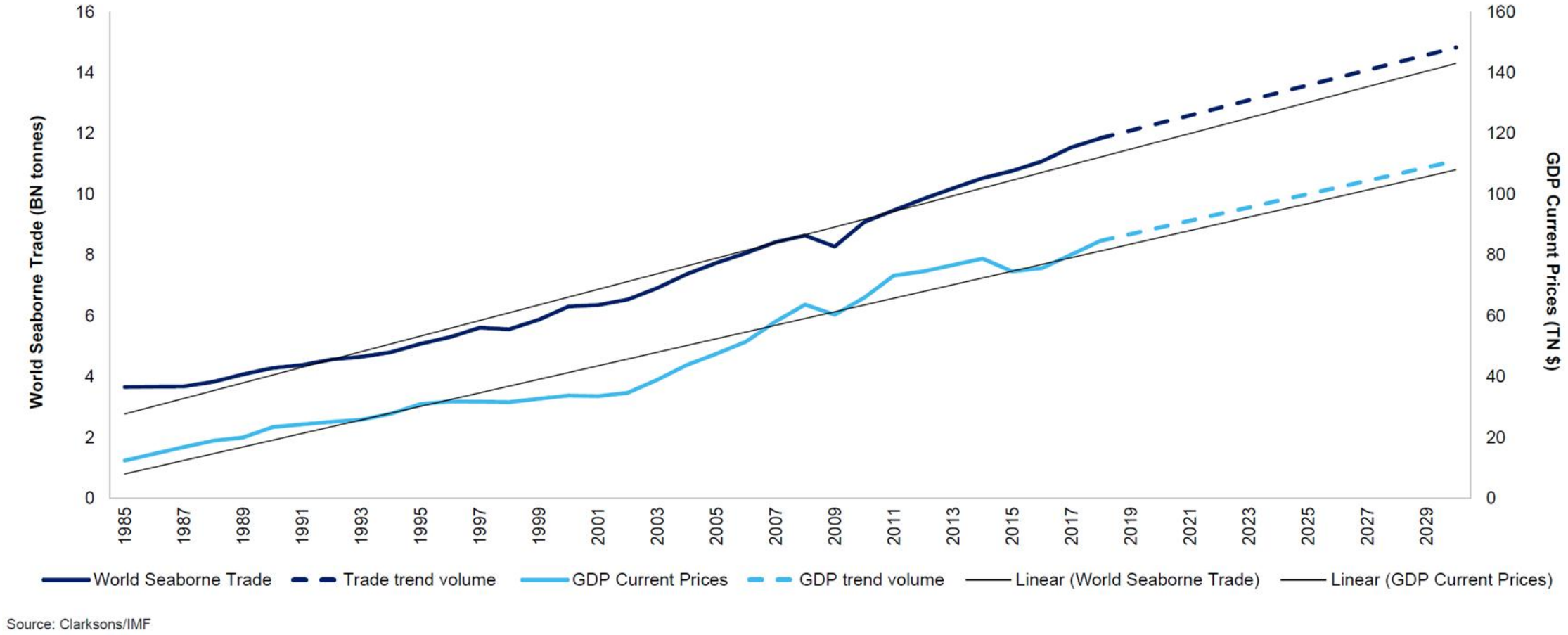
Shipping and Ports

Maritime trade outlook, 2019-2024

(Source: UNCTAD Review of Maritime Transport 2019)

Shipping and Ports

World Seaborn Trade vs. GDP



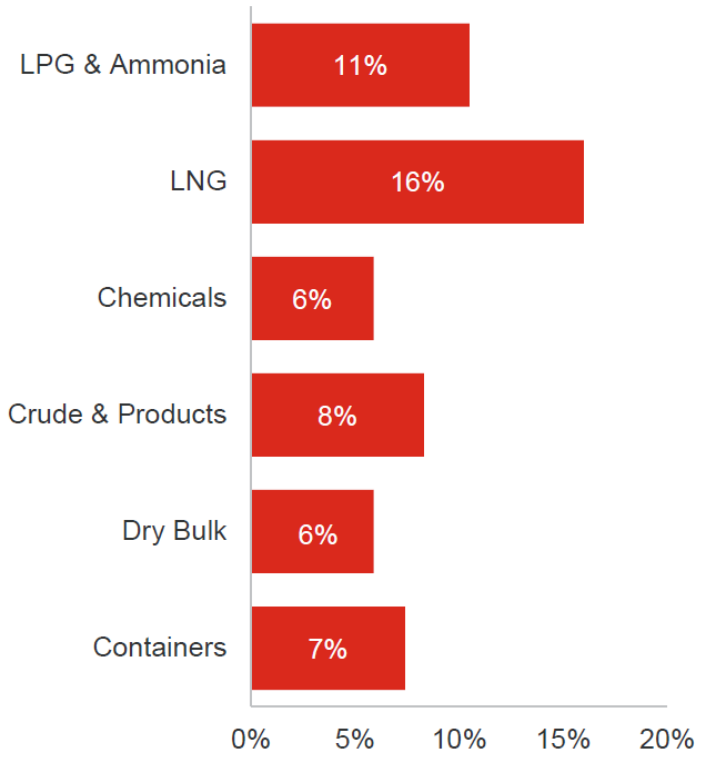
Source: Clarksons/IMF

(Source: Clarksons/IMF, 2019 Interim Result)

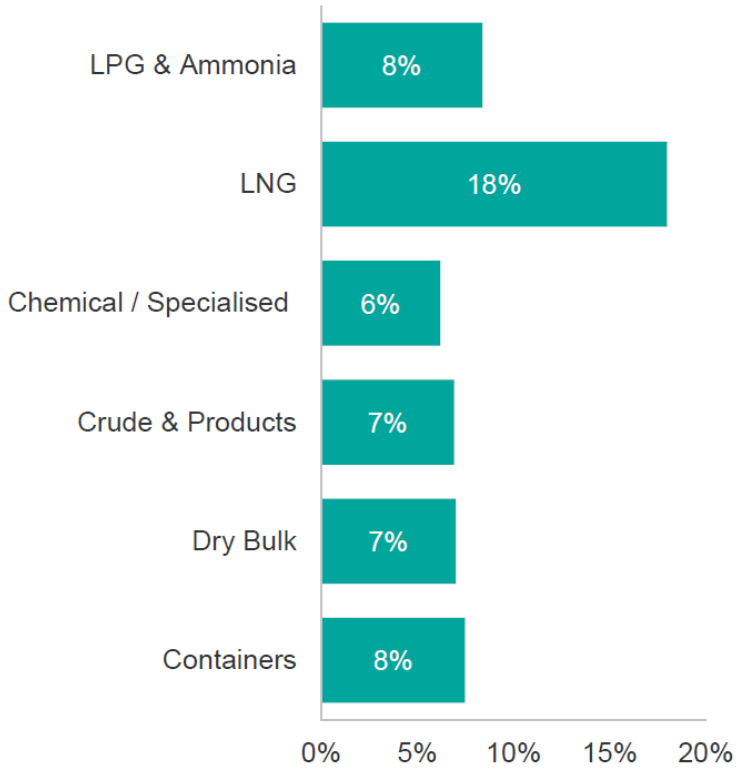
Shipping and Ports

Sector fundamentals outlook comparison

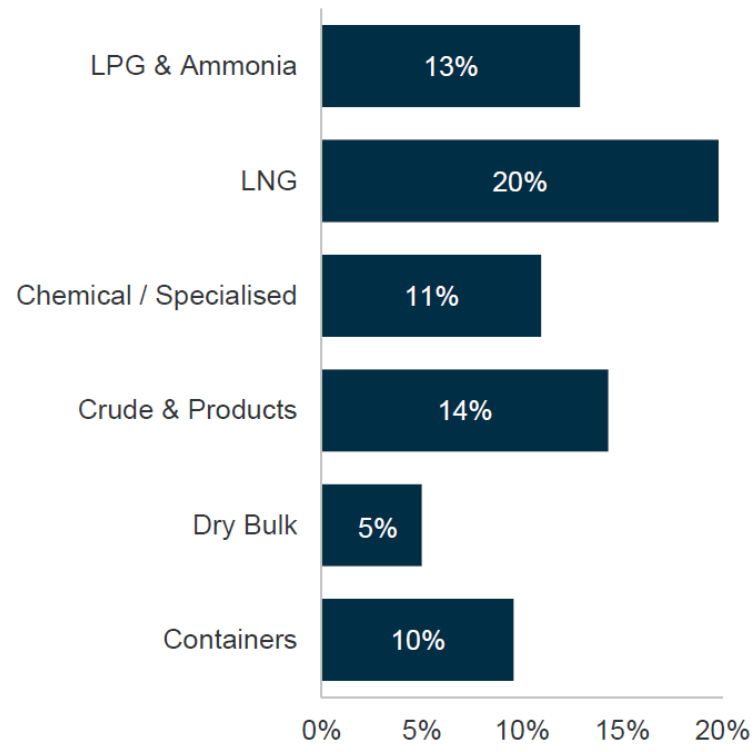
Fleet Growth
(% Chg 2016–2018)



