



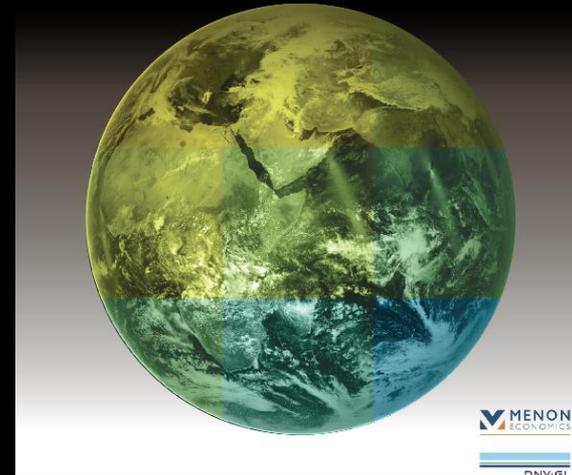
THE LEADING MARITIME NATIONS 2018

INTRODUCTION:

- Menon Economics and DNV GL are proud to present the *“Leading Maritime Nations of the World” 2018*. The ranking digs deep into a broad indicators on maritime capabilities and performance, and the research provides to the maritime stakeholders a holistic perspective of countries that influence the shape of the future international maritime activities globally.

THE LEADING MARITIME NATIONS OF THE WORLD 2018

MENON PUBLICATION NO. 17/2018



HOW THE STUDY WAS CONDUCTED?

The maritime industry is defined as:

- ***All companies that own, operate, design, build, deliver equipment or specialized services to all types of ships and other floating units***

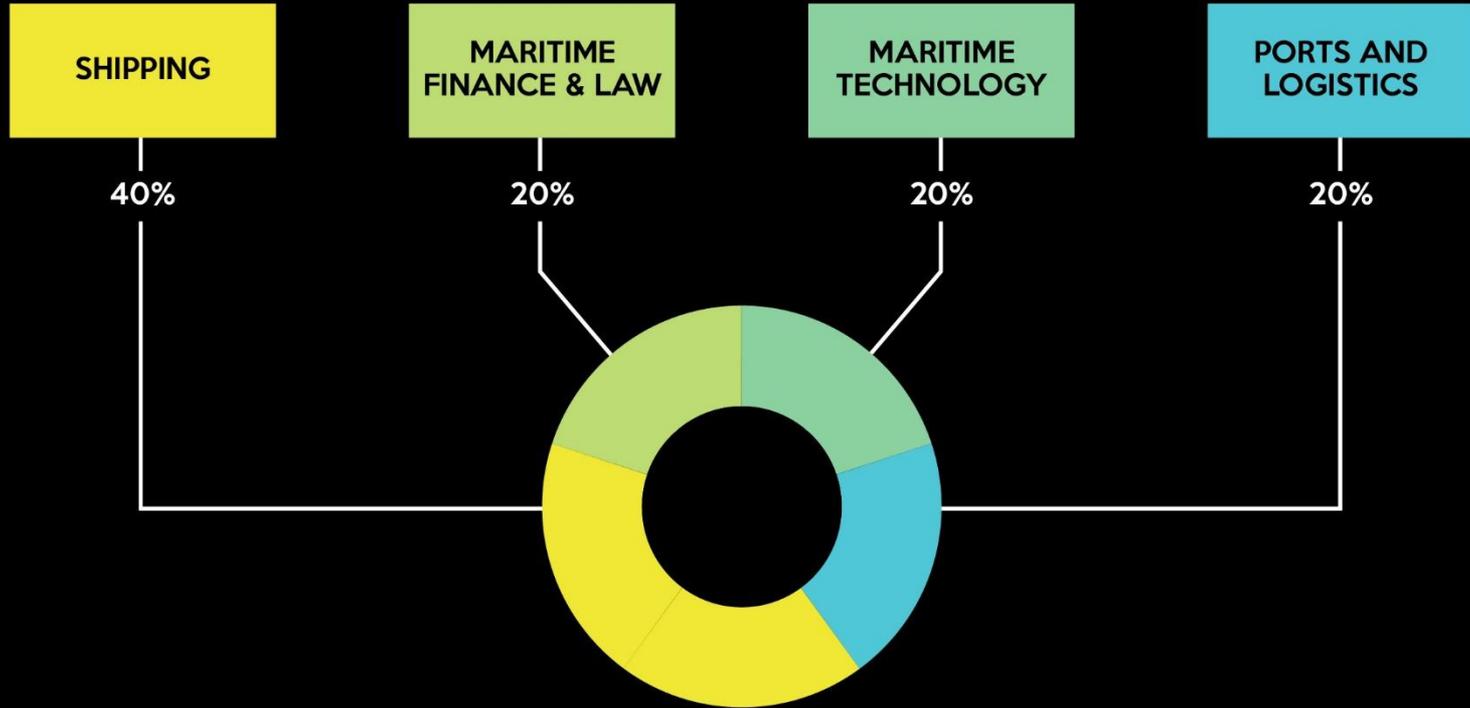
Four main groups

- Shipping
- Maritime finance & law
- Maritime technology
- Ports & logistics

The following countries, in alphabetical order, that in different ways and varying degree hold strong positions as a maritime nation, were included into the benchmarking study:

AUSTRALIA	INDIA	SOUTH KOREA
BELGIUM	INDONESIA	SPAIN
BRAZIL	ITALY	SWEDEN
CANADA	JAPAN	SWITZERLAND
CHINA INCLUDING HONG KONG	MALAYSIA	TAIWAN
DENMARK	NETHERLANDS	TURKEY
FINLAND	NORWAY	U.A.E.
FRANCE	PHILIPPINES	UNITED KINGDOM
GERMANY	RUSSIA	UNITED STATES
GREECE	SINGAPORE	VIETNAM