Fleet Growth
(% Chg 2018–2020)



Demand Growth
(BN Tonne-Miles*, % Chg 2018–2020)



(Source: Clarksons, 2019 Interim Result)

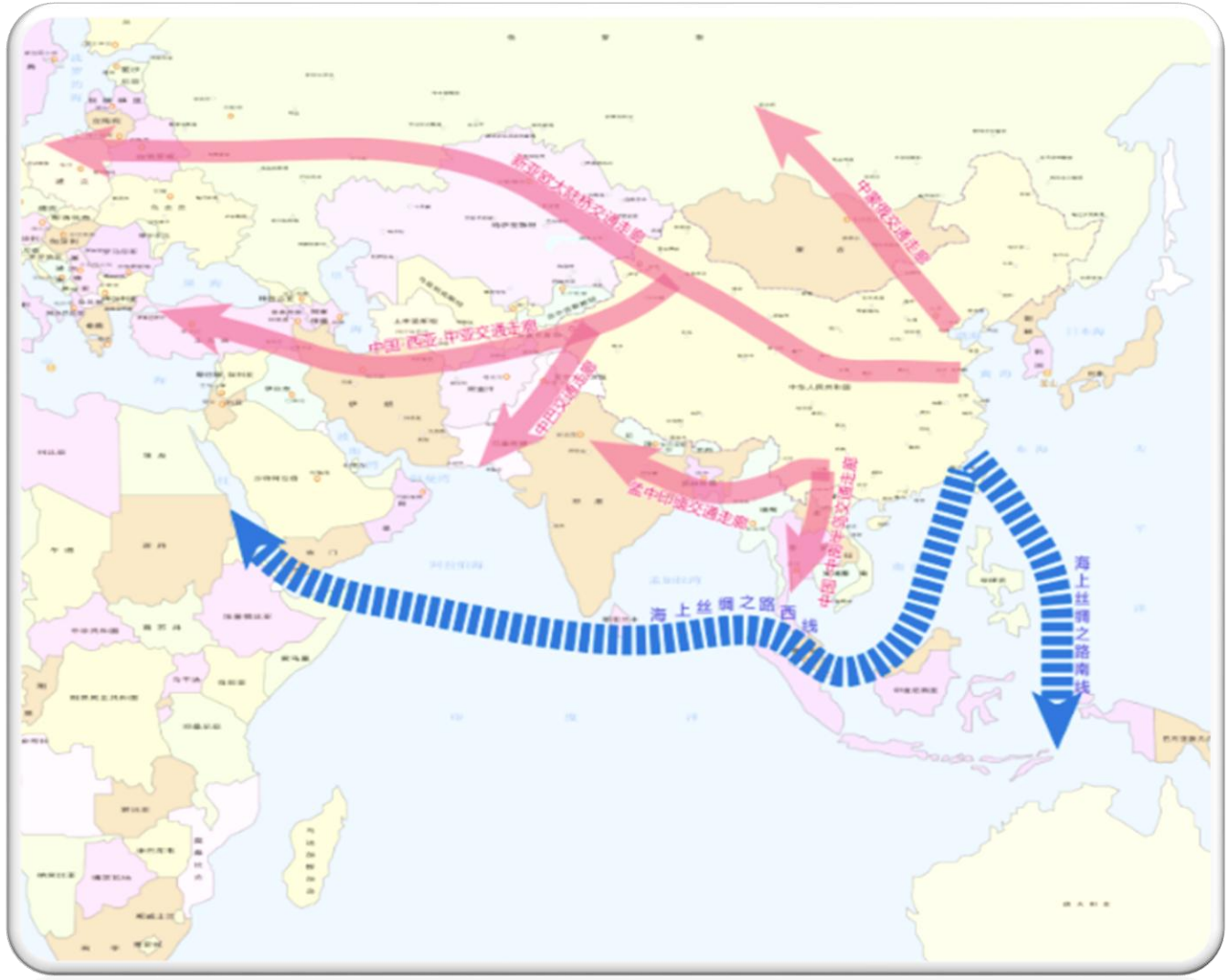
Shipping and Connectivity

- Shipping and Ports
- Connectivity under BRI
- China and Southeast Asia

Connectivity under BRI

Connectivity under BRI

- 6 corridors
  - China–Mog. & Russia
  - Asia-Europe
  - China-C. West Asia
  - China-South Asia
  - China-Pakistan
  - China-P. India, Myamar
- 1 road:
  - 21st century maritime silk road

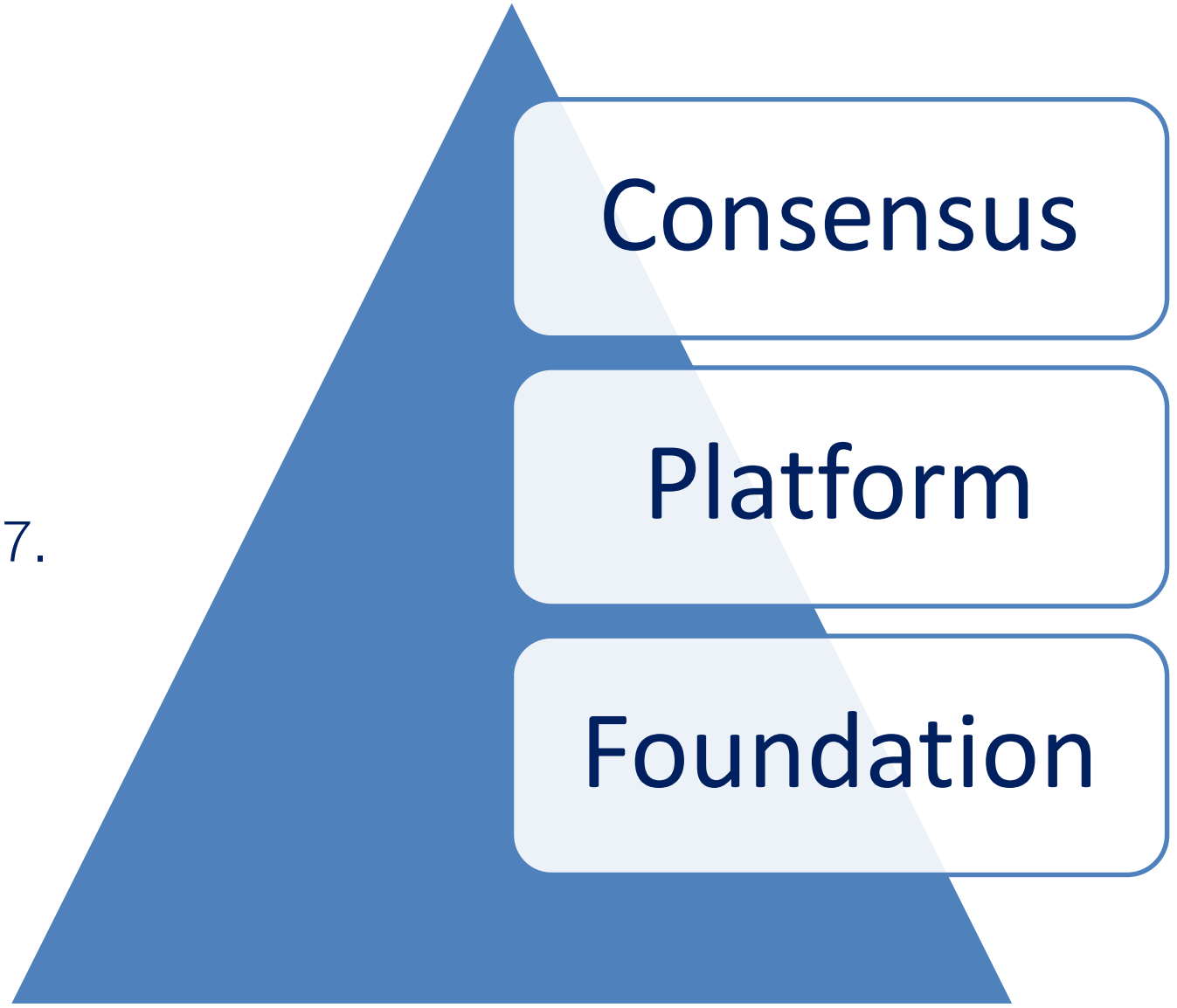


(Source: China media)

Connectivity under BRI

Transport connectivity

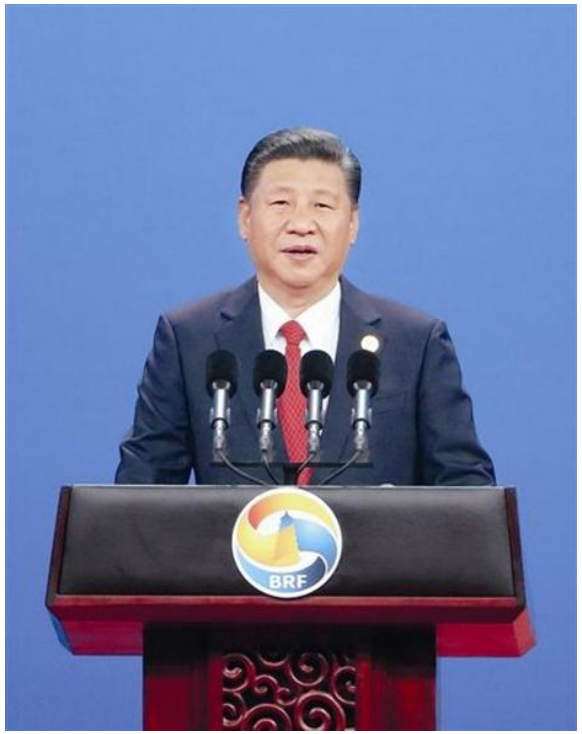
- BRI agreements on transport cooperation are signed with 15 countries and 2 international organizations, at BR Forum 2017.