FOUR PILLARS – SHIPPING HIGHEST WEIGHT



FOUR PILLARS – 24 INDICATORS

SHIPPING

FLEET SIZE - MANAGEMENT

FLEET SIZE BY OWNER COUNTRY

FLEET VALUE

IMO-IMPORTANCE

MARITIME FINANCE & LAW

LEGAL EXPERTISE

INSURANCE PREMIUM

LOAN ARRANGERS

SHIPPING PORTFOLIO

TRANSPARANCY AND CORRUPTION

MARKED SOPHISTICATION

STOCK EXCHANGE SIZE

MARITIME TECHNOLOGY

SHIPYARDS

CLASSIFIED FLEET

MARINE SUPPLY

R&D INDEX

ICT INDEX

KNOWLEDGE CREATION

PORTS AND LOGISTICS

PORT HANDLING - TEU

TOTAL CARGO HANDLED

PORT OPERATORS - HQ

CRUISE PORTS BY PASSANGERS

PORT CONNECTIVITY INDEX

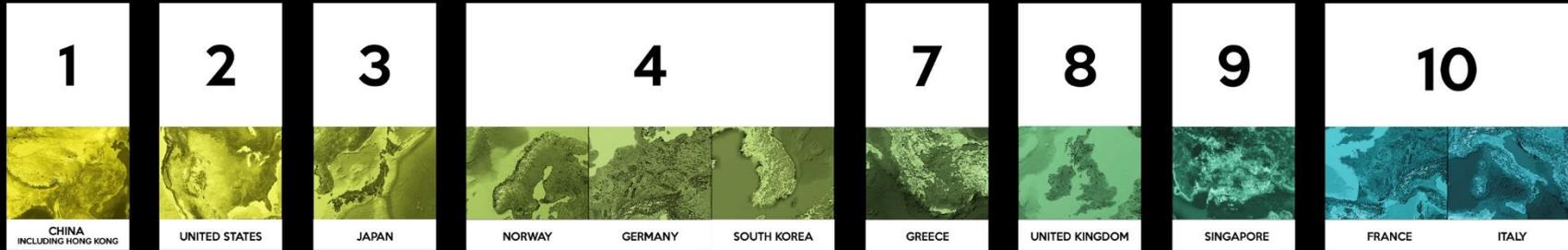
LOGISTICS PERFORMANCE INDEX

BURDEN OF CUSTOMS PROCEDURE

24 INDICATORS

PILLAR	OBJECTIVE INDICATOR	DESCRIPTION	SOURCE
SHIPPING 40%	1. Fleet size - management	CGT and GT by management nationality of the fleet	Clarkson
	2. Fleet size by owner country	CGT by ship-owners registered in country	Clarkson
	3. Fleet value (current and orderbook) by owner country	Aggregated value of current fleet and orderbook based on owner nationality	Clarkson/ Menon
	4. IMO-importance	Combination of Share of world fleet (CGT) registered with Flag State and position in IMO's Executive	Clarkson
MARITIME FINANCE & LAW 20%	1. Number of maritime legal experts & legal companies	Legal expertise on country level in terms of number of legal experts (column B11) and shipping law firms (column B12) in Score-tab.	Who's Who Legal & World Shipping Register
	2. Insurance premiums	Collected insurance premiums on aggregate nation level, including hull, cargo, P&I, marine liability and offshore energy	The International Union of Marine Insurance (IUMI) and Cifor
	3. Maritime syndicate loan arranger/bookrunner	The value of the loans are allocated to banks who function as the lead arranger or the bookrunner. The value is allocated to cities based on banks functional maritime headquarter. Reported values are aggregate of bookrunner and lead arranger.	Dealogic
	4. Shipping portfolio	Existing shipping portfolio of top 40 shipping banks	Petrofin Research
	5. Transparency and corruption	The Corruption Perception Index measures the perceived level of public sector corruption.	Transparency International
	6. Market Sophistication	Sub-index of the Global Innovation Index aimed towards market sophistications in credit, investment, trade, competition and market scale	Cornell University, INSEAD, and the World Intellectual Property Organization
	7. Amount traded on stock exchanges at country level	Amount traded of IPO/bonds/follow ons of companies in maritime sectors at stock exchanges. Amount traded is aggregated to national level after location of stock exchanges.	Clarkson
MARTIME TECHNOLOGY 20%	1. Shipyards	Measure of impact of shipyards on a country level in terms of CGT delivery in 2016-2017 (column C11) and value of their orderbook in 2018 (column C12) in Score-tab.	Clarkson and https://www.cruiseindustrynews.com/cruise-news/cruise-ship-orderbook.html
	2. Classified fleet	Size of fleet classified by classification society.	Clarkson
	3. Production value of marine equipment and export share	Production of maritime equipment (column C51) and corresponding export value (column C52) in Score-tab.	TC Balance & Menon
	4. R&D index	Sub-index of the Global Innovation Index aimed towards sophistication in research and development. Input factor.	Cornell University, INSEAD, and the World Intellectual Property Organization
	5. ICT index	Sub-index of the Global Innovation Index aimed towards sophistication in ICTs.	Cornell University, INSEAD, and the World Intellectual Property Organization
	6. Knowledge creation as of patents, publications, PCTs etc.	Sub-index of the Global Innovation Index aimed towards knowledge creation. Output factor.	Cornell University, INSEAD, and the World Intellectual Property Organization
PORTS AND LOGISTICS 20%	1. Port handling – TEU	Volume (TEU) handled in ports by nations in total	UNCTAD
	2. Total cargo handled	Data not available	The American Association of Port Authorities
	3. Port operators – HQ	Volume (TEU) throughput handled by port operator with HQ in city, then allocated to corresponding country.	Drewry
	4. List of busiest cruise ports by passengers	Number of cruise passengers at leading cruise ports. Numbers aggregated for each country.	Menon research - based on port statistics
	5. Port connectivity Index (LCSI)	LCSI is generated from five components: (a) the number of ships; (b) the total container-carrying capacity of those ships; (c) the maximum vessel size; (d) the number of services; and (e) the number of companies that deploy container ships on services from and to a country's ports	UNCTAD
	6. Logistics Performance Index (LPI)	Ranking of top 160 countries in trade logistics generated by six components: (a) Customs; (b) Infrastructure; (c) International shipments; (d) Logistics competence; (e) Tracking & tracing; and (f) Timeliness.	World Bank
	7. Burden of Customs Procedure	The Burden of Customs Procedure Index measures business executives' perceptions of their country's efficiency of customs procedures.	World Bank