(Source: China MOT)

Connectivity under BRI

2nd BR Forum for International Cooperation, April 2019

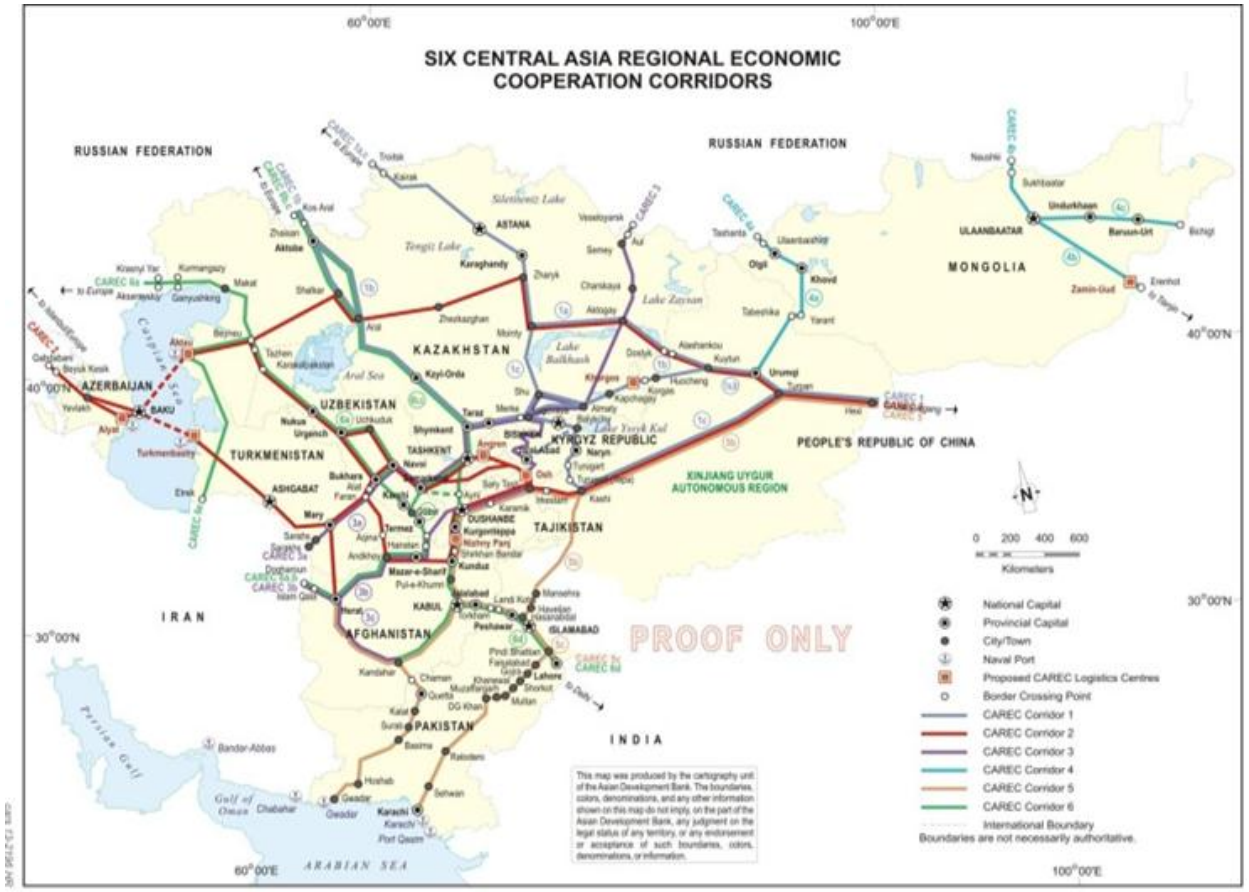


- BRI aims to enhance connectivity and **practical high-quality** cooperation;
- China concluded 195 cooperation agreements with 136 countries and 30 international organizations;
- six-corridors and six roads connect ports and countries worldwide.

(Source: China Media)

Connectivity under BRI

Greater Mekong Sub-Region corridor



China Central Asia rail corridor

(Source: China MOT)

Connectivity under BRI

- Rail: China – Lao, China-Thailand railway construction

- Road: China-Pakistan corridor construction, 18 agreements on facilitation are signed, connecting 356 roads with neighbouring countries

(Source: China MOT)

Connectivity under BRI

- Shipping: 40 agreements are signed with 47 countries of BRI, involved with 42 port constructions in 34 countries.

- Civil Air: direct flights with 43 countries, agreements signed with 62 countries, 4500 flights every week.

(Source: China MOT)

Connectivity under BRI

INFRASTRUCTURE CONNECTIVITY

Substantial Progress in Symbolic Projects

Major Projects

- Promote substantial progress in a number of symbolic projects under the framework of "six corridors, six ways, several countries, and several ports".

Railway

The construction of China-Laos Railway, China-Thailand Railway, Jakarta-Bandung High-speed Railway, Hungary-Serbia Railway and other railways has been advanced steadily.

Port

The construction of Gwadar Port, Hambantota Port, Port of Piraeus, Khalifa Port and other ports have progressed smoothly

Aviation

The construction of the Air Silk Road has been sped up, and China has concluded bilateral intergovernmental air transport agreements with 126 countries and regions.

Energy

The cooperation in energy and resources communication facilities has been intensified, China-Russia Crude Oil Pipeline and China-Central Asia Gas Pipeline have operated steadily, and China-Myanmar Oil & Gas Pipeline has been fully operated.

Economic Corridors

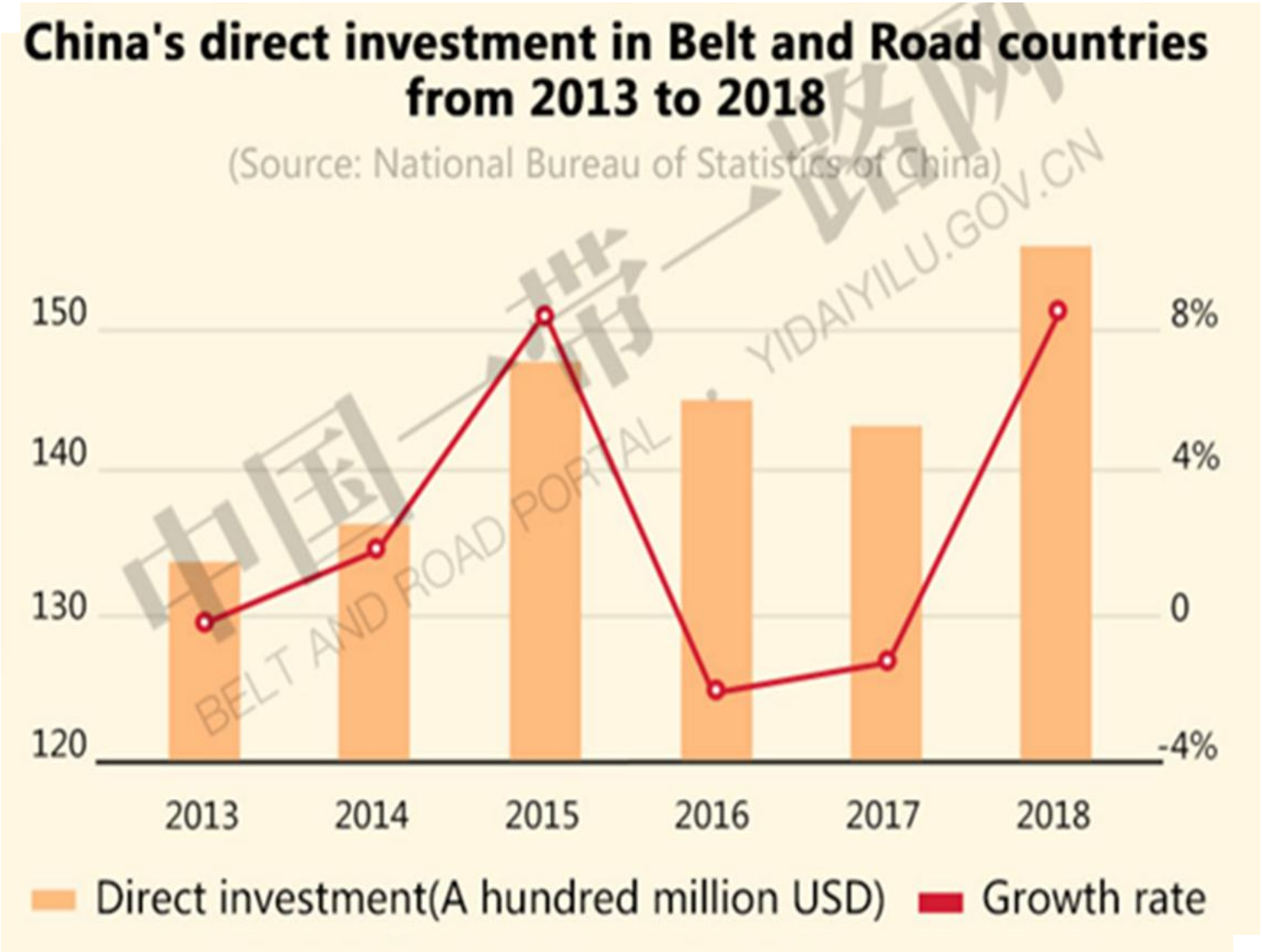
- Major progress has been made in the construction of six economic corridors. Take the China-Pakistan Economic Corridor for example, 19 projects under the framework of the corridor have been started or completed by late 2018, with a total investment of nearly 20 billion U.S. dollars.

7 energy projects have gone into operation with a total installed capacity of 3.4 million kilowatts, which can meet the power need of 8.6 million households.

3 transportation projects have been launched: Phase 2 of Upgrading and Renovation of Karakoram Highway, as well as Karachi-Peshawar Motorway and Lahore's Orange Line have been advanced steadily.

(Source: China BRI Portal)

Connectivity under BRI



(Source: China BRI Portal)

Connectivity under BRI

China-ASEAN align master plan

- China-ASEAN Strategic Partnership Vision 2030, was adopted in 2018;
- Nov. 2019, a joint statement was issued on the Master Plan on ASEAN Connectivity (MPAC) 2025;
- MPAC 2025 focuses on five areas, sustainable infrastructure, digital innovation, seamless logistics, regulatory excellence and people mobility;

(Source: China BRI Portal)

Connectivity under BRI

China ASEAN align master plan

- MPAC 2025 focuses on specifically:

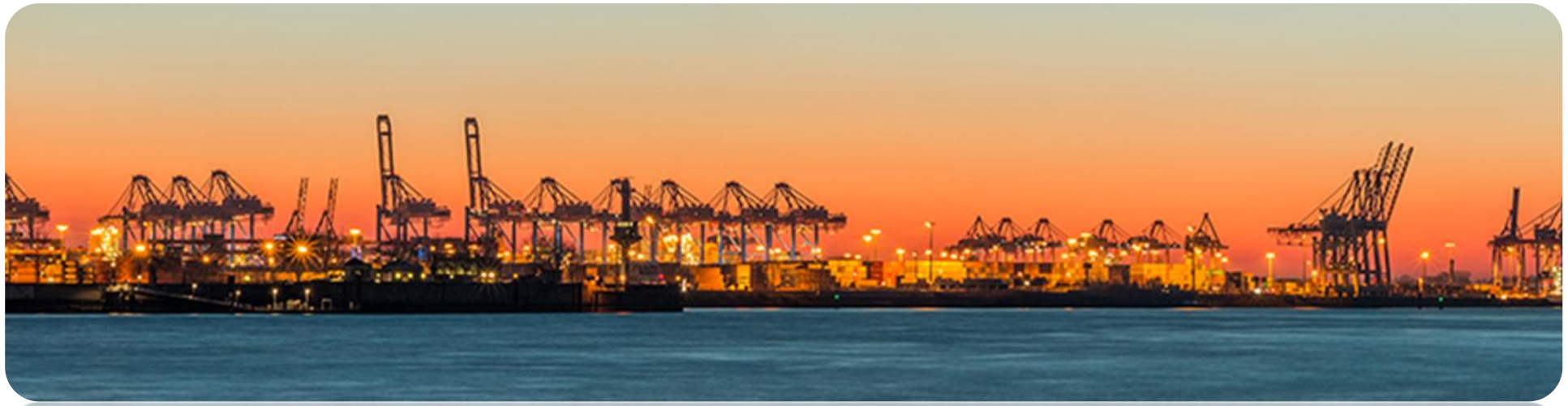
- facilitating **infrastructure** development;

- building **smart cities** in digital era.

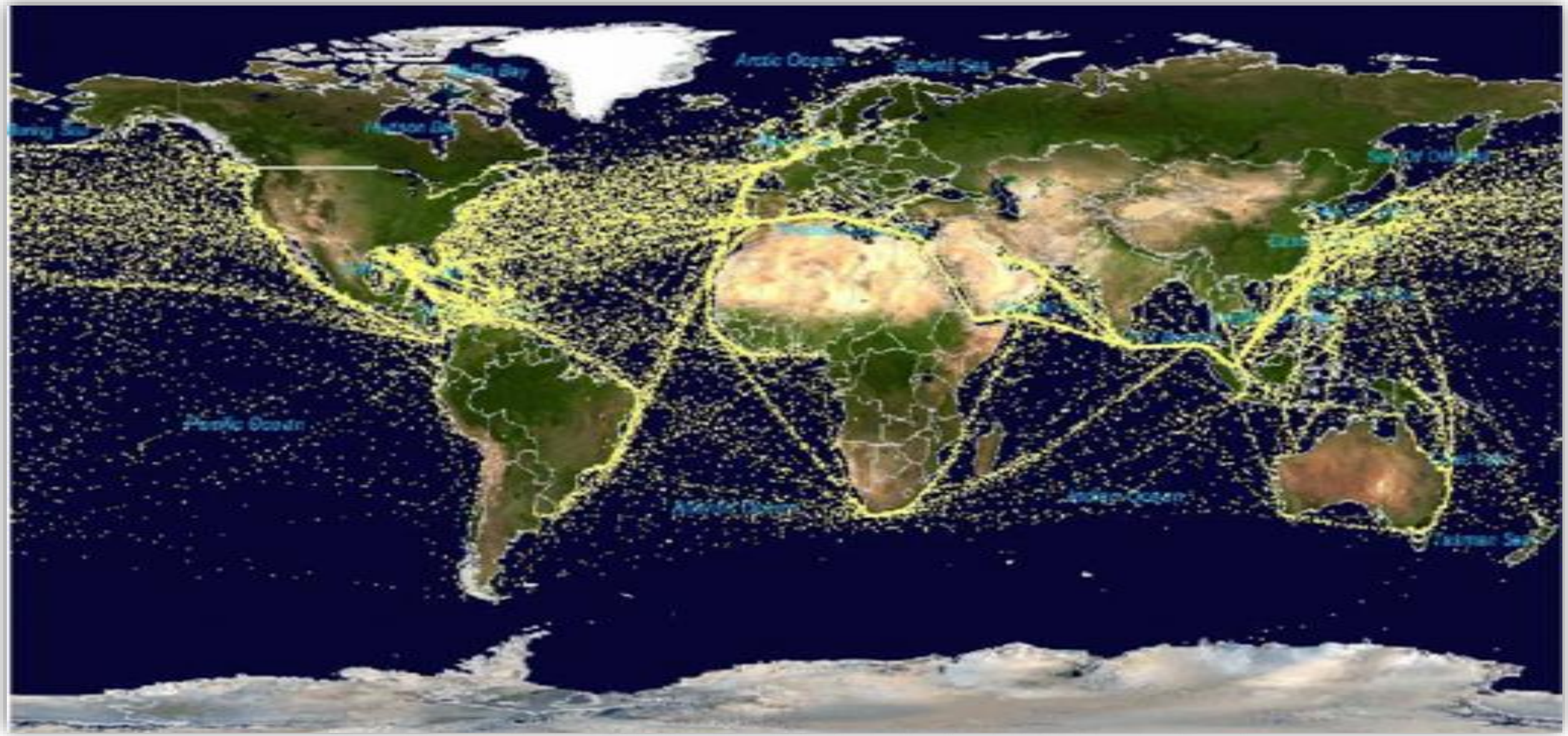
(Source: China BRI Portal)

Connectivity under BRI

- Maritime connectivity under BRI ?