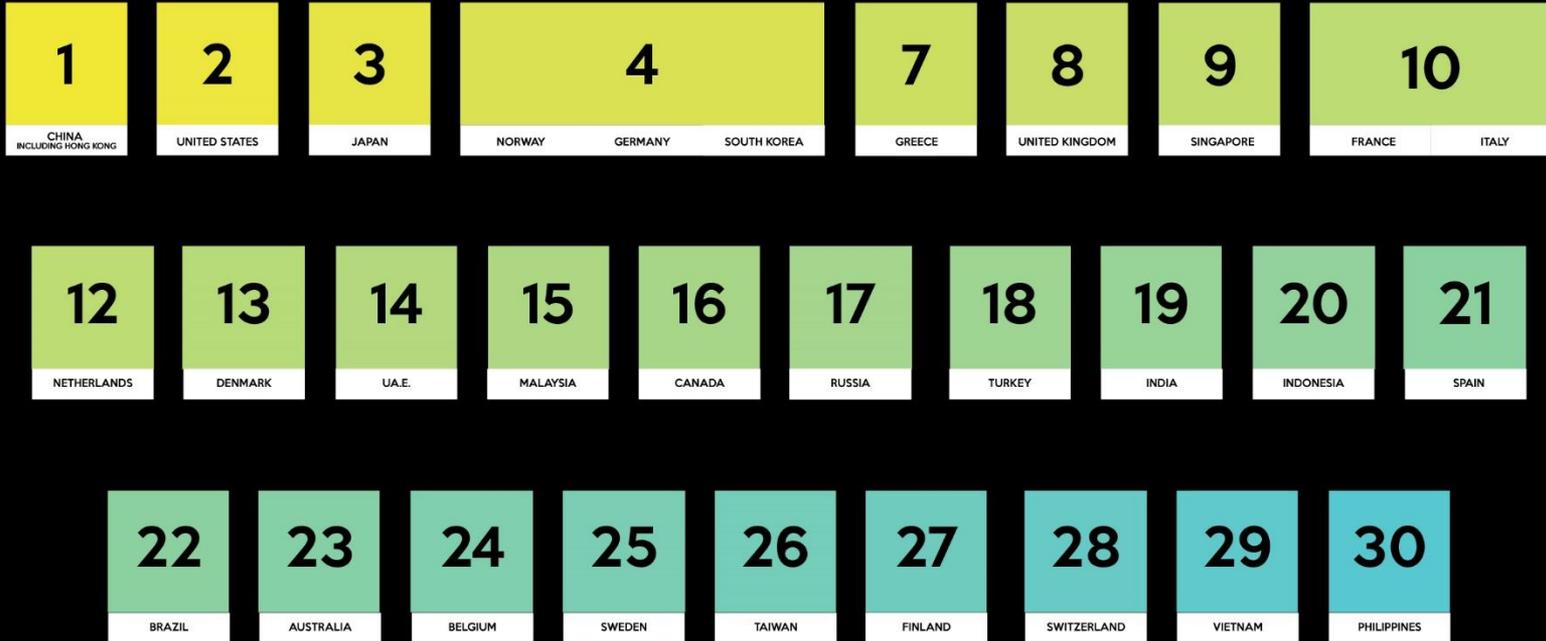
EXECUTIVE SUMMARY



KEY OBSERVATIONS:

- The 2018 report on the “Leading Maritime Nations of the World” ranks China as the world’s leading maritime nation, placed among the top four on all the maritime pillars in the ranking. China’s position is particularly strong in shipping and ports & logistics.
- The USA is placed second, scoring high in all four dimensions, followed by Japan.
- Germany, Norway and South Korea are sharing the 4th place, as all these three countries have aggregated total score very close to each other.
- As a shipping center, China took the top spot due to the strength of its local ship-owners and managers, but Greece is nipping at its heels.
- The USA’s dominance in Maritime Finance and Law is a result of its bond market, and the large number of IPOs, listed companies and private equity firms for the maritime sector
- A strong R&D index, large marine supply industry and its advanced ship yards sees South Korea first among the nations in Maritime Technology.
- With seven of the ten largest ports in the world and as the top container exporter, China is the undisputed leader in ports and logistics.

THE 30 LEADING MARITIME NATIONS OF THE WORLD



RANK	SHIPPING	MARITIME FINANCE & LAW	MARITIME TECHNOLOGY	PORTS AND LOGISTICS	OVERALL
1	CHINA INCLUDING HONG KONG	UNITED STATES	SOUTH KOREA	CHINA INCLUDING HONG KONG	CHINA INCLUDING HONG KONG
2	GREECE	NORWAY	JAPAN	UNITED STATES	UNITED STATES
3	JAPAN	UNITED KINGDOM	CHINA INCLUDING HONG KONG	SINGAPORE	JAPAN
4	UNITED STATES	CHINA INCLUDING HONG KONG	GERMANY	U.A.E.	NORWAY
5	GERMANY	JAPAN	UNITED STATES	GERMANY	GERMANY SOUTH KOREA

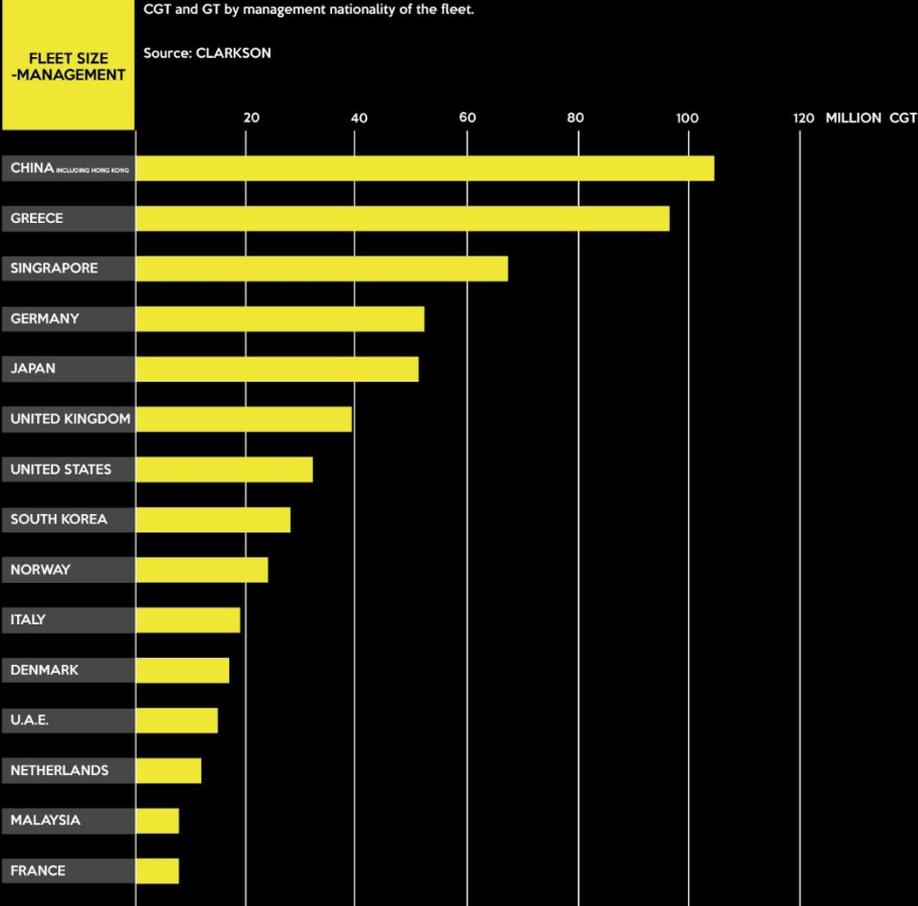
SHIPPING

COUNTRY	FLEET SIZE -MANAGEMENT	FLEET SIZE BY OWNDER COUNTRY	FLEET VALUE	IMO- IMPORTANCE	OVERALL
CHINA INCLUDING HONG KONG	1	1	2	1	1
GREECE	2	2	4	3	2
JAPAN	5	3	3	2	3
UNITED STATES	7	4	1	5	4
GERMANY	4	5	7	13	5

SHIPPING

Key observations:

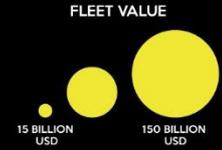
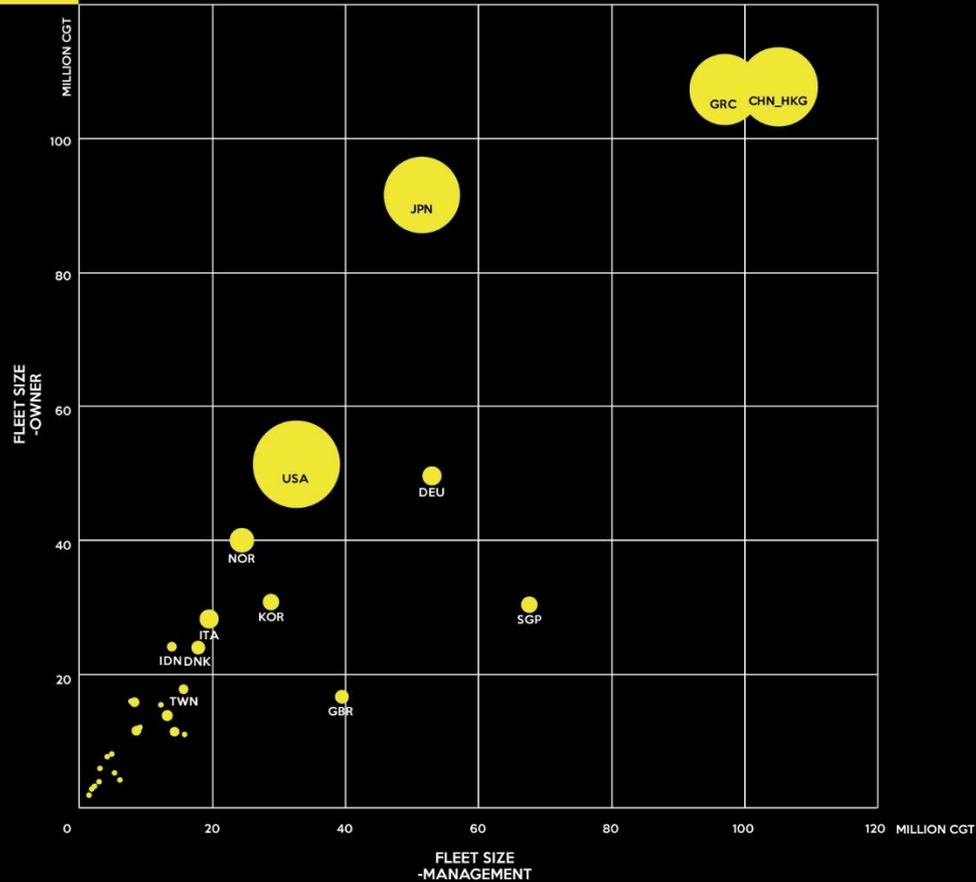
- China is a gold medalist in shipping scoring the highest in terms of ship owners and managers based in the country with Greece coming ever closer to stealing the lead.
- United States is outperforming other nations in terms of fleet value, China and Japan closely following
- China is also a medalist among other benchmarked nations in terms of IMO importance followed by Japan.
- Germany is the top 5 finalist in shipping due to a strong concentration of market share in terms of fleet size owned and managed by entities based in Germany.