Connectivity under BRI

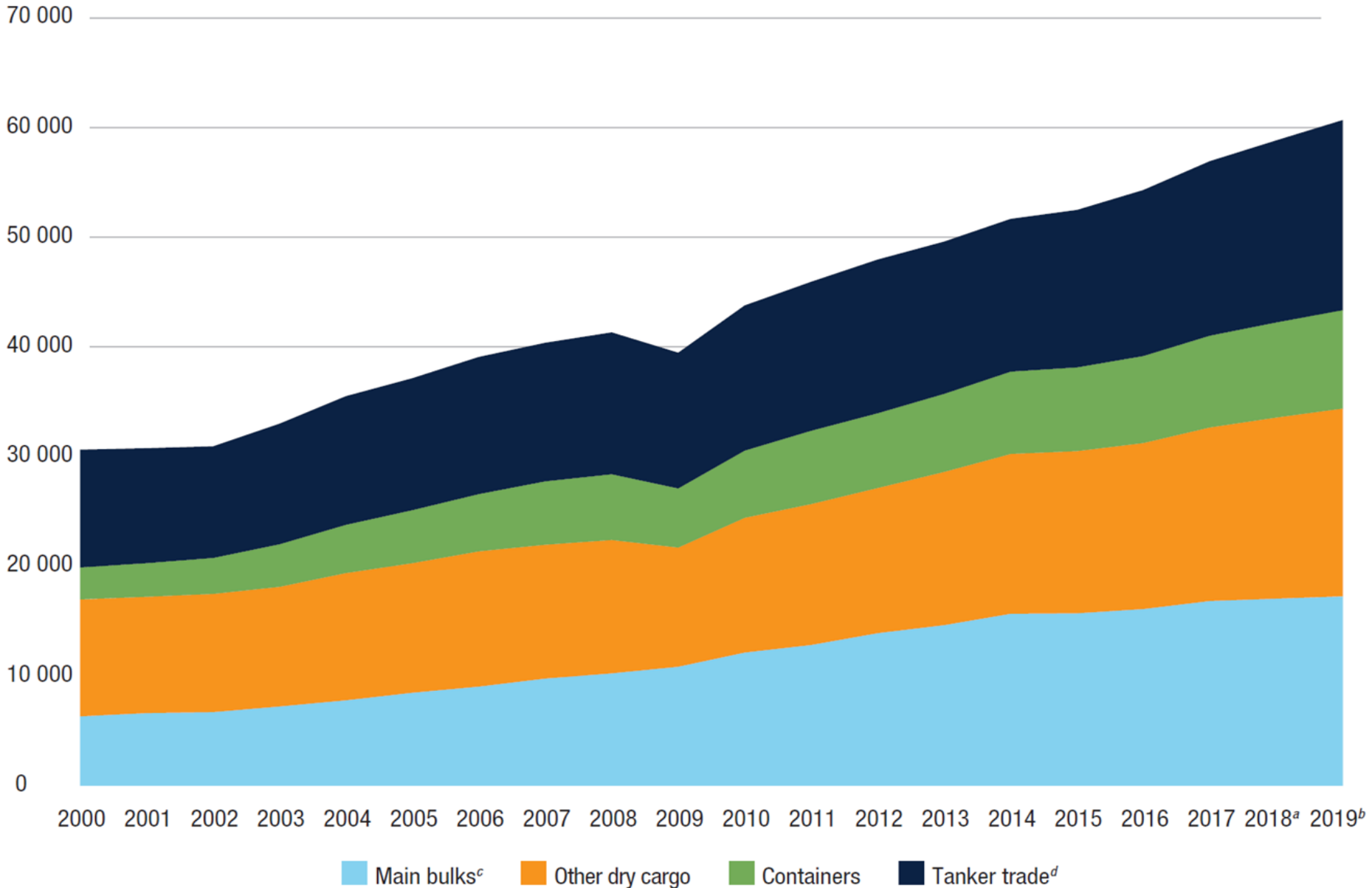


(Source: IMO Homepage)

Connectivity under BRI

International maritime trade 2000-2019

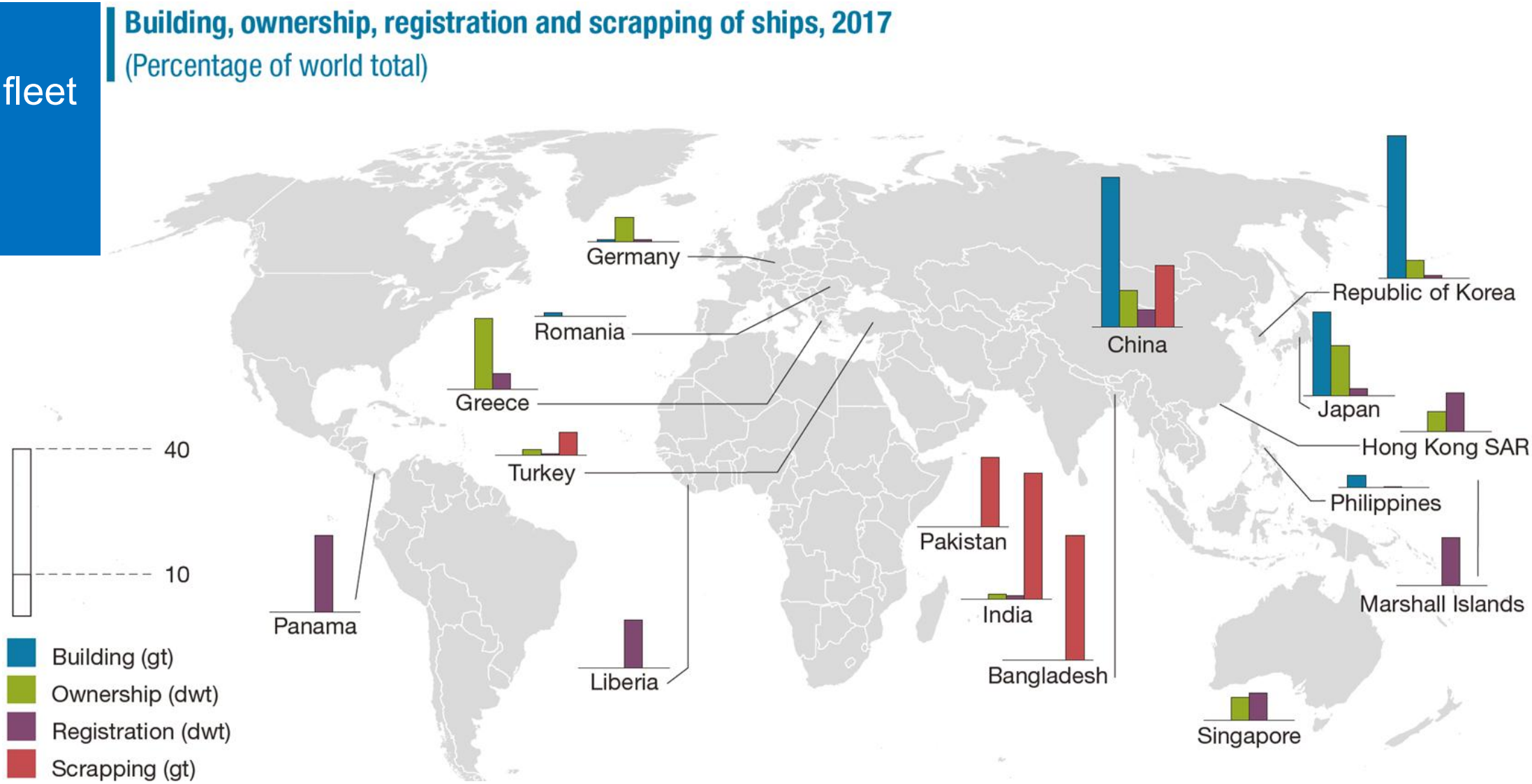
in cargo ton-miles,
(B tons miles)



(Source: UNCTAD Review of Maritime Transport 2019)

Connectivity under BRI

Merchant fleet 2017



(Source: UNCTAD Statistics, 2018)

Connectivity under BRI

Half century container ship growth

(Source: Safety and Shipping Review 2019, Allianz)

Connectivity under BRI

Global Top 10 Ports

	Asia
Top 10	10

Asia	
China	7
Republic of Korea	1
Singapore	1
UAE	1

Connectivity under BRI

Vision for Maritime Cooperation under BRI

Principles

- Consensus
- Open and inclusive
- Market-based and multi-stakeholder
- Joint and benefit sharing

Connectivity under BRI

Vision for Maritime Cooperation under BRI

Cooperation Priorities

1 Green development

- marine ecosystem and biodiversity
- regional marine environment
- addressing climate change
- international blue carbon cooperation

Connectivity under BRI

Vision for Maritime Cooperation under BRI

Cooperation Priorities

2 Ocean-based prosperity

- Marine resource utilization
- Marine industry cooperation
- Maritime connectivity
- Maritime transport
- Connectivity of information infrastructure & networks

Connectivity under BRI

Vision for Maritime Cooperation under BRI

Cooperation Priorities

3 Maritime security

- Maritime public service
- Maritime navigation security
- Joint maritime SAR
- Prevent marine disasters
- Maritime law enforcement

Connectivity under BRI

Vision for Maritime Cooperation under BRI

Cooperation Priorities

4 Innovative growth

- Marine scientific R & D
- Marine technology cooperation
- Smart ocean application
- Marine education and exchange
- Ocean culture

Connectivity under BRI

Vision for Maritime Cooperation under BRI

Cooperation Priorities

5 Collaborative governance

- Hi-level dialogue mechanisms
- Mechanisms for blue economy
- Marine spatial planning & application
- Multilateral mechanisms
- Think tanks

Connectivity under BRI

COSCO SHIPPING 中国远洋海运集团有限公司
CHINA COSCO SHIPPING CORPORATION LIMITED

(Source: China COSCO Shipping, Nov. 2018)

Connectivity under BRI

COSCO SHIPPING 中国远洋海运集团有限公司
CHINA COSCO SHIPPING CORPORATION LIMITED

(Source: China COSCO Shipping, Nov. 2019)

Connectivity under BRI

COSCO Shipping has offices all over the world.