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SHIPPING

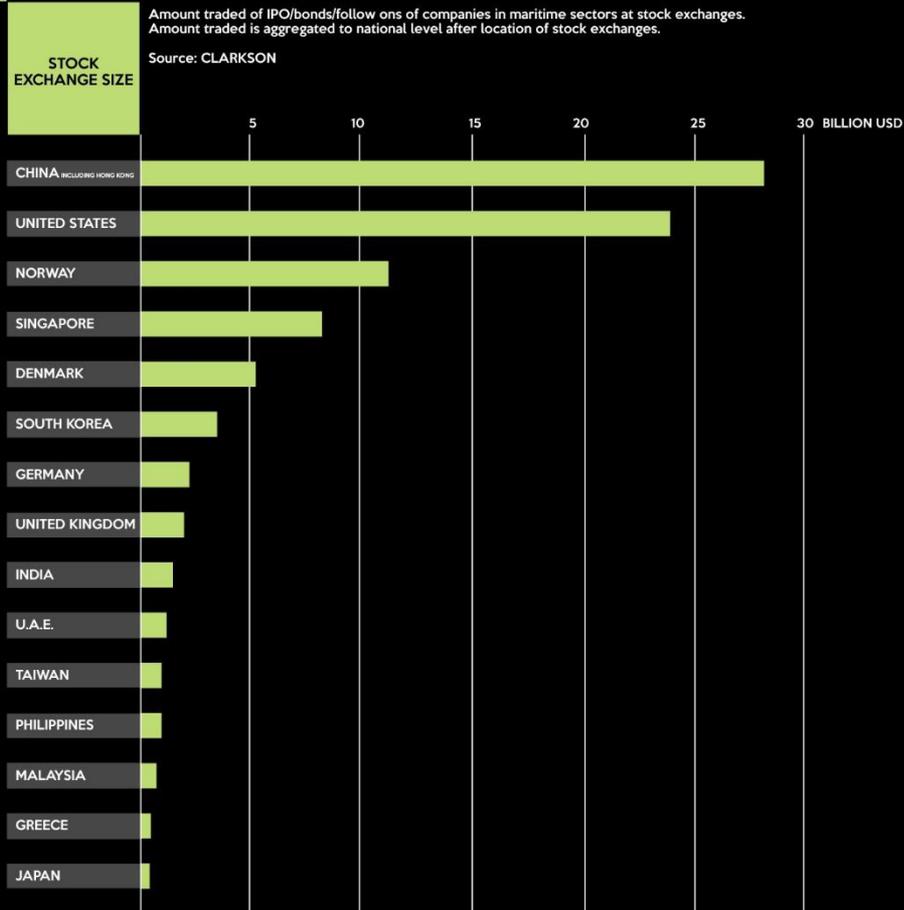
INDICATORS	CHINA INCLUDING HONG KONG	GREECE	JAPAN	UNITED STATES	GERMANY	SINGAPORE	NORWAY	SOUTH KOREA	ITALY	UNITED KINGDOM	DENMARK	NETHERLANDS	INDONESIA	CANADA	RUSSIA	TAIWAN	FRANCE	MALAYSIA	TURKEY	INDIA	U.A.E.	BRAZIL	BELGIUM	SWEDEN	VIETNAM	SWITZERLAND	PHILIPPINES	SPAIN	AUSTRALIA	FINLAND
FLEET SIZE -MANAGEMENT	1	2	5	7	4	3	9	8	10	6	11	16	15	21	20	13	19	18	17	14	12	23	24	26	25	27	22	28	29	30
FLEET SIZE BY OWNDER COUNTRY	1	2	3	4	5	8	6	7	9	13	10	17	11	15	14	12	19	18	16	20	21	25	22	24	23	27	26	28	29	30
FLEET VALUE	2	4	3	1	7	8	5	9	6	10	12	11	18	15	19	17	13	14	20	22	23	16	21	24	26	25	-	-	-	-
IMO-IMPORTANCE	1	3	2	6	13	10	4	9	5	7	22	12	21	16	8	28	14	23	24	11	20	15	26	18	27	30	25	17	19	29
OVERALL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

MARITIME FINANCE & LAW

COUNTRY	LEGAL EXPERTISE	INSURANCE PREMIUMS	LOAN ARRANGERS	SHIPPING PORTFOLIO	TRANSPARANCY AND CORRUPTION	MARKED SOPHISTICATION	STOCK EXCHANGE SIZE	OVERALL
UNITED STATES	1	5	3	6	12	1	2	1
NORWAY	14	4	1	3	2	14	3	2
UNITED KINGDOM	2	1	6	10	8	4	8	3
CHINA INCLUDING HONG KONG	3	3	-	2	18	27	1	4
JAPAN	20	2	4	5	14	8	15	5

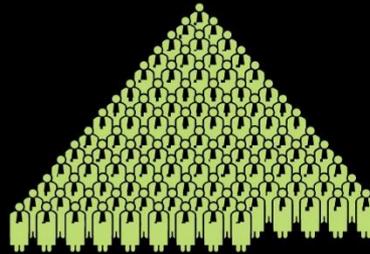
Key observations:

- USA scores the highest in maritime finance and law due to its strong position in ship finance, with the most IPOs, significant number of listed companies. Overall, the nation also has an outstanding reputation for effective advocacy as well as fair and cost efficient dispute resolution, legislation and reliable creditor system protection.
- Norway placed second scoring the highest with respect to aggregated value of mandated loans. Its financial position is helped by the Oslo Stock Exchange, which is the largest securities marketplace for shipping in Europe.
- United Kingdom is the unrivalled capital of marine insurance with 61% of IG P&I club covered gross tonnage served by UK-based clubs, 31% of global cargo and H&M premium collected by UK headquartered insurance companies – the nation placed third followed by China.