(Source: China COSCO Shipping, Nov. 2019)

Connectivity under BRI

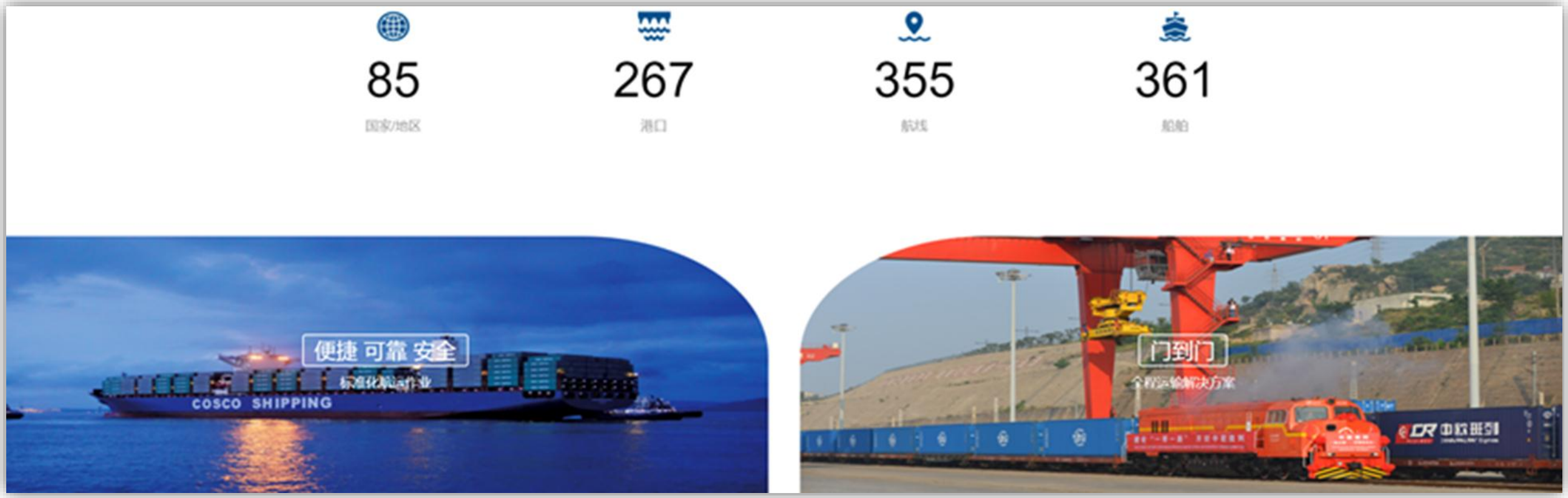
Facts of COSCO Shipping

- Owns fleet capacity of **105.44** million dwt
- Operates **1,307** vessels (including: 503 container ships, 431 bulk carriers, 199 tankers, 159 general cargo ships)
- Shipping routes over **160** countries
- Connecting **1,500** ports
- 1050 offices in **70** countries
- Employing 20,000 overseas staff

(Source: China COSCO Shipping, Nov. 2019)

Connectivity under BRI

COSCO Shipping owns container fleet totaling **3.09 M TEU, 503** container ships, connecting 85 countries, covering 267 ports, with 355 global routes.



(Source: China COSCO Shipping, Nov. 2019)

Connectivity under BRI

COSCO Shipping

For BRI connectivity, COSCO Shipping：

- 260 container ships are deployed alone BRI countries
- Covering **194** shipping routes
- Invests and operates **56** terminals.

(Source: China COSCO Shipping, Nov. 2018)

Connectivity under BRI

NE Asia to Australia

SE Asia to Australia

(Source: China COSCO Shipping, Nov. 2019)

Connectivity under BRI

Shipping Routes	No
China--Southeast ASIA	56
China--West ASIA	16
China--South ASIA	7
China--East & Central Europe	14
China--Northwestern Europe	10
China--Oceania	14

(Source: China COSCO Shipping, Nov. 2019)

Connectivity under BRI

招商局能源运输股份有限公司
CHINA MERCHANTS ENERGY SHIPPING CO.,LTD

(Source: China Merchants Energy Shipping, Nov. 2019)

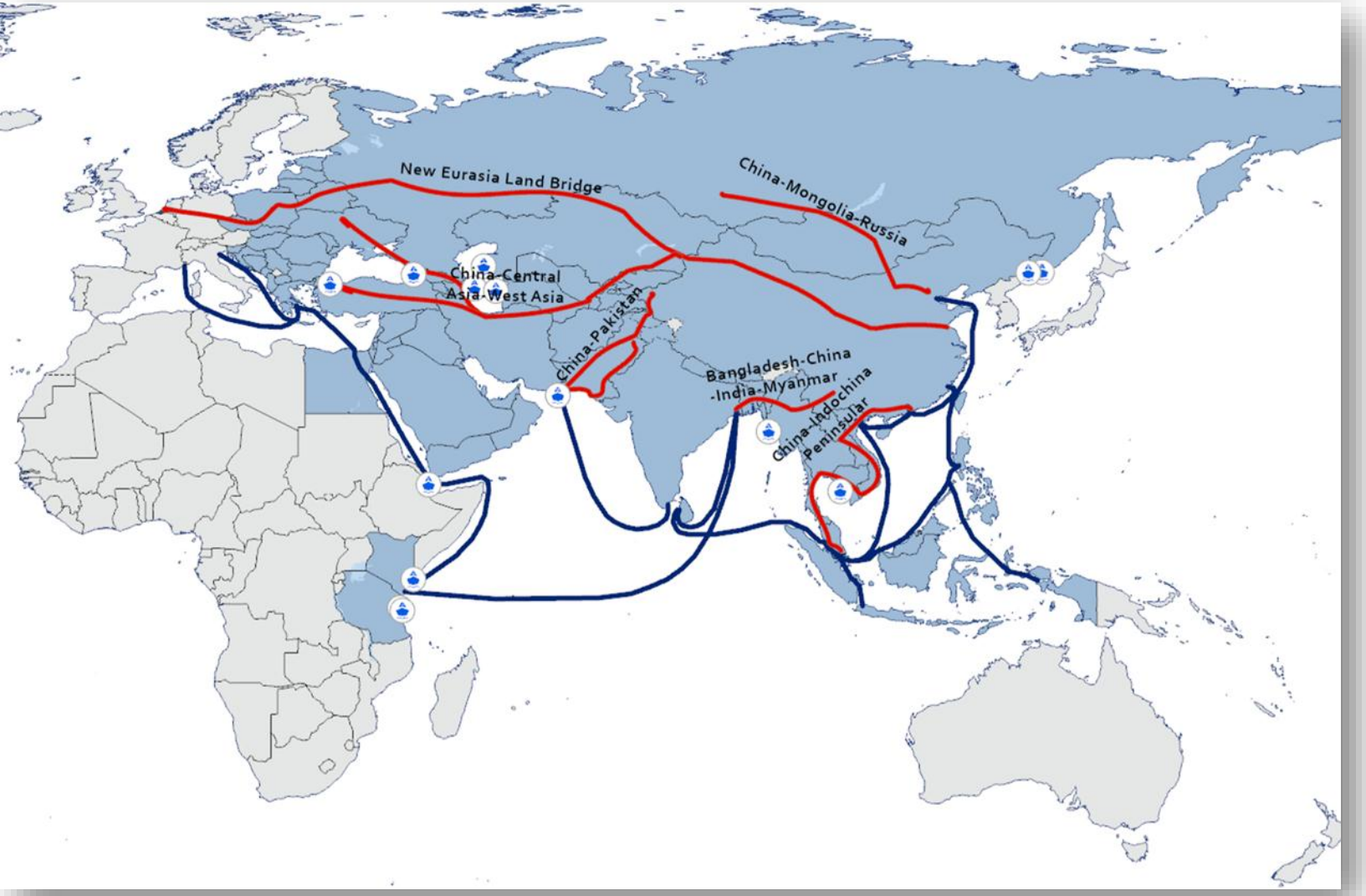
Connectivity under BRI

Facts of China Merchants Energy Shipping

- Owns fleet capacity of **45.43** million dwt
- Operates **376** vessels (tankers, bulk carriers, LNG carriers)
- Shipping routes are world-wide.