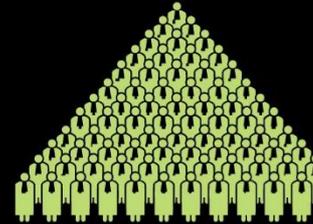


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UNITED KINGDOM



UNITED STATES



CHINA INCLUDING HONG KONG



CANADA



AUSTRALIA



SINGAPORE



GREECE



NETHERLANDS



BRAZIL



ITALY

MARITIME FINANCE & LAW

INDICATORS	UNITED STATES	NORWAY	UNITED KINGDOM	CHINA INCLUDING HONG KONG	JAPAN	FRANCE	GERMANY	NETHERLANDS	SINGAPORE	SOUTH KOREA	DENMARK	AUSTRALIA	ITALY	GREECE	SWITZERLAND	SWEDEN	CANADA	INDIA	BELGIUM	SPAIN	BRAZIL	U.A.E.	MALAYSIA	RUSSIA	TURKEY	PHILIPPINES	FINLAND	INDONESIA	VIETNAM	TAIWAN
LEGAL EXPERTISE	1	14	2	3	20	13	11	9	6	24	19	4	10	7	28	23	5	21	16	8	12	15	22	18	17	29	27	30	26	25
INSURANCE PREMIUM	5	4	1	3	2	9	6	15	7	13	28	16	10	27	20	14	22	12	18	17	8	-	19	11	21	25	26	24	23	-
LOAN ARRANGER	3	1	6	-	4	5	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SHIPPING PORTFOLIO	6	3	10	2	5	4	1	8	14	7	12	16	13	11	9	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRANSPARENCY AND CORRUPTION	12	2	8	18	14	16	10	7	5	20	1	11	21	22	3	6	9	24	13	19	26	15	23	30	25	29	4	27	28	17
MARKED SOPHISTICATION	1	14	4	27	8	9	15	16	3	11	5	6	22	23	7	10	2	20	21	13	28	18	17	25	24	29	12	26	19	-
STOCK EXCHANGE SIZE	2	3	8	1	15	-	7	-	4	6	5	19	21	14	-	22	20	9	18	-	-	10	13	16	-	12	-	17	23	11
OVERALL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

MARITIME TECHNOLOGY							
COUNTRY	SHIPYARDS	CLASSIFIED FLEET	MARINE SUPPLY INDUSTRY	R&D INDEX	ICT INDEX	INFORMATION TECHNOLOGY INDEX	OVERALL
SOUTH KOREA	2	8	1	1	2	3	1
JAPAN	3	1	2	4	4	9	2
CHINA INCLUDING HONG KONG	1	6	6	15	17	11	3
GERMANY	5	7	3	7	13	4	4
UNITED STATES	11	2	4	3	7	5	5

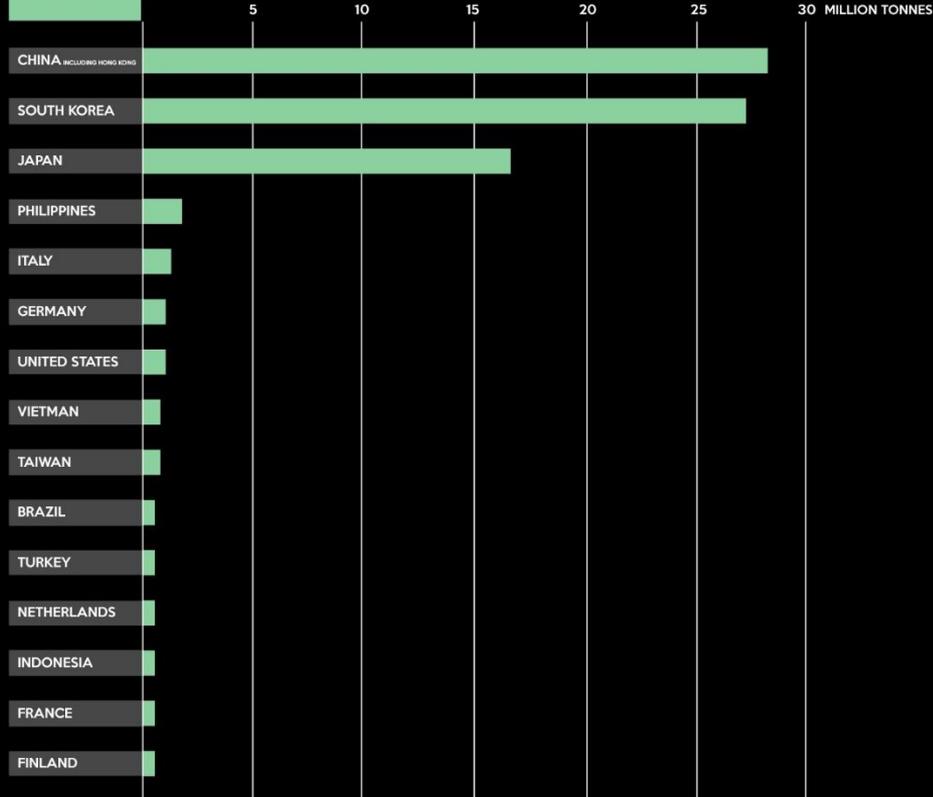
Key observations:

- Overall on a global arena, there are three countries that control the major share of shipbuilding (in gross tons) activities in the world – that will be South Korea, China and Japan – the three countries constitute 92 per cent of world gross tonnage in 2016, with South Korea having the second largest share after China.
- South Korea placed first among the nations in Maritime Technology due to its strongest score in marine equipment supply industry, R&D index; the country also scores second highest in terms of order book value and CGT delivered.
- For the European continent, Germany is in the list of top 5 score with strong position in shipyards, marine equipment, and IT index – overall the nation is taking the fourth place.