(Source: China Merchants Energy Shipping, Nov. 2019)

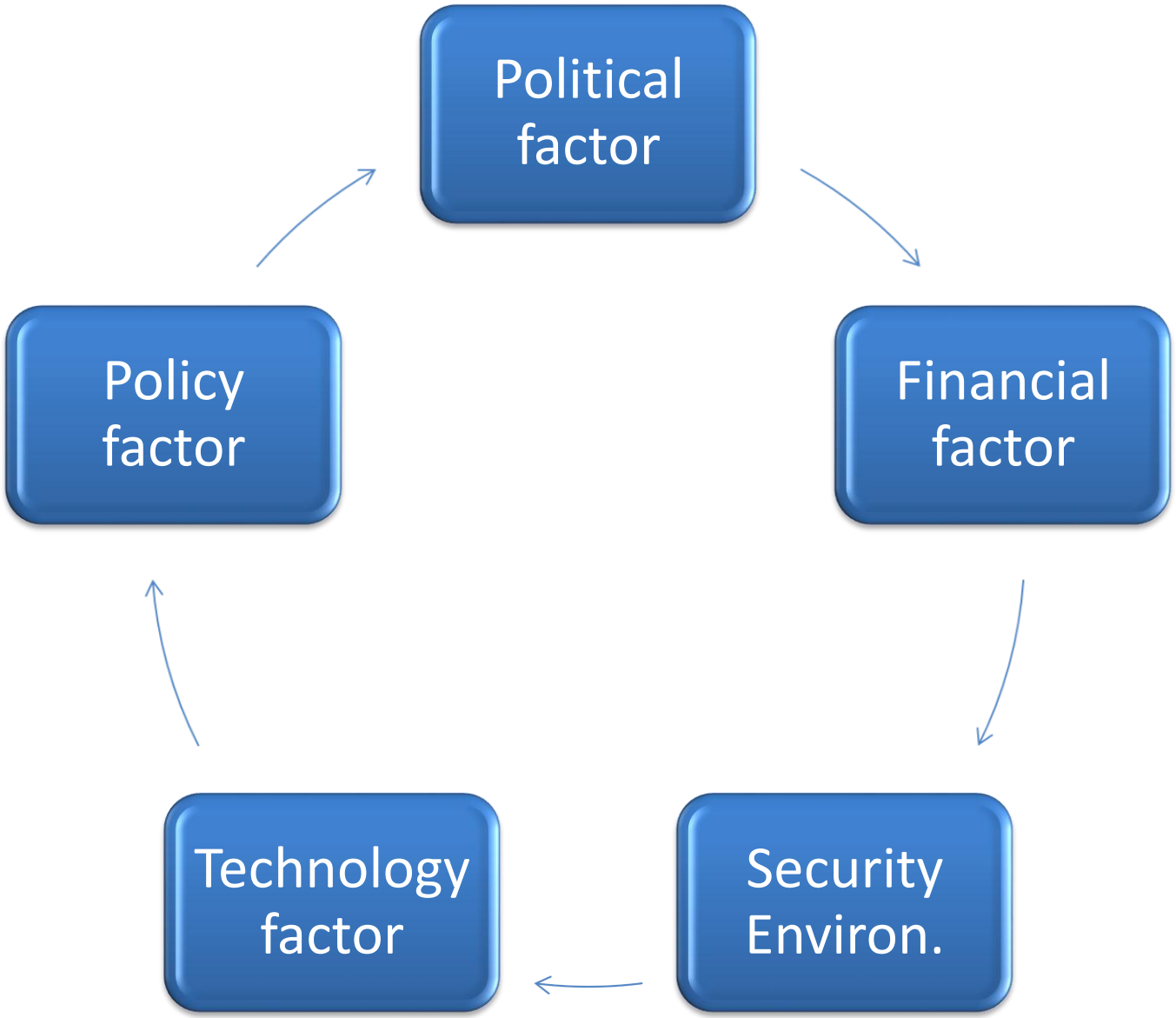
Connectivity under BRI



Maritime Silk Road builds smooth, secure and efficient transport routes connecting major sea ports under BRI.

Connectivity under BRI

What are the main factors that may affect the connectivity ?



Connectivity under BRI

Economic Factors:

- Overall GDP level
- Reliance in foreign trade
- Fund gap in Asian infrastructure construction
- Foreign Direct Investment

Connectivity under BRI

Technological Factors:

- Shipping industry
- Challenges from terminal automation
- Main obstacles

Connectivity under BRI

Information sharing

- Information fence
- Traditional trade barrier

Connectivity under BRI

Maritime & Port Security

- SOLAS
- ISPS Code
- Training

Connectivity under BRI

Maritime Cyber Security

- Shipping and ports are highly automated, operations rely on computerised information and communication technologies, which may be vulnerable to maritime cyber hacker attacks.
- Maritime cyber risk management.

Connectivity under BRI

Marine Pollution Prevention

Air pollution

- Multi-lateral Vs Unilateral in GHG
- Air pollution
- SOx and NOx

Significant potential challenges and risks need to be considered:

- Political risks - geopolitics and territorial dispute;
- Economic risk - big changes in market conditions;
- Operation risk - uncertainty in project profitability.

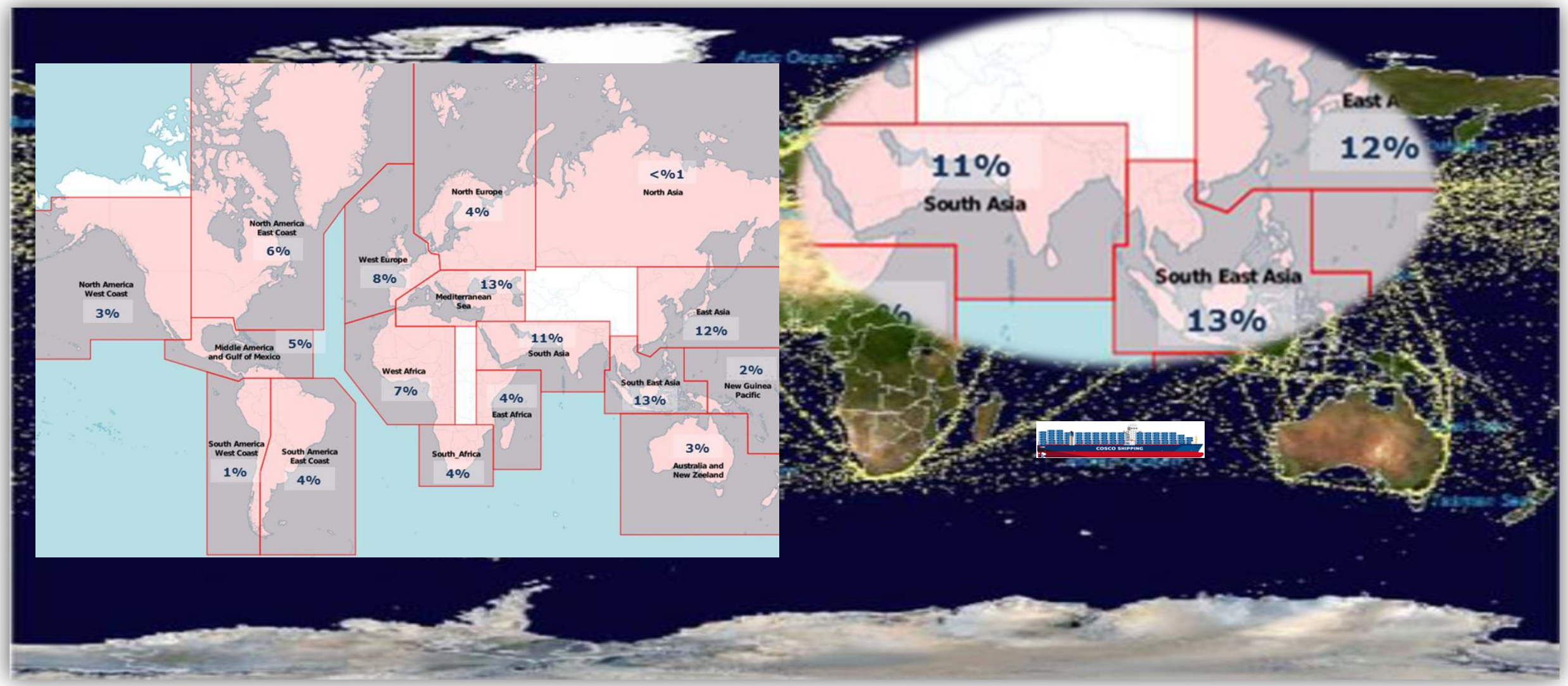
What should be considered to manage risks

- Manage fiscal risks;
- Enhance transparency on terms and conditions of BRI projects;
- Control governance risks;
- Reduce environmental and social risks;

Shipping and Connectivity

- Shipping and Ports
- Connectivity under BRI
- China and Southeast Asia

China and Southeast Asia



(Source: IMO home, Equasis 2018)