SHIPYARDS

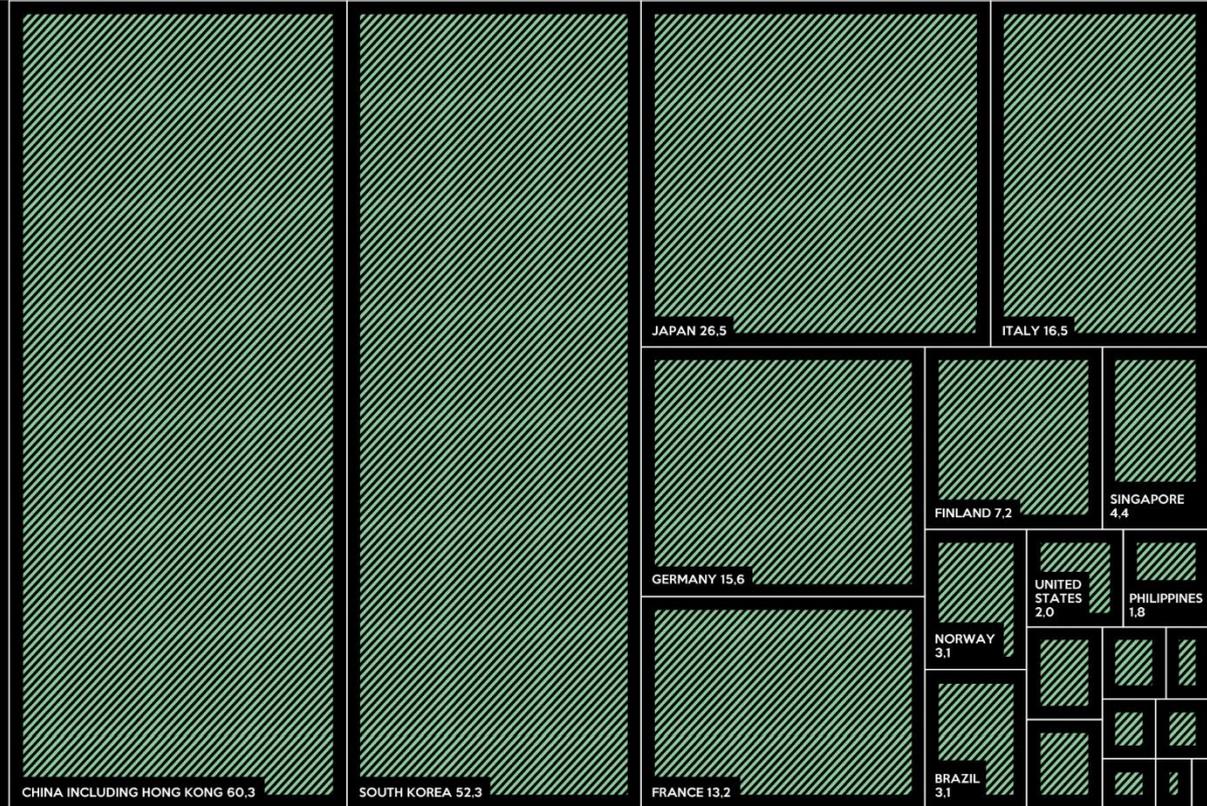
Measure of impact of shipyards on a country level in terms of CGT delivery in 2016-2017 (column C1).

Source: CLARKSON



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MARITIME TECHNOLOGY

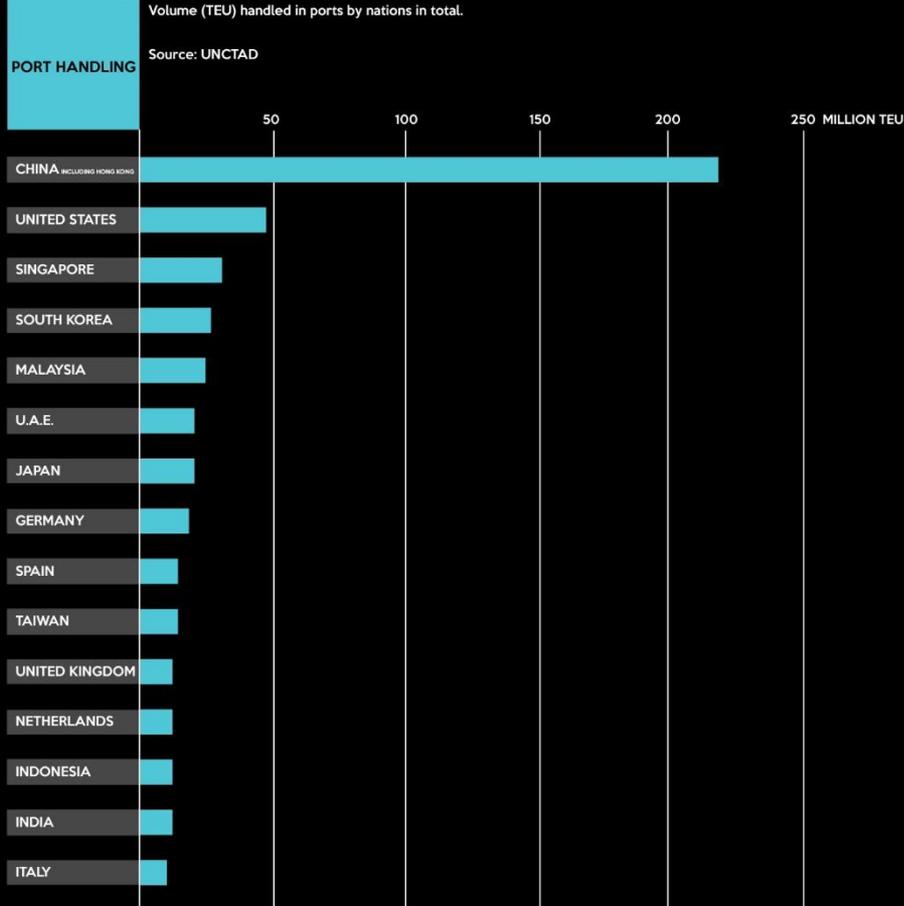
INDICATORS	SOUTH KOREA	JAPAN	CHINA INCLUDING HONG KONG	GERMANY	UNITED STATES	NORWAY	FRANCE	ITALY	UNITED KINGDOM	FINLAND	NETHERLANDS	SINGAPORE	DENMARK	BRAZIL	SPAIN	RUSSIA	SWEDEN	TURKEY	SWITZERLAND	BELGIUM	INDIA	CANADA	AUSTRALIA	MALAYSIA	GREECE	PHILIPPINES	INDONESIA	VIETNAM	U.A.E.	TAIWAN
SHIPYARDS	2	3	1	5	11	12	6	4	26	7	14	9	25	10	18	19	-	16	-	-	21	27	23	20	24	8	17	13	22	15
CLASSIFIED FLEET	8	1	6	7	2	4	5	9	3	19	-	16	-	17	-	11	-	14	-	-	12	-	-	18	15	-	10	13	-	-
MARINE SUPPLY INDUSTRY	1	2	6	3	4	5	11	9	10	12	7	13	8	14	15	23	18	16	-	20	-	-	-	17	21	19	-	-	-	-
R&D INDEX	1	4	17	6	3	16	12	19	10	8	11	9	7	21	18	20	5	25	2	15	23	14	13	22	24	28	27	29	26	-
ICT INDEX	2	5	18	14	8	15	6	17	1	10	3	7	13	23	11	21	12	25	19	20	28	9	4	22	24	26	29	27	16	-
INFORMATION TECHNOLOGY INDEX	3	9	12	4	5	14	15	17	8	7	6	19	10	23	20	18	2	21	1	11	24	13	16	26	22	25	29	27	28	-
OVERALL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

PORTS AND LOGISTICS

COUNTRY	PORT HANDLING	TOTAL CARGO HANDLED	PORT OPERATORS -HQ	BUSIEST CRUISE PORTS BY PASSENGERS	PORT CONNECTIVITY INDEX	LOGISTICS PERFORMANCE INDEX	BURDEN OF CUSTOMS PROCEDURE	OVERALL
CHINA INCLUDING HONG KONG	1	1	1	4	1	14	10	1
UNITED STATES	2	2	7	1	6	11	6	2
SINGAPORE	3	5	4	8	2	5	1	3
U.A.E.	6	16	3	14	10	9	3	4
GERMANY	8	13	6	9	7	1	9	5

Key observations:

- China is placed first in ports & logistics and scores the highest in 4 out of 7 indicators; showing strong performance predominantly in the following areas:
 - Absolute performer in Port handling/ TEU & Total cargo handled
 - Has the best container shipping connectivity in the world – more than six times above the global average and ranked as the leader in this category followed by Singapore (2), Korea (3) and USA (6)
- The USA is outperforming in number of cruise passengers and also recognized for its strong performance in ports & cargo handling capacity
- Although, UAE didn't make it to the top 10, the country ranked as number four in this category - thanks to DP World - the 4th largest terminal operator and JAFZA, the largest free zone in the world is headquartered in Dubai.



LSCI is generated from five components:
 (a) the number of ships;
 (b) the total container-carrying capacity of those ships;
 (c) the maximum vessel size;
 (d) the number of services; and
 (e) the number of companies that deploy container ships on services from and to a country's ports

Source: UNCTAD

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PORTS AND LOGISTICS

INDICATORS	CHINA INCLUDING HONG KONG	UNITED STATES	SINGAPORE	U.A.E.	GERMANY	SPAIN	NETHERLANDS	SOUTH KOREA	FRANCE	AUSTRALIA	JAPAN	MALAYSIA	ITALY	UNITED KINGDOM	CANADA	BELGIUM	TURKEY	INDIA	RUSSIA	BRAZIL	GREECE	VIETNAM	PHILIPPINES	INDONESIA	DENMARK	TAIWAN	SWEDEN	FINLAND	NORWAY	SWITZERLAND
PORT HANDLING	1	2	3	6	8	9	12	4	22	20	7	5	16	11	23	15	18	14	25	17	24	19	21	13	27	10	28	26	29	30
TOTAL CARGO HANDLED	1	2	6	18	15	13	8	4	12	3	5	9	20	21	19	14	16	10	11	7	-	22	23	24	-	17	-	-	-	-
PORT OPERATORS -HQ	1	7	4	3	6	14	2	8	9	13	11	-	-	-	16	-	-	-	-	-	-	-	12	-	-	10	-	-	-	5
BUSIEST CRUISE PORTS BY PASSENGERS	4	1	8	15	10	3	-	-	5	9	-	11	2	6	12	-	-	-	16	-	7	-	-	-	13	-	-	17	14	-
PORT CONNECTIVITY INDEX	1	6	2	11	7	10	5	3	12	26	14	4	15	9	22	8	17	20	25	24	21	16	27	23	19	13	18	28	29	30
LOGISTICS PERFORMANCE INDEX	15	12	6	10	1	14	5	20	13	16	4	23	17	7	18	3	26	25	30	28	24	22	29	27	8	21	2	9	19	11
BURDEN OF CUSTOMS PROCEDURE	10	6	1	3	9	19	4	20	18	17	16	15	22	7	13	11	26	21	25	28	24	27	29	23	12	-	5	1	14	8
OVERALL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	29

ABOUT THE AUTHORS

DNV GL:

DNV GL is the world's leading classification society and a recognized independent advisor for the maritime industry. We enhance safety, quality, energy efficiency and environmental performance of the global shipping industry – across all vessel types and offshore structures. We invest heavily in research and development to find solutions, together with the industry, that address strategic, operational or regulatory challenges.

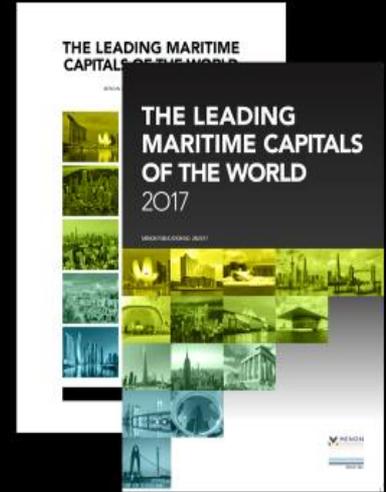
Menon Economics:

Menon is Norway's leading provider of analyses of the maritime industry. We have closely followed developments in the industry during the 2000s. We conduct annual surveys of the industry's growth, productivity and profitability and provide annual estimates of the market value of the global shipping fleet. Every second year, Menon publishes its report The Leading Maritime Capitals of the World, to broad international acclaim. We have also carried out a series of analyses of the international competitiveness of Norway's maritime industry clusters and individual industry segments

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