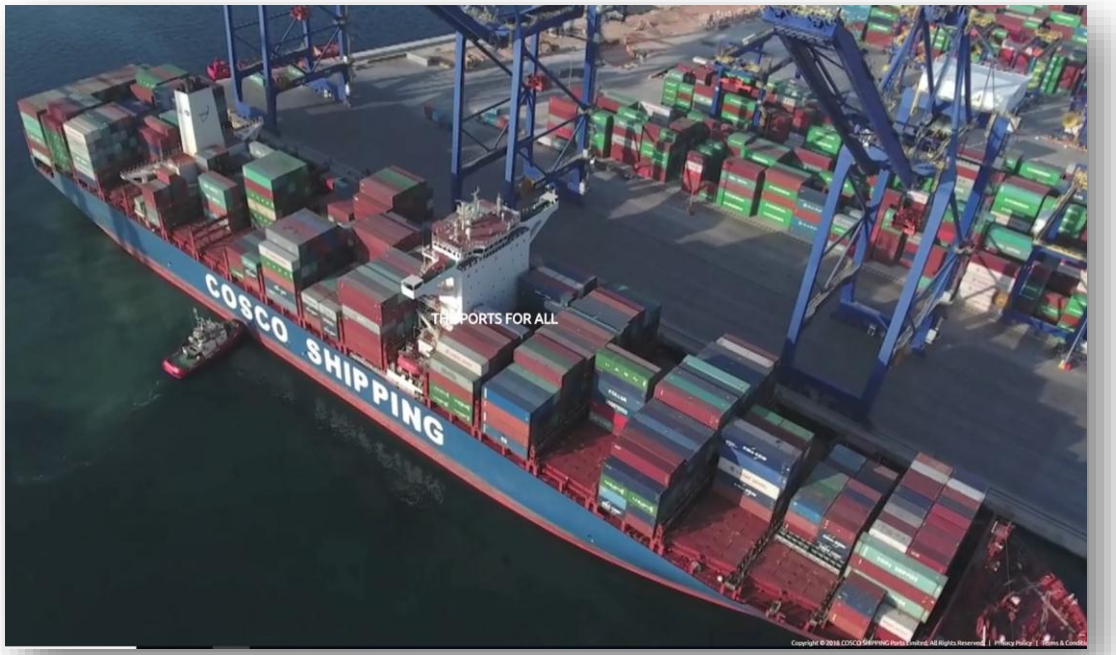
China and Southeast Asia

What are the status quos of shipping and ports in China?

China and Southeast Asia

中国远洋海运集团有限公司
CHINA COSCO SHIPPING CORPORATION LIMITED

	Total No.	Total dwt	Rank
Total Fleet	1 307	105.4 m	1
Container	503	3.09 M TEUs	3
Bulk	431	40.94 m	
Tanker/LNG	199	25.32 m	
General	159	4.27 m	1
Terminals	56		



(Source: COSCO Shipping, Nov. 2019)

China and Southeast Asia

招商局能源运输股份有限公司
CHINA MERCHANTS ENERGY SHIPPING CO.,LTD

	Total No.	Total dwt
Total Fleet	376	45.43 m
Tanker	54	
Bulk carrier	52	
LNG carriers	12	
Terminals	53	20 countries

(**Source: China Merchants Energy Shipping, Nov. 2019**)

China and Southeast Asia

China – SE Asia Shipping Connectivity

- Qinhuangdao – the Philippines
- Rizhao – Ho Chi Minh – Bangkok
- China-Singapore (Chongqing-Guangxi-Singapore)

China and Southeast Asia

China – ASEAN Port Cities Co-op Network

- 24 port cities, port & shipping enterprises join the network,
- China – Singapore,
- China – Malaysia,
- China – Thailand,
- China – Brunei,

China and Southeast Asia

China and Singapore Conclude Negotiations on Upgrading Free Trade Agreement

5 Nov. 2018, Vice Minister and Deputy China International Trade Representative Fu Ziying met with Singaporean Minister of Trade and Industry Chan Chun Sing and jointly announced the conclusion of negotiations on upgrading the China-Singapore Free Trade Agreement.

(Source: China Gov. Home, 2018)

China and Southeast Asia

18th ASEAN AND CHINA TRANSPORT MINISTERS MEETING

- 14-15 Nov. 2019, 18th ASEAN and China transport ministers meeting was held in Hanoi; Strengthen transport connectivity to promote transport sustainable development;
- Belt and Road Initiative (BRI) to cope with Master Plan on ASEAN Connectivity (MPAC) 2025

(**Source: China MOT, 16 Nov. 2019**)

China and Southeast Asia

18th ASEAN AND CHINA TRANSPORT MINISTERS MEETING

China's Programme of National strength in Transport :

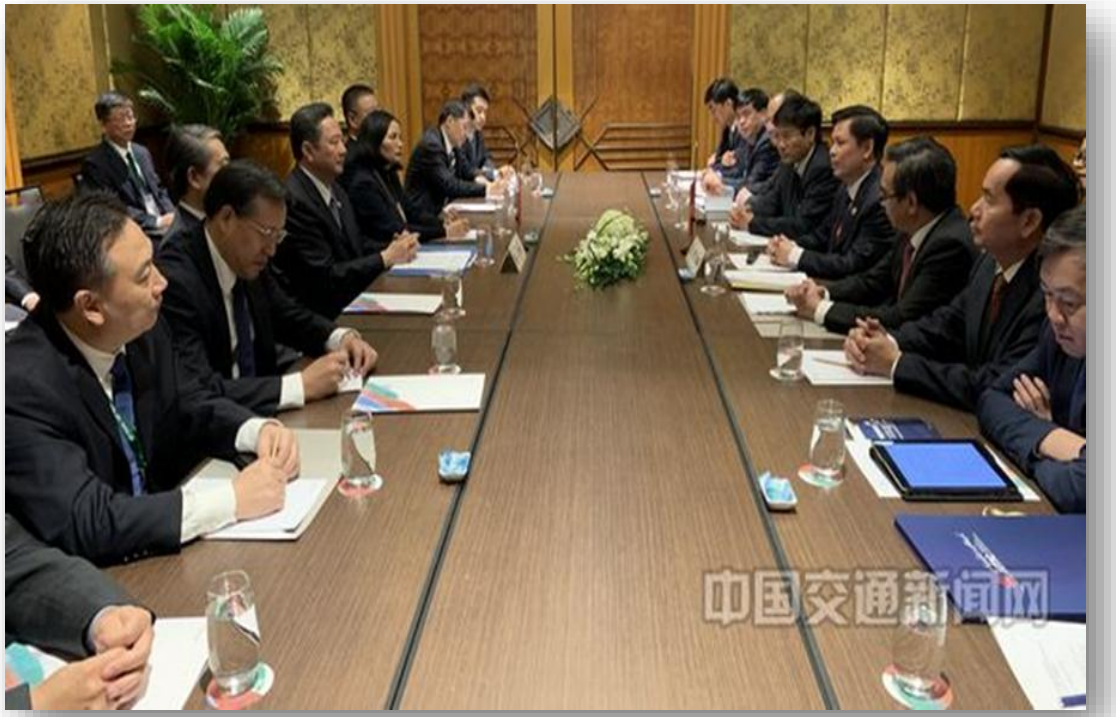
- Strategic and policy dialogue
- Integrated transport network between China and ASEAN
- Transport sustainable development;

(**Source: China MOT, 16 Nov. 2019)**

China and Southeast Asia

18th ASEAN AND CHINA TRANSPORT MINISTERS MEETING

- In May 2020, China is to host the 2nd UN Global Transport Sustainable Congress;
- The theme is Sustainable transport for sustainable development.



(Source: China MOT, 16 Nov. 2019)

China and Southeast Asia

Framework Agreement signed between COSCO and PSA

5 Nov. 2019, PSA CEO Mr. Tan Chong Meng met with COSCO Shipping Chairman Mr. Xu.
Framework Agreement was signed by two sides.

(Source: COSCO Shipping, Nov. 2019)

China and Southeast Asia

Shanghai 2018

- container throughput : 42.01 m TEUs

(**Source: China MOT, Nov. 2019**)

China and Southeast Asia

Ningbo-Zhoushan

2018

- Container throughput 26.35 m TEUs

(**Source: China MOT, Nov. 2019)**

China and Southeast Asia

Shenzhen

2018

- Container throughput 25.74 m TEUs

(**Source: China MOT, Nov. 2019)**

China and Southeast Asia

Qingdao fully automated container terminal

30% more efficient, 70% less labour,

Qingdao 2018

- Container throughput

  19.32 m TEUs

(Source: China MOT, 2019)

China and Southeast Asia

Xiamen 2018

- Container throughput 10.70 m TEUs

Xiamen fully automated terminal operation.

China and Southeast Asia

Automation enters to ports

China and Southeast Asia

For shipping and connectivity

- Confidence building
- Capacity building
- Cooperation

China and Southeast Asia

Capacity building

- workshop for law enforcement officers;
- workshop for SAR coordinators;
- joint SAR exercises;
- master and doctor degree programme;
- …

Shipping and Connectivity

China and Southeast Asian countries need to work together for regional connectivity and sustainability

Thank You

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Mobile + 86 139 420 67312